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#Socialsupport for Diet and Physical Activity via Web 2.0: A Qualitative Study of College Women

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#SOCIALSUPPORT FOR DIET AND PHYSICAL ACTIVITY VIA WEB 2.0: A
QUALITATIVE STUDY OF COLLEGE FEMALES

by

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B.S., University of Wisconsin- La Crosse, 2003
M.P.H., University of Wisconsin- La Crosse, 2011

A Dissertation
Submitted in Partial Fulfillment of the Requirements for the
Doctor of Philosophy.

Department of Health Education
in the Graduate School
Southern Illinois University Carbondale
May 2016

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DISSERTATION APPROVAL

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A Dissertation Submitted in Partial

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for the Degree of

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in the field of Health Education.

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March 22, 2016

AN ABSTRACT OF THE DISSERTATION OF

BETHANY KIES, for the Doctor of Philosophy degree in HEALTH EDUCATION, presented on March 22, 2016, at Southern Illinois University Carbondale.

#SOCIALSUPPORT FOR DIET AND PHYSICAL ACTIVITY VIA WEB 2.0: A QUALITATIVE STUDY OF COLLEGE FEMALES

MAJOR PROFESSOR: Dr. Roberta Ogletree

Like other adults in the U.S., college students, have high rates of obesity and overweight, and they have a pattern of poor diet and physical inactivity. Emerging adulthood is a key developmental period for building life-long habits and behaviors, and health theory suggests that one's social environment and amount of social support affects health behaviors, particularly among women. With the technological advances of Web 2.0, or social media, the opportunity for providing social support for health behaviors through the online social environment now exists; social media is a game changer for both research and practice related to understanding the social environment. The purpose of this descriptive qualitative study was to describe the ways in which social networking sites (SNS) provide college females with social support for their diet and/or physical activity goals. The social cognitive theory and previous research on the construct of social support, provided a conceptual framework for this study. With a purposive sample of 12 college females, data from three sources were collected over the course of four weeks. Journal responses and daily observations of each participant's social networking site activity via Facebook, Instagram, Twitter and Pinterest were collected the first three weeks, and interviews were conducted the fourth week. Qualitative analysis was conducted at both the participant and group level, and results inform how the women engage with the topics of diet and physical activity during their daily SNS usage the ways in which their SNS experience provides them

with support for diet and/or physical activity goals. Of the five functional measures of social support, participants most often indicated receiving emotional support, informational support and validation support from SNS usage. The findings of this study highlight current social media practices in college females, which can better inform the planning and implementation of health behavior programs that include an online, social component. Furthermore, the results serve to illuminate examples of social support naturally occurring in the online environment, thereby adding to the body of literature about ways in which social support influence health outcomes.

DEDICATION

This work, and the years that went into its existence, are dedicated to Hezekiah and Zoe.

- ❖ “Finishing is better than starting.” Ecclesiastes 7:8a
- ❖ “Run with perseverance the race that is set before you.” Hebrews 12:1a
- ❖ “Do you not know that in a race all the runners run, but only one gets the prize? Run in such a way as to get the prize.” 1 Corinthians 9:24
- ❖ “And I am certain that God, who began the good work within you, will continue his work until it is finally finished on the day when Christ Jesus returns.” Philippians 1:6

Just as God helped mommy and our family through the good work of graduate school until I finished, He will help you through your life’s journey. Run the race of life that God that has already planned for you, trust Him, and never give up.

ACKNOWLEDGMENTS

Praise. The. Lord. I am thankful for His grace and mercy in these seven years of graduate school, and I am thankful to all of the professors, mentors, peers, friends, family, neighbors and co-workers he sent to help me along the way.

From the beginning of my graduate school journey, I've been supported by wonderful faculty. My master's preparation at the University of Wisconsin-La Crosse was superb. Dr. Gilmore and Dr. Duquette, provided mentoring, and Dr. Rees, Dr. Jecklin and Dr. Pettit offered excellence in the classroom and listening ears when needed. I have gained much through my experience at Southern Illinois University as well. I am grateful to Dr. Fetro, Dr. Mallette and Dr. Secchi who believed in me and caused me to push further my first two years and to Fr. Brown who helped me to regain my spirit during my final year on campus. I am also grateful to my dissertation committee members, especially my chair, Dr. Ogletree for sticking with me through various iterations of my topic, and to her and Drs. Welshimer and Miller for staying on the committee into retirement.

My fellow graduate students, my peers, have been another source of support through this journey. Words cannot express how much the 2011 UW-LaCrosse MPH cohort meant in my academic success- thank you Brittany, Mandy, Paula, Gracjan and Allison. At SIU, I've had many supportive peers as well. My first year, I was spurred on by the 'older' students; Terri, Shanell, Matt, Alicia all provided excellent examples to follow and had many GA room talks with me. Denise provided friendship, motivation and the reminder of God's hand in the process. The MPHers, who came and went and came again during my five years, Kristin, Erin, Leo, Darcy, Rakshya, Marcus, Dania, Brett, Heather and Kathryn, each made unique contributions.

During my final years, when the ‘struggle got real’, I found immense support from fellow PhD candidates, Anwar, Jessica, Eddie, James, Deidra, Martel, and Annie. Bless you all.

While living in La Crosse, Wisconsin and in Carbondale, Illinois during graduate school, I’ve had many supportive co-workers and friends to cheer me on to the finish. I was first encouraged to pursue my graduate school dreams by co-workers at Family Resources and by friends like Maggie, Serena and the Panama teams from First Evangelical Free Church. Once I moved to Carbondale, the network of support grew. Teachers and parents at Giant City School and members of the Vine Church contributed to my family’s health and wellbeing, and people from CrossFit So Ill, CrossFit Little Egypt and Owl Creek Vineyard provided me with much needed friendship when the program got difficult and I forgot who I was in the process.

Even before the professors, the fellow graduate students and the new network of people, close friends and family and were there for the twins and I. I’ve got close friends, like Kiley, Bridgett and the girls, the Littel’s, and the Linero’s who have been like family to me, loving me and giving me the encouragement I needed to stay grounded and to stay motivated to finish the goal of a Ph.D. My parents, Dave and Sherry have supported my dreams and aspirations from day one, always encouraging me to pursue education. Eight years ago, my parents Kelli and Dave and Lana have joined them. All of my parents have given of their time and their money to help me whenever I needed it. They’ve traveled, called, emailed, babysat the twins and always reminded me that I can do it. Beyond my parents, I’ve got sisters, brothers, cousins, aunts, and uncles from three sides of family reminding me of their support. This last year, I gained another the support of yet another family. Justin, and the rest of the Curtis clan have joined in my journey and have encouraged me to the finish line.

Thank you to everyone along the journey, may you be blessed as you’ve blessed me.

PREFACE

Support is an essential factor, not only in our success for reaching personal health goals, but also in our overall wellbeing as individuals and as a human race. The online social environment is an inevitable part of our future, but its power in providing support for health behavior changes is yet unknown.

- ❖ “To reach your full potential, you have to set goals that will stretch you. You must not be afraid of taking risks. You must learn to recognize opportunities and have the courage to pursue them. You have to make better choices that will provide better results. Finally, you need to avoid the negative influences of other people and surround yourself with successful people who will encourage you to pursue your dreams.” -Zig Ziglar
- ❖ “We don’t have a choice on whether we do social media, the question is how well we do it.” -Eric Qualman
- ❖ “There is a human being behind every Tweet, blog, and email. Remember that.” -Chris Brogan

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CHAPTER 1

INTRODUCTION

Background of the problem

The obesity epidemic in the U.S. is named a *stubborn problem* in a recent report by the Institutes of Medicine (IOM), noting that over the past several decades, there has been slow progress in reducing the prevalence of overweight and obese persons nationwide (Stencel, 2012). National and regional research reports indicate that young adults and college student populations are not insulated from this epidemic (Morrell, Lofgren, Burke & Reilly, 2012; National College Health Association [NCHA], 2013). Data from a national study conducted from August of 2005 to July of 2008, indicates that roughly half of college men and more than a quarter of women were overweight or obese (Morrell, et al., 2012). Recently, nearly 1 in 3 (34.4%) college students had a Body Mass Index (BMI) that classified them as either overweight or obese in the National College Health Association's fall reference group (NCHA, 2013).

Such poor health status places college students at risk for potentially debilitating and deadly chronic conditions (Ogden, Carroll, Kit & Flegal, 2012; Stencel, 2012). Overweight and obesity, along with high triglycerides, low HDL cholesterol, elevated blood pressure and high fasting glucose are the criteria for metabolic syndrome (MbS), which leads to an increased risk of chronic diseases such as diabetes mellitus and cardiovascular disease (Morrell et al., 2012). In a nationwide, three-year study of college students, at least one criterion for MbS was identified in 77% of college men and 54% of college women (Morrell, et al., 2012).

Although being overweight and obese are risk factors for a number of chronic diseases, lifestyle choices (e.g. health behaviors) can help mitigate the outcomes (Centers for Disease Control and Prevention [CDC], 2013; Grace, 2010; Stencel, 2012). In its *Weight of the Nation*

report, the IOM encouraged individuals to eat healthy options and to get active (Stencel, 2012). The CDC agrees, stating that poor diet and sedentary lifestyles contribute greatly to obesity and the resulting chronic health conditions, and lists these two factors among six national priority health risk factors (2013). Despite guidance from national agencies, the college young adult population does not engage in the recommended amounts of these healthy behaviors. In a national survey on college health trends conducted in the fall of 2013, only 5.4% of students reported getting the recommended five or more servings of fruits and vegetables in a day and only 46.2% reported meeting the recommendations for exercise (NCHA, 2013).

The age for many college students in the U.S. corresponds to the developmental stage recently defined in the literature as *emerging adults*, a stage which extends from age 18-29 (Arnett, 2015; Schwartz, Cole & Arnett, 2005). Two of the key characteristics of this age are identity explorations and self-focus, which means that during this time emerging adults are focused on sorting out who they are and trying out various life options (Arnett, 2015). Additionally, the social network begins to shift and the establishment of independence occurs, making it a critical period, uniquely primed, for developing health behavior practices that prevent chronic disease into adulthood (Nelson, Story, Larson, Nuemark-Sztainer, & Lytle, 2008). As a result, there is a need for research to examine the evolving social influences and the extent to which they influence health behavior patterns within this emerging adult population.

Health behavior theory offers a framework for understanding the constructs that influence health behaviors. Health behavior theorists with an ecological worldview assert that there are multiple levels of influence on individual behavior, and that, at the interpersonal level, one's social environment affects health behaviors and health status (Glanz & Bishop, 2010). The Social Cognitive Theory (SCT) is one health behavior theory that fits into this interpersonal level

of influence, and its originator proposed that behavior is a dynamic interaction between the individual and the environment (Bandura, 2004). SCT constructs inform some of the individual and environmental influences operating within this reciprocal determinism (Bandura, 2004). Results of research findings confirm that the SCT is effective in predicting health behaviors in the college student population and for designing health behavior change interventions aimed at weight management through diet and physical activity (Petosa, Suminski & Hartz, 2003; Plotnikoff, Costigan, Karunamuni, & Lubans, 2013; Suminski & Petosa, 2006). The construct of social support is also a factor within the interpersonal level social environment. Social support is theorized to operate directly on health behaviors and/or to serve as a stress buffer to influence health and health behaviors (Cohen, Underwood & Gottlieb, 2000). While still limited in number, researchers working with college populations generally report a link between social support and improvements in health behaviors such as diet and physical activity, especially in women (Hale, Hannum & Espelage, 2005; King, Vidourek & Merianos, 2014; Kulavic, Hultquist & McLester, 2013; LaCaille, Dauner, Kraembeer & Pedersen, 2011).

With the emergence of social media, or Web 2.0, the opportunity for providing social support for health behaviors through the online social environment now exists (Vaterlaus, Patten, Roche & Young, 2015). Social media use in the emerging adult population is higher than that of the general adult population, with usership of Facebook at 87% and Instagram at 53% among 18-25 year olds (Duggan, Ellison, Lampe, Lenhart & Madden, 2015). The evidence regarding the effectiveness of online social network health behavior interventions is hopeful, but limited in scope (Maher, Lewis, Ferrar, Marshall, Bourdeaudhujj, & Vandelanotte, 2014). Specifically, within the emerging adult population, the limited information that researchers have about the influence of social media on health behaviors indicates that the technology is perceived as both a

barrier and an enabler to positive health behaviors, and that gender differences in usage and perceived influence exist (Vaterlaus, Patten, Roche & Young, 2015). There is a need to gain a clear picture of the online social environment of female college students and to better understand the nature of social support via social media so future researchers and health promotion specialists can design targeted online interventions aimed at modifying health risk behaviors.

Researcher Positionality Statement

The interest I have in this research project has layers of both personal and professional interest. Personally, I have been a female college student for the better part of the last 15 years and during that time I have been on my own roller-coaster of weight loss and maintenance through diet and physical activity changes. As a result, I am vested in factors that influence success. Also, I use multiple social media sites, including the four social networking sites included in the current study (i.e. Facebook, Instagram, Twitter and Pinterest), and I am interested in understanding the ways in which social support operates through these modalities to both solicit this support and to offer it to my social media friends.

Professionally, I am a Certified Health Education Specialist and have a B.S. and MPH in Community Health Education, and I am currently completing a Ph.D. program in Health Education. I plan to work in higher education, teaching, mentoring and conducting research within health education and health promotion. Because of this career choice, I will be connected to the college population throughout my professional life and to teaching courses in program planning, implementation and evaluation in health education and health promotion. I am concerned about the health status of college students and about the provision of research-based programs that lead to positive changes in health outcomes. Learning more about the online

social environment and the pathways of social support that influence female college students' health behaviors will enhance my professional goals.

In addition to being a Certified Health Education Specialist, I am also a CrossFit Level 1 Trainer, and I coach CrossFit classes at two boxes (i.e. a CrossFit gym). In this professional role, I am constantly interacting with individuals who are motivated to make changes in their diet and physical activity to support a healthy lifestyle. Again, having a better understanding of social support and the influence of the online social environment will be a benefit to me as a CrossFit instructor.

Need for the Study

The development of effective health behavior change programs is crucial, because these programs can aid in reducing risk factors of poor diet and sedentary activity that lead to negative health outcomes in the college population. The social environment and social support are noted to be influential factors in health behavior change, particularly among women, but the literature does not adequately pinpoint specific aspects of social support that are critical even within the general adult population, let alone within the college population. There is a need to understand the ways in which the topics of nutrition and physical activity naturally occur within social networking site use. There is also a need to understand how social support operates within the online environment to influence college women's health behavior changes related to diet and physical activity.

Purpose of the Study

The purpose of this study was to describe the ways in which social networking sites (SNS) provide college females with social support for their diet and/or physical activity goals. Qualitative research strives to illuminate the experience of the participants within natural

environments. In this study, the experience was the receipt of social support for diet or physical activity goals within the online social environment of four specific social networking sites.

Research Questions

The following questions guide this research project:

1. How do college females engage with the topics of diet and/or physical activity during their daily social networking site (SNS) usage?
2. In what ways do their SNS experiences provide college females with social support for diet and/or exercise behaviors?

Significance to Health Education

Descriptive qualitative research provides detailed description of key variables that help to understand the experience studied, and the results of this study are significant to research and practice in health education and health promotion. This project served to illuminate the receipt of social support for diet and physical activity goals via social media, and to describe the ways in which social networking sites (SNS) provide college females with social support for their diet and/or physical activity goals. The resulting description contributes to the data available to health education specialists working with college populations. It highlights current social media practices in college females, specifically the ways in which they engage with the topics of diet and physical activity through SNS use, which can better inform the planning and implementation of health behavior programs that include an online, social component. Furthermore, the resulting description also provides examples of social support naturally occurring in the online environment, thereby adding to the body of literature about ways in which social support influence health outcomes for college women.

Theoretical Framework

This research project has both a philosophical and theoretical framework. The former guides how I, as the researcher, think about the nature and construction of knowledge (i.e. epistemology), and the latter frames the underlying structure of the study including its concepts, key terms, research questions, data collection and analysis techniques and the interpretation of findings (Merriam, 2009). Constructivism is the predominant philosophical underpinning for this study design, and the conceptual and theoretical base of the study comes from both the social cognitive theory (SCT), an interpersonal-level health behavior theory, and the literature on social support.

Relevant to the current study are the concept of reciprocal determinism and constructs from SCT (Bandura, 2004). The concept of reciprocal determinism assumes that behavior is influenced by both personal and environmental factors (Bandura, 2004), which includes, in the case of this study, the online social environment. Three constructs from the SCT, behavioral capability, observational learning and reinforcements, will shape both the research questions for the present study and serve to guide the development of closed codes for the qualitative data analysis of this study. The definitions of the constructs and their use within the data analysis are described in more detail within chapters two and three.

The five types of supportive functions defined by Cohen, Underwood & Gottlieb (2000), provide a foundation for this study. They are also called *functional measures of support*, for social support, and are as listed: (1) emotional support; (2) instrumental support; (3) informational support; (4) companionship support; and (5) validation support. These five supportive functions, which are described in detail within Chapter Two, will inform the

development of the data collection tool and closed codes to be used to analyze the data collected in this study as described in Chapter Three.

Research Design

The purpose of this study was to describe the ways in which social networking sites (SNS) provide college females with social support for their diet and/or physical activity goals. This qualitative study employs a descriptive design, to generate results that illuminate the essence of the experience. To describe the phenomenon in this study, three types of data were collected from each participant over the course of four weeks. During the first three weeks of the study, each woman completed a participant journal, which is an open-ended questionnaire, and the researcher conducted daily observations of each participant's SNS activity. During the fourth and final week of the study, a semi-structured interview was conducted with each participant. All data were collected through the use of social media. The participant journals were formatted in Google Drive and sent to each participant via link in the body of an email, the observation was conducted through connection to participants' social networking sites and the interview was conducted via Google Voice.

Participants

The participants in this study were female, aged 18-29 who met the following criteria:

- Enrolled at least part time (spring, summer or fall, 2015) in a college or university in the United States
- Used at least one popular social networking site (i.e. Facebook, Instagram, Pinterest or Twitter)
- Had at least one health behavior goal related to diet and/or physical activity
- Conducted the SNS activity in English

Participant recruitment began after receiving approval of the research project from the Human Subjects Committee at Southern Illinois University (SIU). Typical case purposive sampling was used to recruit participants (Merriam, 2009), meaning that each participant met the requirements listed above to be considered typical. Beyond meeting the requirements of the typical case, a convenience sample of social network site users (i.e. Facebook and Twitter) was used to recruit participants. The recruitment channel was online only. A recruitment message announcing the study was posted on both Twitter and Facebook and shared or retweeted by the Facebook friends and Twitter followers of the researcher (Appendix E). Additionally, an email, listing the recruitment message tweet and Facebook status was sent to personal contacts of the researcher with a request that the tweet and/or Facebook status be posted through both personal and public profiles to promote greater access and visibility of the recruitment messages within the social networking sites. The announcement directed interested parties to email the researcher for more information.

Upon receipt of a request, an email containing the study description, or cover letter, was sent from the email account set up by the researcher for the purposes of the study only (Appendix D). The cover letter, along with the consent form was formatted in Google forms. If after reviewing the cover letter, women who met the requirements for participation and wished to participate, could select an option within the form to continue on and complete the consent for participation. Along with giving consent for data collection via journal, SNS observation and phone interviews, the participant's indicated consent for the use of quotes (e.g. spoken and written words along with SNS images) within the final research paper. Recruitment continued until more than 10 women had submitted consent for participation.

Data Collection

Many variables from multiple sources of data collected over time are essential to the construction of each participant's experience in a descriptive qualitative design (Cresswell, 2007; Merriam, 2009). Data collection occurred through momentary sampling, a term coined by Oh, Ozkaya & LaRose (2014) to refer to a type of journaling, through online SNS observation and interview. Data collection emphasized the following information:

1. Diet and/or physical activity goals and behaviors
2. Social media behaviors (e.g. usage, content, friends, comments, likes)
3. Sources of social support (e.g. peers, family, neighbors, strangers, agencies, mentors/teachers/bosses)
4. Beliefs, attitudes and behaviors related to observational learning, reinforcements and the five functional measures of social support

Journaling occurred through the use of an open-ended questionnaire created in Google Drive, and, for the purposes of this study, called the *participant journal* (Appendix C). This journal, had two sections: (1) The overview, a section that includes a description of the research and demographic questions, and (2) a section of SNS usage recall. The journal pages were sent at four different times via email link throughout the first three weeks of the data collection phase. The overview was sent on the first day of the data collection, and the social media recall portion was sent at the end of each week. In total, the participants submitted four separate journal forms (i.e. one demographics form and three social media recall forms) to constitute the completion of the participant journal. All participants who completed and returned the participant journal were given a \$25 gift card for Amazon.com, an online retailer.

Online observation was used along with participant journaling during the first three weeks of the study. The observation began when the participant returned the first portion of the journal and occurred daily throughout the remainder of first three weeks of the data collection phase. The researcher used the information provided in the journal responses to *friend* or *follow* each participant on their social networking sites (i.e. Facebook, Instagram, Twitter or/and Pinterest). Observations were recorded daily for each participant in the observation log (Appendix D).

At the end of week three, once the final participant journal page had been submitted, the researcher unfriended or unfollowed the participants and the online observation ended. One follow-up interview was conducted with each participant during week four of the study. The interview was scheduled at a time convenient for the participant and followed a semi-structured format (Appendix E). The interviews were conducted via phone with the use of Google Voice, recorded, and transcribed into a Word document.

Data Analysis

At the culmination of the four week collection phase, the data for the study consisted of open-ended questionnaire responses from each participant journal, entries in the SNS observation log, interview transcripts and researcher memos. Analysis of these data, an iterative process, took place both during and after the four week collection phase. As soon as all participants returned portion one of the journal, a descriptive analysis of the responses was conducted to develop initial participant profiles. Coding began and built weekly during data collection and once the four-week data collection phase was completed, thematic development ensued.

During the data collection phase, researcher memos were written each week to facilitate reflection and insight on the data and the process of the study (Merriam, 2009). At the end of the

28-day data collection phase, when all participant journals were submitted and online observation was complete, the analysis continued. All data were gathered, and the process of reducing, consolidating and interpreting it in order to make meaning of the data and find answers to the research questions began as recommended by qualitative researchers (Creswell, 2007; Denzin & Lincoln, 2009; Merriam, 2009). First, during consolidation, data from the participant journals was organized by question and compiled into one document for each participant. This document, along with the SNS observation notes and interview was used to analyze the data for each participant separately. A final participant profile was created.

For the group-wise analysis, there were three steps in the process of reducing and interpreting the data. Step one was line by line coding with all participant data by topic (i.e. physical activity content, nutrition content and social support). Once all codes were developed, the second step was axial coding used to group codes into clusters or categories. These axial codes, or categories, were guided by, but not limited to, constructs from SCT and functional measures of social support. Finally, during the fourth step, themes were developed to answer the research questions. Additional description on the process of data collection and analysis follows in Chapter Three.

Assumptions

Several assumptions were made related to data analysis and to philosophical beliefs on influences on health and the nature of social support.

1. The data in this qualitative study were subject to the reality of each participant and to the interpretation of the researcher.

2. Influences on one's health go beyond lifestyle choices and biological predisposition, to include social factors that stem from multiple levels of influence at the community, organizational and policy level.
3. Social support influences health behavior with or without the presences of a stress-buffering mechanism; therefore the health behaviors of those participants who are not under stress conditions are still influenced by social support.
4. The functional measures of social support (Cohen, Underwood & Gottlieb, 2002) can be solicited virtually through the online social environment.
5. According to the construct of reciprocal determinism, behaviors are influences by both environmental and personal factors and the environment influences both personal and behavioral factors. In this study, that assumption was applied to the online environment within social networking sites and to the physical activity and nutrition behaviors of each participant.

Limitations

There are several limitations to the study, based on the selected research design and data collection methods.

1. This research project is a descriptive qualitative study, which focuses on a small number of participants, thereby limiting the representativeness and the ability to make valid generalizations of the findings (Isaac & Michaels, 2005).
2. The researcher, in this design, was also the instrument and can impact the results of the study. The mitigation of this limitation will occur through purposive sampling, length of data collection and through the bracketing of researcher identity and positionality.

3. The selection of an open-ended questionnaire for data collection was another limitation of this study. The use of a questionnaire reduces the researcher's ability to be responsive and flexible during data collection and may not allow for a full access to participants' perspectives and understandings especially if the participant interprets the question differently than the researcher intended (Merriam, 2009). This limitation was mitigated through the use of multiple forms of data, including observation and interview.
4. Being a part of a research project and receiving weekly participant journals may have served as a prompt and may have altered the way in which the women in the study engaged with the study topics within their SNSs during the data collection.

Delimitations

1. It is important to note that the social environment is comprised of numerous variables, concepts and constructs. This study was delimited to constructs within the SCT and the functional support constructs of the stress-buffering model of social support.
2. As mentioned in the introduction, a variety of health behaviors shape an individual's health and health outcomes. This study was delimited to the health behaviors of diet and physical activity due to their importance in reducing the risk of overweight, obesity and chronic diseases.
3. As stated previously, the participants in this study were limited to those females who are between the ages of 18-29 and enrolled at least part-time at a college or university in the U.S. Furthermore, the participants used at least one popular SNS (English language), and had at least one diet or physical activity related personal health goal.

Definition of Terms

Diet- In this study, the term diet was operationalized to refer to participant food choices and eating behaviors.

Physical Activity- In this study, the term physical activity was operationalized to refer to the planned recreational and exercise behaviors of participants.

Social Cognitive Theory- Interpersonal health behavior theory developed by Albert Bandura (2004) and based in social learning theory assumes that behavior is a complex and dynamic interaction between the individual and the environment.

Social Media- (see Web 2.0) a term used to describe a variety of web or Internet based applications that allow multi-directional flow of communication so that all users can create, view, share and edit content. Categories of social media include, social networking sites, content aggregators (e.g. RSS feed), wikis and blogs (Kies & Burtis, 2012).

Social Networking Sites (SNS)- One kind of social media or Web 2.0 application (Brandtzaeg, 2012). It was operationalized in this study as an umbrella term used to describe the four social media platforms used for data collection in this study: Facebook, Instagram, Twitter, and Pinterest.

Social Support- a construct within the social environment that research indicates to have a positive effect on health behaviors and physical health. Multiple domains of social support include emotional support, appraisal and affirmation, informational assistance, intimacy, comfort, and physical affection (Hale, Hannum, & Espelage, 2005).

Web 2.0- (see social media) A term used to refer to the second generation of web or internet based applications available broadly around 2004. Web 2.0 replaced the internet and email applications marked by flat, one-directional flow of communication (O'Reilly, 2005).

Summary

In a nation where more than one-third (35.7%) of adults and nearly 17% of youth are obese, it comes as no surprise that college students, emerging adults, also have high rates of being overweight and obese (Ogden, Carroll, & Flegal, 2012). College student research indicated that this population has a pattern of poor diet and physical inactivity (ACHA, 2013), two of the primary health behaviors linked to chronic disease (Stencel, 2012). Developmentally, as emerging adults, it is an important time to lay a foundation for lasting habits and behaviors (Arnett, 2015). Health theory suggests that there are levels of influence on individual behavior, and that at the interpersonal level, one's social environment and amount of social support affects health behaviors, particularly among women (Glanz & Bishop, 2010; Cohen, Underwood & Gottlieb, 2000). With the emergence of social media, or Web 2.0, the opportunity for providing social support for health behaviors through the online social environment emerges as well (Vaterlaus, Patten, Roche & Young, 2015).

There is a need to understand the nature of social support for health behaviors in college females within the context of the online environment via social networking sites. This knowledge will further research on social support within the context of the online social environment and will serve to inform health education specialists interested in the design of targeted online interventions aimed at modifying health risk behaviors. Following this introductory chapter is a detailed review of the literature pertaining to the proposed study, and then a description of its proposed methods. Chapter Four will include the results of the data collection phase, and Chapter Five includes a discussion and conclusion of the research.

CHAPTER TWO

LITERATURE REVIEW

In a nation where more than one-third (35.7%) of adults and nearly 17% of youth are obese, it comes as no surprise that college students, emerging adults, also have high rates of being overweight and obese (Ogden, Carroll, & Flegal, 2012). College student research indicates that this population has a pattern of poor diet and physical inactivity (ACHA, 2013), two of the primary health behaviors linked to chronic disease (Stencel, 2012). Developmentally, as emerging adults, it is an important time to lay a foundation for lasting habits and behaviors (Arnett, 2015). Health theory suggests that there are levels of influence on individual behavior, and that at the interpersonal level, one's social environment and amount of social support affects health behaviors, particularly among women (Glanz & Bishop, 2010; Cohen, Underwood & Gottlieb, 2000). With the emergence of social media, or Web 2.0, the opportunity for providing social support for health behaviors through the online social environment emerges as well (Vaterlaus, Patten, Roche & Young, 2015). There is a need to understand the nature of social support for health behaviors in college females within the context of the online environment via social networking sites. This knowledge will further research on social support within the context of the online social environment and will serve to inform health education specialists interested in the design of targeted online interventions aimed at modifying health risk behaviors.

In Chapter Two, a review of literature describes the health status of today's traditional college student, as well as their risk factors for chronic disease and their developmental classification. Following the synthesis on the college student is a section describing the philosophical and theoretical framework of the current study, including an ecological perspective on health behavior, the Social Cognitive Theory (SCT) and Social Support (SS) models. This

chapter ends with a section that provides a description of Web 2.0 applications and the potential for their use in health behavior.

The College Student

Health Status

More than one-third of adult Americans are obese, according to the most recently compiled data from the National Health and Nutrition Examination Survey (Ogden, et al., 2012). This current obesity rate has been on the rise for decades in the U.S., despite an emphasis on public health efforts aimed at reducing overweight and obesity (Ogden, et al., 2012). In its *Weight of the Nation* report, the Institutes of Medicine (IOM) named the obesity epidemic in the U.S. a stubborn problem, and noted that there has been slow progress in reducing the prevalence of overweight and obese persons nationwide (Stencel, 2012). National and regional research reports on the health of young adult or college populations in the U.S. follow these trends. In 1995, data from the National College Health Risk Behavior Survey indicated that 35% of the college population to be overweight or obese (Lowry, Galuska, Fulton, Weschler, Kann & Collins, 2000). Nearly a decade later, researchers from ACHA found that about 1 in 3 (34.4%) college students had a Body Mass Index (BMI) classifying them as either overweight or obese (2013). This findings, along with several others, indicate that the overweight and obese population in the U.S. has had little decline since 1995.

Overweight and obesity rates were assessed at one Midwestern university, where 21.6% of the students to be overweight and 4.9% were found to be obese (Huang, Harris, Lee, Nazir, Born & Kaur, 2003). Data from a large scale cross-sectional research project, the Young Adult Health Risk Screening, which spanned from August of 2005 to July of 2008, indicated that of the 2,722 participants, roughly half of men and more than a quarter of the women were overweight

or obese (Burke, Reilly, Morrell & Lofgren, 2009). Overweight and obesity is a concern for the entire college population, but several studies report an increase over time spent in college and a disproportionate impact within groups of students (Nelson, Gortmaker, Subramanian, Cheung & Wechsler, 2007; Racette, Strube, Highstein, & Diesinger, 2008; Vella-Zarb, & Egler, 2009). A meta-analysis of research reports on the first year college student experience found significant evidence to lend credibility to the complaints of the 'Freshman 15', or weight gain occurring in college. Based on a pooled sample of 3,401 cases, mean weight gain was found to be 3.86 lbs (Vella-Zarb, et al., 2009). Additionally, a longitudinal study conducted with 204 students at a Midwestern university, varied weight gain occurred from freshman to senior year of college (Racette, et al., 2008). This weight gain over time was confirmed through an analysis of two representative surveys of US college students (N=24,613) in which overweight and obesity increased over time spent in college (Nelson, et al., 2007). This report also noted that overweight and obesity was higher in male students, African American students, and students of lower socio-economic positions (Nelson, et al., 2007). Overall, the data indicate that persistently high rates of obesity and overweight plague the health status of the American college students.

Risk Factors

Overweight and obesity contribute to the leading causes of morbidity and mortality in the US (Kann, et. al., 2013) and are linked to a decrease in quality of life. A recent national health survey found that, although 7 out of 10 persons rated themselves in very good or excellent health, 12% of the same respondents reported they were limited in their usual activities due to one or more chronic health conditions (Adams, Martinez, Vickerie, & Kirzinger, 2010). In it's *Weight of the Nation* report, the IOM calls overweight and obesity a risk factor for potentially debilitating and deadly chronic conditions (Stencel, 2012) such as Type 2 diabetes, adverse lipid

concentrations, and high blood pressure (Ogden, Carroll, Kit & Flegal, 2012). Overweight and obesity, along with high triglycerides, low HDL cholesterol, elevated blood pressure and high fasting glucose together are the criteria for metabolic syndrome (MbS), which leads to an increased risk of chronic diseases like diabetes mellitus and cardiovascular disease (Morrell, Lofgren, Burke, & Reilly, 2012). Specifically, concerns for MbS are present, even within a college student population. Researchers conducted a large-scale, ongoing, survey of college students from 2005-2008 (N=2,722) and identified MbS in 9.9% of men and 3.0% of women. At least one (of the five) criteria for MbS was identified in 77% of college men and 54% of college women indicating a significant concern for the development of chronic disease in the college student population (Morrell, et al., 2012).

As noted above, the data confirms high rates of overweight and obesity within college students across the US, but there is also a pressure to be thin, which leads to body dissatisfaction and disordered eating patterns in the same population. In a national survey of college students, 20% of respondents reported suffering from an eating disorder in their lifetime (Hoerr, Bokram, Bivins & Keast, 2002). Another survey conducted with undergraduates in both 2005 and 2007 identified positive screens for eating disorder symptoms among 13.5% of women compared to just 3.6% of men (Eisenberg, Nicklett, Roeder, & Kirz, 2013). Within the Fall 2013 National College Health Assessment reference group, 6% of college women and 3% of college men reported experiencing an eating disorder within the 12 months prior to the survey. The prevalence of eating disorders relates to the pressure to be thin and body dissatisfaction, particularly among college women (Anton, Perri, & Riley, 2001). Results from a study conducted with 265 college women indicated body surveillance is key to understanding how the pressure to be thin (i.e. the thin ideal) leads to body dissatisfaction (Fitzsimmons, Harney,

Koehler, Danzi, Riden & Bardon-Cone, 2012). When researching ideal body size among African American (AA) and European American (EA) college women, researchers found that EA preferred a curvy-thin or athletic body type, while AA resisted defining one single preferred body type; body dissatisfaction was noted among EA (Webb, Warren-Finlow, Chou & Adams, 2013).

Due, in part, to the prevalence of body dissatisfaction, the thin ideal and disordered eating public health and patient care practitioners have begun a shift in practice towards a weight-inclusive approach to health (Tylka et al., 2014). This approach emphasizes a view of health and wellbeing as multi-faceted versus the traditional weight-normative approach that emphasizes weight and weight-loss when defining health. The former directs efforts toward increased access and reducing stigmas on weight (Tylka et al., 2014). One example of weight-inclusive approach is the Health at Every Size (HAES) movement, a weight-neutral approach that promotes holistic health (Watkins, 2013). HAES does not ignore the relationship of obesity and risk for chronic disease. In fact, many HAES interventions include health behaviors such as nutrition and exercise, and the body of evidence showing the efficacy of such interventions is growing (Reel & Stuart, 2012; Bacon & Aphramor, 2011). Even with the shift towards a holistic health approach to college women's health, leading national health agencies, such as the CDC (2016) and the Office on Women's Health (2016) name nutrition and exercise within their online lists of top things for college women to do to maintain a healthy lifestyle. The risk for chronic disease remains and health educators must continue to plan and implement programs to help reduce it.

With or without the emphasis on overweight, obesity and weight loss, the message is clear: lifestyle choices, or health behaviors, play a role in the reduction of risk for a number of chronic diseases (CDC, 2013; Stencel, 2012; Grace, 1997). The IOM compiled a list of over

800 prevention strategies to help support individuals and families in making healthier choices to combat overweight and obesity where they work, learn, eat and play (Stencel, 2012). These strategies fall into one of the five critical goal areas that follow:

1. Integrating physical activity into people's daily lives
2. Making healthy food and beverage options available everywhere
3. Transforming marketing and messages about nutrition and activity
4. Making schools a gateway to healthy weights
5. Galvanizing employers and health care professionals to support healthy lifestyles

Overall, the IOM initiative, *Weight of the Nation*, encourages groups and individuals to eat healthy options and to get active (Stencel, 2012). The Centers for Disease Control and Prevention (CDC) agrees, stating in a recent *Prevention Status Report*, that poor diet and physical activity contribute greatly to obesity and the resulting costly chronic health conditions (2013). Furthermore, the CDC identified priority health-risk behaviors, naming unhealthy dietary behaviors and physical inactivity as key factors related to overweight and obesity (Kann, Kinchen, Shanklin, Flint, Hawkins, Harris, Lowry & O'Malley, 2013).

Despite the clear message, our youth and young adults do not engage in health behaviors related to diet and physical activity as recommended. The most recent data report from the National Youth Risk Behavior Surveillance System (YRBSS) conducted in high schools found that 13.7% of students were obese and an additional 16.6% of students were overweight nationwide (Kann, et. al., 2013). It is not surprising that health behaviors related to diet and physical activity were limited. Research findings on high school students in the U.S. indicate that many of these youth are sedentary and have poor diets. The following data from the 2013 YRBSS report (Kahn, et al., 2013) highlight these facts:

- 33.2% of students had eaten fruit or drunk 100% fruit juices two or more times per day during the 7 days.
- 28.4% of students had eaten vegetables two or more times per day during the 7 days before the survey.
- 38.1% of students had eaten breakfast on all 7 days before the survey.
- 47.3% of students had been physically active doing any kind of physical activity that increased their heart rate and made them breathe hard some of the time for a total of at least 60 minutes per day on 5 or more days during the 7 days before the survey.
- 51.7% of students had participated in muscle strengthening exercises (e.g., push-ups, sit-ups, or weightlifting) on 3 or more days during the 7 days before the survey.
- 41.3% of students played video or computer games or used a computer for something that was not schoolwork for 3 or more hours per day on an average school day before the survey.
- 32.5% of students watched television 3 or more hours per day on an average school day.

College student research indicates that largely, young adults continue a pattern of poor diet and physical inactivity. In 2013, researchers conducting a national survey on college health trends found that only 5.4% of students reported getting the recommended 5 or more servings of fruits and vegetables in a day and another 46.2% reported meeting the recommendations for exercise (ACHA, 2013). Local and regional research efforts confirm these trends. A longitudinal research study conducted at one university noted that overall, students failed to meet the recommended guidelines for diet and exercise throughout their college years (Racette, Deusinger, Strube, Highstein, & Diesinger, 2008). A second report assessing overweight, obesity, diet and physical activity in college students found that 69% of students at one university eat less than the recommended 5 fruits and vegetables per day and most reported 3 or fewer days a week of physical activity (Huang, Harris, Lee, Nazir, Born & Kaur, 2003). These research studies indicate that most college students do not get enough fruits and vegetables to

support optimal health and wellness and many do not get enough physical activity to maintain optimal health, including an optimal weight.

An Age for Change

In the United States, the traditional pattern for college students is to begin post-secondary education immediately after the completion of high school, which is at age 18 for the majority of students. Those who attend a 4-year university typically finish their degree program within 4-6 years, meaning the age for traditional undergraduate student population in the U.S. is 18-24. This age, corresponds to developmental stage recently defined in the literature as *emerging adults* (Arnett, 2015; Schwartz, Cole & Arnett, 2005). When comparing emerging adults to the developmental stages developed by Erik Erickson, emerging adults are more mature, less dependent on parents compared to individuals considered to be *adolescents*, but not yet settled in respects to lifelong career and relationship and family choices when compared to individuals grouped as *young adults* (Arnett, 2015). Emerging adults are ages 18-29, previously referred to in the literature as 18-25 (Schwartz, Cole, & Arnett, 2005), and have needs and characteristics that differ from the previous developmental age groups of adolescents (teenagers) and young adults (age 18-40) put forth by Erickson in the 1950's (Arnett, 2015). Arnett (2015) describes key characteristics of emerging adults (p. 9):

1. **Identity explorations:** answering the question “who am I?” and trying out various life options, especially in love and work
2. **Instability:** in love, work and place of residence
3. **Self-focus:** as obligations to others reach a life-span low point
4. **Feeling in-between:** in transition, neither adolescent nor adult
5. **Possibilities/optimism:** when hopes flourish and people have an unparalleled opportunity to transform their lives

Among these characteristics, the first one is key and is typically associated with Erickson's *identity formation* in adolescence, which is the time "during which the young adult through free role experimentation may find a niche in some section of his society" (Arnett, 2015, p.10). Not only does this characteristic relate to work and occupation, but it may also extend to laying the foundational patterns for diet and exercise behaviors formed through role experimentation during young adulthood.

Emerging Adulthood is now the term used to describe the transition into adulthood and the period of development that spans from late teens through the mid-twenties. It is marked by identity issues, and identity formation during this time is essential to the development of a worldview and successful career and relationships (Schwartz, Cole & Arnett, 2005). During the construction of the emerging adulthood developmental stage, Arnett and several other researchers conducted a study to investigate the consistency of the agency-identity relationship across what they labeled *prominent ethnic groups*. They found few ethnic mean differences; results of the structural modeling suggest that the agency-identity relationship is consistent across the three ethnic groups (i.e. White, Black and Hispanic), but they noted that this group is marked with diversity in respect to the defining characteristics transition into adult roles and responsibilities (Schwarz, Cole & Arnett, 2005).

Researchers Laska, Pasch, Lust, Story & Ehlinger (2009) noted that few studies have examined the context of health risk behaviors specific to the emerging adult population, and as a result, designed a study with undergraduates (N=2,026) at a university in order to examine behavioral patterning in weight behaviors, substance use, sexual behavior, stress, and sleep. Lifestyle characteristics and risk behaviors (i.e. diet, physical activity, stress and sleep, substance use, and sexual practices) underwent latent class analysis, which yielded four mutually exclusive

classes by gender, including 33.6% of males and 24.3% of females in the high risk class (Laska, et al., 2009).

The findings of the latent class analysis confirm a concern for health risk behaviors, especially those related to weight-loss and maintenance within the emerging adult college population. Overall, as the authors of one commentary note, emerging adulthood is a developmentally unique life-stage when family and social network begin to shift and the establishment of independence and healthy behavior practices that prevent chronic disease into adulthood are critical (Nelson, Story, Larson, Nuemark-Sztainer & Lytle, 2008). As such, there is a need for additional research that helps to understand the evolving social influences and the extent to which they influence health behavior patterns within this population (Nelson, et al., 2008).

Theory

Overview

This research project has both a philosophical and theoretical framework. The former guides how I, as the researcher, think about the nature and construction of knowledge (i.e. epistemology), and the latter frames the underlying structure of the study, including its concepts, key terms, research questions, data collection and analysis techniques and the interpretation of findings (Merriam, 2009). This descriptive qualitative study has an interpretist/constructivist philosophical paradigm (Merriam, 2009). With such framework, the aim is to discover report and construct truth from the reality of the participants (Maxwell, 2005). The theoretical base draws from the Social Cognitive Theory (SCT), an interpersonal-level health behavior theory, as well as literature on the construct of social support.

Ecological Framework

Beyond the philosophical paradigm, health behavior theory also frames this study. The authors of *Theory at a Glance*, a document compiled to guide health promotion practice, explain that theories and models describe the process of shaping health behavior and the effects of ecological factors on behavior (National Institutes of Health [NIH], 2005). Practitioners use theories for the planning, implementation and evaluation of health promotion programs and by researchers to better understand the constructs shaping health behaviors (NIH, 2005). The authors go on to explain that health promotion professionals should take an ecological perspective to understanding health theories and models, meaning, more specifically, that there are multiple levels of influence on the behavior of an individual and that individual behavior shapes and is shaped by the social environment (NIH, 2005).

Glanz and Bishop define an ecological perspective as a ‘view that public health/health promotion interventions should target individual, interpersonal, organizational and environmental level factors (2010, p. 400). An ecological model takes such a perspective by emphasizing five levels of influence: (1) individual, (2) interpersonal, (3), organizational, (4) community and (5) public policy. This model embraces the idea that behaviors ‘shape and are shaped by the social environment’ and it provides guidance to public health educators developing effective interventions (Glanz et al., 2010, p. 403).

The Social Environment- Social Cognitive Theory

This study will highlight constructs and concepts from the interpersonal level of the ecological model, through the use of the social cognitive theory (SCT). Initially called social learning theory, SCT is grounded in learning theory, and was constructed by psychologist Albert Bandura in the 1960’s to explain how an individual’s behavior or actions is driven by personal

and environmental factors (Worldbank, ND). Reciprocal determinism, an important concept in SCT, examines the casual relationships between these factors, proposing that behavior is a function of person (internal factors) and environment (external factors) each acting upon the other (Harackiewicz & Kihlstrom, 1990).

In 2004, Bandura described his theory as a “multifaceted causal structure in which self-efficacy beliefs operate together with goals, outcome expectations, and perceived environmental impediments and facilitators in the regulation of human motivation, behavior and well-being” (Bandura, 2004, p. 146). Table 2.1 below lists and describes key constructs of the SCT (Baranowski, Perry & Parcel, 2002; NIH, 2005; Worldbank, ND).

The six constructs listed in Table 2.1 are ones shared by the majority of the sources consulted for this research project. The naming of constructs vary by source (e.g. modeling vs. observational learning) as does the number of constructs named in SCT. Self control and emotional coping constructs are named explicitly in several, but not every source (Worldbank, ND; NIH, 2005; Baranowski, Perry & Parcel, 2002; Harackiewicz & Kihlstrom, 1990; Bandura, 2004).

Bandura (2004), identifies what he believes to be the core determinants of SCT:

1. Knowledge of health risks and benefits of specific practices
2. Perceived self-efficacy that one can exercise control over their health behaviors
3. Outcome expectations on expected costs and benefits of health habits
4. Health goals and the plans and strategies for realizing them
5. Perceived facilitators and impediments (both social and structural) to the changes sought

Table 2.1*Constructs in the Social Cognitive Theory*

Construct	Description	Application and Change Strategies
Reciprocal Determinism	Dynamic interaction among a person, the behavior and the environment in which the behavior is performed	Consider multiple ways to promote behavior change, including making adjustments to the environment or influencing personal attitudes and beliefs
Behavioral Capability	Knowledge and skill to perform a given behavior	Promote mastery learning through skills
(Outcome) Expectations	Judgment of the likely consequences a behavior will produce, including the importance of these expectations	Model positive outcomes of healthful behaviors; Promote awareness of and assessment of risk/benefits
Self-Efficacy	Confidence in one's ability to take action, perform the behavior and overcome potential barriers	Approach behavior change in small steps to ensure success; be specific about the desired change.
Observational learning (Modeling)	Behavioral acquisition that occurs by watching the actions and outcomes of others' behavior.	Point out others' experience, physical changes; Offer credible role models who perform the targeted behavior.
Reinforcements	Responses to a person's behavior that increase or decrease the likelihood of reoccurrences	Provide incentives, rewards, praise; encourage self-reward; decrease possibility of negative responses that deter positive changes.

Note: Adapted from, *Theory at a Glance: A Guide for Health Promotion Practice, 2nd edition*, National Institutes of Health (NIH), 2005. Public domain.

In 2004, Bandura developed a pictorial model to highlight the structural paths of influence where-in perceived self-efficacy affects health habits, both directly, and through its impact on goals, outcome expectations, and perception of socio-structural facilitators and impediments to health-promoting behavior (Bandura, 2004).

Bandura (2004) also noted that social approval or disapproval is a type of outcome expectation, stating that “behavior is also partly regulated by the social reactions it evokes” (p. 144). This regulation by social reaction is key to understanding the dynamics within the current study exploring social support via social media.

Not only did Bandura clarify the core determinants of SCT in his 2004 paper, but he also explained what he names a *step-wise* implementation of the theory that helps health professionals better understand the level of support an individual may need in adopting a new health behavior. There are three levels of implementations. Individuals in the first level have high self-efficacy, positive outcome expectations and will need minimal guidance to accomplish the change. Individuals in the second level have some self-doubts about efficacy and the likely benefits of the changes. Persons in this group are often marked by half-hearted attempts at change, giving up when meeting difficulties, and needing extra support and interactive guidance (e.g. tailored print or telephone messages). The individuals in the third level have health habits perceived to be beyond their control. These persons need a great deal of personal guidance in a structured mastery program with progressive successes to build their efficacy beliefs (Bandura, 2004). Overall, Bandura (2004) noted that a comprehensive approach to health promotion efforts require changing the practices of social systems that have wide-spread effects on human health, and that the emerging interactive technologies that move beyond the one-way mass communication of the past may enhance health impact.

Relevant to the current study are the concept of reciprocal determinism and constructs from SCT (Bandura, 2004) as previously listed in Table 2.1. The concept of reciprocal determinism assumes that behavior is influenced by both personal and environmental factors (Bandura, 2004), which includes, in the case of this study, the online social environment. Three

constructs from the SCT, behavioral capability, observational learning and reinforcements, will shape both the research questions for the present study and serve to guide the development of closed codes for the qualitative data analysis of this study.

The Social Environment: Social Support

Beyond the concepts and constructs from the SCT, the construct of social support (SS) provides additional theoretical underpinnings for the current study. SS, a construct borrowed from psychology, has proven to have interpersonal-level influence on health behaviors through both direct effects and its ability to buffer stress (Cohen, Underwood & Gottlieb, 2000).

The definitions and measurements of SS vary, despite its prominent presence in literature for decades (Cohen et al., 2000; Heitzmann & Kaplan, 1988; Lin, Hsu, Cheng, & Chu, 2015; Tay, Tan, Diener & Gonzalez, 2012). In response to this variation, Cohen, et al., (2000), edited a text to contribute to the methodological rigor and quality of research related to SS by explicating on its definition, measurements and uses in the literature. The editors of this handbook broadly define SS as “any process through which social relationship might promote health and well-being” (Cohen et al., 2000, p.4), but note that just two specific overarching processes are used throughout the book: (1) a provision of resources to those perceived in need, and (2) benefits that accrue from being in a distinct social group. The editors described distinctions in constructs and theories informing SS. Historically, researchers found that SS affected mental and physical health through its influence on emotions, cognitions and behaviors, and two models emerged: stress-buffering and direct effect. In the stress-buffering model, SS acts on stress, which then affects the health outcome, leading researchers to assert that SS preferentially affects the wellbeing of individuals under stress. In the direct (or main) effect model, SS works directly to affect the health outcome, leading researchers to assert that SS has benefit with or without the

presence of stress conditions (Cohen et al., 2000). The editors describe five constructs: supportive actions/functions; appraisal; social cognition; symbolic interaction; and relationships. They state that the first two correspond to the stress-buffering model and the latter three with the main-effects, or direct, model. Three general theories or perspectives are named in the text: (1) the stress and coping perspective, (2) the social constructionist perspective and (3) the relationship perspective. Each perspective aligns with one of the two models and one or more of the five constructs. The editors emphasize the importance of selecting the constructs, as well as the theory, that align with one's research tradition, and they emphasize the need to clearly articulate the framework used for each research project (Cohen, et al., 2000).

Tay, Tan, Diener and Gonzalez (2012, p. 2) developed a model (Figure 2.1) to describe pathways from social support to physical health as described by the distinct SS models of main effects and stress-buffering mentioned above. This model visually represents the pathway in which social support, along with social integration (note: a construct not utilized in this study) affect specific health behaviors directly (i.e. the main effect model) and the pathway in which they affect health behaviors mediated through both psychological and physiological processes (i.e. the stress buffering model) (Tay, et. al., 2012).

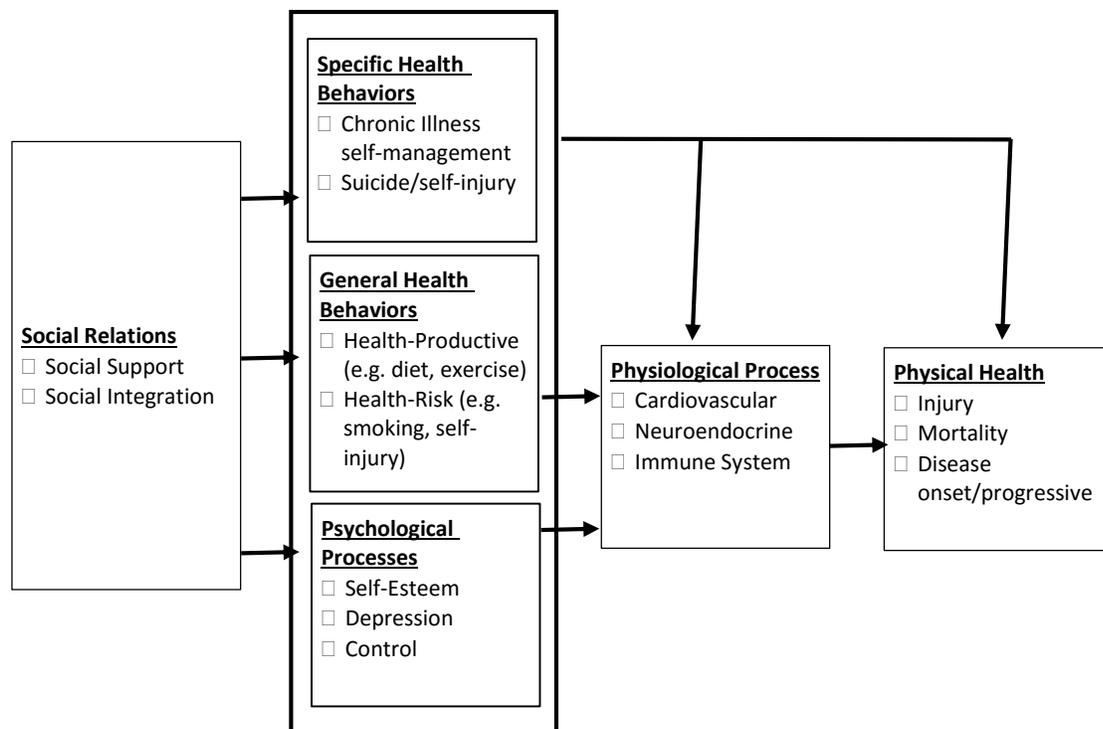


Figure 2.1 Pathways from Social Support to Physical Health. Reprinted from Social Relations, Health Behaviors, and Outcomes: A Survey and Synthesis, by Louis Tay, Kenneth Tan, Ed Diener & Elizabeth Gonzalez, 2012, *Applied Psychology: Health and Wellbeing*,5(1), p. 29. Copyright 2012 by John Wiley and Sons. Reprinted with permission.

When researchers conducted a review of literature in order to synthesize current evidence on the connection between social relations and health, overall, they found that social relations (to include social support) are beneficial for health behaviors linked to chronic illness (Tan et al., 2012). In total, 26 articles were reviewed and it was found that social relations, when measured broadly were not predictive for health behaviors. Instead, there were stronger positive relationships among health behaviors and social relations indicated in studies specifically measuring support for behaviors or behavioral norms (Tay, et al., 2012). They also noted that SS relates to healthy intake of fruits and vegetables, social influence was associated with exercise adherence, and family ties and support had moderate to large effects on physical activity

behaviors. Social relations may not lead to health behaviors if social norms within the group are not healthy, however (e.g. smokers) (Tay, et al., 2012).

Other examples of research on social support and health risk behaviors of poor diet and lack of physical activity also offer favorable results. McNeil, Kreuter & Subramanian (2006) set out to clarify the literature on social environment and its influence on health outcomes by offering a better taxonomy of its dimensions and mechanisms, noting the influence of social factors on health behavior is widely accepted, but each dimension offers important differences. They reported that social support, along with other dimensions of the social environment help to enable or constrain the adoption of health behaviors, provide access to resources and material goods, provide individual and community coping responses and to buffer negative health outcomes (McNeil et al., 2006). Researchers studying determinants of physical activity among adults in Western Australia, found that the influence of individual and the social environmental determinants outweighs the role of the physical environment, citing that having access to a recreational facility is necessary but not sufficient to influence recommended health behaviors (Giles-Corti, & Donovan, 2002). Similarly in a national survey of adults in the US, the social environment was found to be the strongest independent predictor of being physically active in 68% of females and 70% of males. Additionally, results indicated that those respondents who perceived low social support were more than twice as likely to be sedentary compared to those who reported high social support from their environment (Stahl, et al., 2001).

Although results indicate a generally positive impact on health, there is a need for more clarity on a number of factors within social support, including the most influential source(s) of support and the pathways of negative social influence. Marcoux, Trenkner, & Rosenstock (1990) studied adults who had completed a weight loss program to examine the relationship between

social support and weight loss. Three functional measures of social support were included: instrumental support, appraisal support and positive affective support. Participants were asked to rank the importance of each source of support by type, and results indicated that neighbor was top on the list for both positive affective and for appraisal, while spouse was top for instrumental support. Overall, the category of appraisal support was most highly correlated with weight loss and neighbors and friends were found to be the best source of support (Marcoux et al., 1990). Mackert, Stanforth and Garcia (2011) conducted a cross-sectional research study to assess social undermining on health behaviors, finding that the most common sources of undermining the health behaviors were family and significant others, a seemingly counterintuitive result. Similarly, in a mixed methods intervention researching social support as a moderating or mediating factor in weight loss, researchers found that most women, over 75%, never or rarely experienced support from friends or family (Kiernan, Moore, Schoffman, Lee, King, Taylor, Kiernan & Perri, 2012). Additionally, sub-scales on support for healthy eating or physical activity found that women who never received social support were least likely to lose weight during the intervention and women who experienced both friend and family support were more likely to lose weight (71.6%). The group most likely to lose weight in this study of 267 women (80%), were those who ‘never’ experienced friend support (Kiernan et. al., 2012). There is a need to further understand the dynamics within social support, particularly the functional measures of support and sources of support.

The stress and coping perspective, the predominant stance taken in social support literature (Cohen, Underwood & Gottlieb, 2000), frames this study. The stress and coping perspective aligns with the stress buffering model and the constructs of supportive actions (functions) and appraisal (Cohen, et al., 2000). Furthermore, Cohen and Underwood list the

specific components of supportive actions/functions as: Instrumental support, informational support, companionship support, emotional support and validation (esteem) support (Cohen et al., 2000; Lin, Hsu, Cheng, & Tsui, 2015). The five functional measures are defined as follows (Cohen et al., 2000):

1. ***Emotional Support***- the availability of one or more persons who can listen sympathetically when an individual is having problems and can provide indications of caring and acceptance.
2. ***Instrumental Support***- involves practical help when necessary, such as assisting with transportation, helping with household chores and child care, and providing tangible aid such as bringing tools or lending money.
3. ***Informational Support***- is providing knowledge that is useful for solving problems, such as providing information about community resources and services or providing advice and guidance about alternative courses of action.
4. ***Companionship Support***- involves the availability of persons with whom one can participate in social and leisure activities such as trips and parties, cultural activities (e.g. going to movies or museums), or recreational activities such as sporting events or hiking.
5. ***Validation*** – is based on the concept that social relationships can provide information about the appropriateness or normativeness of the behavior.

These functions will inform the development of the data collection tool as well as the selection of closed codes used in the data analysis of this research in order to provide a better understanding on how social support operates and to contribute to the growing body of research using functional measures, a need noted by Cohen, Underwood and Gottlieb (2000).

Researchers predominantly agree that it is the perception of support, and not just the actual receipt of such support that is key to the function of social support (Cohen, Underwood & Gottlieb, 2000; Heitzmann & Kaplan, 1988; Tay, Tan, Diener & Gonzalez, 2012). Therefore, this study includes both perceived support (i.e. supportive functions that are believed to be available if needed), and received support (i.e. functions that are reported to be actively provided).

Connecting Theory to the College Student

Both the SCT theory and SS model are used to better understand or predict health behaviors in college student populations and to design health behavior change interventions aimed for weight management through diet and/or physical activity.

In 2013, researchers conducted a systematic review to determine the ability of the SCT, and general social-cognitive theories, to explain and predict physical activity intention and behaviors in adolescents. Results of 23 studies showed that the models could better explain variance for intention as compared to behavior in physical activity, revealing 48% and 33% of the variance respectively (Plotnikoff, Costigan, Karunamuni, & Lubans, 2013). Another set of researchers set out to test the SCT in predicting future vigorous physical activity among college students. Using 350 participants, they tracked physical activity and gathered survey data during four weeks. Results indicated that exercise role identity, self-regulation, outcome expectancy value, social support, self-efficacy and positive exercise experience accounted for 27% of the variance in days of vigorous PA (Petosa, Suminski, & Hertz, 2003). This supports the use of SCT for understanding factors associated with vigorous physical activity.

Similarly, that same year, a group of researchers sought to predict which personal, behavioral and environmental characteristics are associated with exercise behavior and intention. To do so, they randomly surveyed 937 undergraduate students at a large Midwestern university and applied the survey results to both the SCT and the stages of change, which is a construct within the transtheoretical model. Multivariate discriminant analysis was used to determine associations among these variables with stage of exercise behavior change. Results indicated that the stage of change related to exercise behavior can be predicted by self-efficacy, physical activity history and non-exercise estimation of aerobic capacity. For women, specifically, self-efficacy and family social support were the biggest predictors, and for men, they found that

friend social support, physical activity history and exercise self- efficacy were the most significant predictors (Wallace, Buckley, Kirby & Sherman, 2000).

Although SCT is more often used to predict or explain behavioral intention within the college population, researchers use the theory to develop health behavior programming as well. One such example is of a research project conducted to evaluate the preliminary efficacy and acceptability of two interventions to prevent freshmen weight gain. Both interventions were developed with the use of SCT, but one intervention provided opportunities to improve outcome expectations and self-efficacy within the SCT framework and the other provided opportunities to gain these variables through explicit training in self-regulation (SR) skills. Forty-five freshmen were enrolled in one of the 14 week interventions, of which 40 completed the sessions. There was no significant group difference in weight gain, percent body fat increased with the SCT-SR intervention, and SCT-SR students commented that the online tracking required too much time. Overall the interventions were well received, but did not result in improvements in weight outcomes (Dennis, Potter, Estabrooks & Davy, 2012).

Another example of the SCT being used for program development is a web-based program. Researchers examined the efficacy of using web-assisted instruction to promote the use of strategies related to physical activities from the social cognitive theory. To do so, they designated three groups of college students: 127 in the treatment group, 118 who got the treatment condition but no web component and 178 who were the control group. The students were all attending college health courses at the time of the research project and were assigned to groups in course sections. Use of self-regulation skills and knowledge concerning the skills taught was significantly higher in the treatment group. The authors found that web-based

instructional programming does have a positive impact on knowledge and skills related to SCT strategies for changing physical activity behavior (Suminski, & Petosa, 2006).

Although researchers note that college students have an interest in weight management and maintaining the appearance of their bodies (Lowry, Galuska, Fulton, Weschler, Kann, & Collins, 2000; ACHA, 2013), as noted above, the results of the research also indicate that the prevalence of overweight and obesity remains steady. It appears that not only are the students themselves not able to make the healthy lifestyle behavior changes to alleviate weight gain in college, but that the health professionals working to promote their health have varied success as well. Researchers conducting a meta-analysis conducted with existing data reports on physical activity behaviors in college students found that only between 40-50% of college students are active and that overall health and physical activity professionals working in higher education have not been able to increase healthy behaviors (Keating, Guan, Pinero, & Bridges, 2010). These same researchers found a lack of and multi-level behavior change approaches in current college student literature, and indicated a need to further focus is on activity patterns and the determinants of the health behaviors of college students (Keating et al., 2010).

There is also a body of literature on social support for health behaviors in college student population. The majority of these research studies focus on diet, physical activity and/or weight management; they are primarily quantitative by design and conducted with students at a single university in the U.S. In 2005 researchers examined the association between social support and physical health in a sample of 247 college students (Hale, Hannum, & Espelage). Tangible support, disclosure, belonging and social intimacy were the social support components experienced in the study, and these components do not fit within the functional measures of social support described by Cohen, Underwood and Gottlieb (2000). Belonging (through the

availability of a social network) predicted better health perceptions for women and fewer physical symptoms for men, suggesting that a sense of connection to a group of others is key support component for college student physical health (Hale et al., 2005). King, Vidourek & Merianos (2014) utilized the health belief model to examine involvement and social support related to students vigorous physical activity. Social support was identified in this study as a cue to action, which is a construct of the Health Belief Model. The researchers found that parent involvement in and encouragement of the activity affected the number of perceived benefits, barriers, cues to action and involvement in activity of the students (King et al., 2014). Furthermore, having an exercise partner and having a friend who exercises, types of SS, were cues to action for 54.6% and 60% of the students, respectively, but a motivational email and watching people exercise on tv were listed as cues by just 3.3% and 10.6% of respondents (King et al., 2014). Another group of researchers aimed to explore the roles of health value, family/friend social support and health self-efficacy in health promoting lifestyles by conducting a cross-sectional study with 162 diverse college students (Jackson, Tucker, & Herman, 2007). Perceived social support was treated as a key modifying factor that served as a cue to action in this study. Results indicate that health value, perceived friend/family support, and health self-efficacy significantly associated with engagement in a health promoting lifestyle. Recommendations were made to investigate friend and family support as separate influences as students have limited interaction with family and the support of friends may account for the weak association of friend/family support and engagement in the study (Jackson, et al., 2007).

More recently, while investigating motivational factors and barriers to physical activity in both traditional and non-traditional students, researchers found that both factors differ among these groups. Specifically, a significant difference between groups for lack of resources

(including social support factors), fear of injury and lack of skill was found (Kulavic, Hultquist, & McLester, 2013), providing rationale for the separation of these groups in the current study. In one of the few qualitative studies on social support for health behaviors in college students, 6 focus groups were conducted to identify factors that college students perceive as contributing to healthy and unhealthy eating patterns, physical activity levels and weight change. Analysis of data highlighted differences by gender. Females noted social support as a factor for both healthy eating and physical activity, but males indicated it as a motivational factor for physical activity (LaCaille, Dauner, Kraembeer & Pedersen, 2011). Gruber (2008) also researched social influence patterns of both college student physical activity and food consumption habits, noting that females reported receiving greater social support for their diet and exercise.

Overall, these studies found varying evidence to link social support with improvements in health behaviors like diet and physical activity, but noted differences in gender and traditional and non-traditional aged student status and reported gaps in knowledge on which types of support and sources of support provide the greatest influence on these behaviors.

Web 2.0 (Social Media)

There is a need for promoting life-long health behaviors, like diet and physical activity, to reduce the prevalence of overweight and obesity in the emerging adult, college student population. There is also plenty of evidence from the literature indicating that the social environment and social support shape these health behaviors. The influence of the online social environment and the impact of social support via social media or Web 2.0, however, is not clearly defined, and gaining this understanding is key to both extending the research base on social support for college students and for providing relevant health promotion efforts to this technologically savvy population in the future.

Table 2.3*Descriptions of Select Social Media Platforms*

Name of Platform	Brief Description of Website	Website
Facebook	Allows users to create a personal profile to share selected personal information, interests, photos or videos. Users can find and accept friends with whom they wish to connect. Facebook allows for status updates, instant messaging, and posting content found on the internet.	www.Facebook.com
Twitter	Allows users to create a brief profile with a photo. Twitter allows users to share photos, videos, and brief 140-character status updates referred to as Tweets. Twitter users can follow people or organizations to stay connected.	www.Twitter.com
Instagram	This is a photo and video sharing Appendix Users can take a picture and select different filter options in order to share their picture with their followers. Users develop their own profile and can select to follow specific people/organizations to get photo/video updates.	www.Instagram.com
Pinterest	This platform is an electronic pinboard. Users create a profile and “pin” (i.e., post) content from the internet to their board. It is a form of social bookmarking where users can organize information on their own board and follow other Pinterest users to share information.	www.Pinterest.com

Background

Web 2.0, or social media, was first used in 1999 to conceptually describe a set of Internet (web) based applications that would eventually replace the static mass communication channels, including internet and email applications, that were marked by one-directional flow of information (O'Reilly, 2005; Thackeray & Neiger, 2009). Social media enhanced the static platform of web 1.0 by adding the optional two-way or multidirectional flow of communication that occurs as users can not only view content, but also share and develop it (O'Reilly, 2005;

Thackeray & Neiger, 2009). With the relative newness of Web 2.0 capabilities and the speed of technological developments, applications are introduced regularly and additions or alternations are made to existing applications routinely. As such, it is difficult to provide an accurate list of all social media applications, however, table 2.3 gives the names and descriptions of the top 5 social networking sites, a type of social media for the past two years (Duggan, Ellison, Lampe, Lenhart & Madden, 2015; Vaterlaus, Patten, Roche, & Young, 2015).

According to the most recent telephone survey conducted in September 2014 with adults in the US usage by Web 2.0 application is as follows, 58% use Facebook, 22% Pinterest, 21% Instagram and 19% Twitter (Duggan, Ellison, Lampe, Lenhart, & Madden, 2015). The authors explain that users connect with a variety of people via social media, including, family members, current and past friends, work colleagues, parents, neighbors and people they have never met in person (Duggan et al., 2015). When surveying just adult internet users, Facebook usage is 71%, and 45% use the application more than once a day. Growth has slowed in the past year for Facebook, but is steadily rising for the three other platforms listed in table 2.3, and the following trends in social media use were also noted by the recent US survey (Duggan et al., 2015):

1. Multi-platform use is on the rise: 52% of online adults now use two or more social media sites, a significant increase from 2013, when it stood at 42% of internet users.
2. For the first time, roughly half of internet-using young adults ages 18-29 (53%) use Instagram. And half of all Instagram users (49%) use the site daily.
3. For the first time, the share of internet users with college educations using LinkedIn reached 50%.
4. Women dominate Pinterest: 42% of online women now use the platform, compared with 13% of online men.

The emergence of social media is marked in the social science literature, with research designed to examine the influence of Web 2.0 on quality of life, the social environment and the potential application for health education and health promotion efforts. Reports on the potential uses and applications for social media use pepper the early health education and health promotion literature, but few focus on interventions conducted using social media (Kies & Burtis, 2012; Nigel & Thackeray, 2009). Kies and Burtis conducted a review of literature in 2012, and found four categories of social media usage for health education and health promotion: social marketing campaigns, risk and crisis communication, health education delivery, and professional preparation. More recently, researchers conducted a systematic review related to all literature on the intersection of Web 2.0 and health from 2004 on, finding 514 unique publications. Of these, 267 were classified as commentaries and reviews, 213 as descriptive studies and just 34 as interventions (Chou, Prestin, Lyons, & Wen, 2013). These researchers note that Web 2.0 technologies have significantly changed the health communication landscape, and that more research is needed to answer the critical question of how the current Web 2.0 environment affects health attitudes and beliefs (Chou et al., 2013).

Internationally, studies have been conducted on social media and its implications. A longitudinal study in Norway identified five distinct types of social network users: sporadics, lurkers, socializers, debaters and advanced (Brandtzaeg, 2012). It was noted that females are more likely to use social networking sites than males. Results also indicated that social network usage is associated with social capital, and that social network site users had significantly higher scores than non-users in three out of four social capital dimensions (Brandtzaeg, 2012). In Hong Kong, researchers completed a nationally representative face-to-face household survey to examine the possible influence of internet activities, new media use, social support and leisure

activities (Leung & Lee, 2005). They utilized functional measures of support (Cohen, Underwood & Gottlieb 2000), finding that activities such as using the internet for sociability, fun seeking and information seeking and new media use correlate positively for at least one of the dimensions of social support. Hierarchical regression analysis revealed that affectionate, positive social interaction and emotional social support, from either online or offline sources are the strongest determinants of quality of life (Leung & Lee, 2005).

In 2014, researchers conducted a systematic review of the current level of evidence regarding the effectiveness of online social network health behavior interventions, finding just 10 of an initial 2040 studies that met the inclusion criteria (Maher, Lewis, Ferrar, Marshall, Bourdeaudhujj, & Vandelanotte, 2014). All 10 experimental studies targeted weight loss, physical activity or a combination of diet/weight loss and physical activity. Four studies provided significant improvement in an outcome measure, and an additional four studies reported evidence that suggests improvement but included no significant difference between groups (Maher et al., 2014). Overall the review found modest evidence that online social network interventions may be effective, but that more studies that attempt to intervene in health behavior using online social networks are needed (Maher et al., 2014).

Application to Social Support and the College Student

Social media use in the emerging adult population is even higher than the general adult population, yet little is known about the influence of the online social environment's influence on health behaviors. Social network usership by 18-29 yr olds is as follows: 87% Facebook, 37% Twitter, 53% Instagram, 34% Pinterest and 23% LinkedIn, which are all increases from the 2013 data (Duggan, Ellison, Lampe, Lenhart, & Madden, 2015). In following the literature conducted on the influence of social networking sites on social factors and life satisfaction in the

general adult population, researchers Oh, Ozkaya & LaRose (2014) uses a data collection technique called momentary sampling with college undergraduates. Social support variables of affect, supportive information and perceived availability of SS were measured in this study, and after a 5-day diary analysis, both supportive interaction and affect were most linked to sense of community and life satisfaction (Oh et al., 2014). What little we do know about the influence of social media on young adult behaviors comes from a single article published in 2015, entitled #Gettinghealthy (Vaterlaus, Patten, Roche & Young). Data were collected through the use of eight focus groups, and primary findings indicate that young adults perceive technology to be both a barrier and motivator for exercise, and they believe that social influences their health behaviors (Vaterlaus et. al., 2015). Motivators and barriers were named as follows:

Motivators for physical activity: provides specific apps (e.g. Nike, map my run); access to new exercise; follow pages or organizations on Facebook, Instagram, Twitter or Pinterest for motivation; seeing other people's accomplishments #transformationtuesday; progress in specific exercise programs like CrossFit; motivational quotes increased personal desire; wanting to look their best in the pictures they post/share on social media

Barriers for physical activity: displacing/wasting time they could be exercising; being distracted during exercise time; providing inaccurate information about exercise; finding exercise info and tips online might make a weak commitment (e.g. "I'm going to try this", but never actually do it); distracts during exercise- get a tweet or message from someone.

Motivators for diet and nutrition: new recipes or ideas for meals; posting photos of food; selfies of weight loss can be inspiring

Barriers for diet and nutrition: seeing more recipes and meals that are unhealthy vs. healthy; seeing food pictures when not hungry, but makes them want to eat anyway; distraction

or disconnection when eating meals with others and being on the computer or social media for long periods of time connected to fast food vs. taking time to prepare food or make healthy meals.

Overall, these researchers recognize that social media is a ripe and informal venue for disseminating health information to emerging adults (Vaterlaus, Patten, Roche & Young, 2015). Given the importance of adopting lasting health behaviors during this developmental stage, and the higher usage rates of social media among college students, descriptive research of the online social environment and social media usage among young adults is needed. This information will assist in the implementation of social media interventions targeting health behavior change.

Summary

There is a need for the promotion of life-long health behaviors, like diet and physical activity, to reduce the prevalence of overweight and obesity in the emerging adult, college student population. The literature indicates that the social environment and social support shape these health behaviors, particularly among women. The influence of the online social environment and the impact of social support via social media or Web 2.0, however, is not clear. Gaining more clarity in this area is key to both extending the research base on social support for college students and to providing relevant health promotion efforts to this technologically saavy population in the future. The purpose of this study is to describe the social media experience of college females and the potential pathways of social support from this online environment that influence diet and physical activity behaviors. A detailed account of my method for this study follows.

CHAPTER 3

METHOD

There is a need for the promotion of life-long diet and physical activity health behaviors to reduce the prevalence of overweight and obesity in the emerging adult college student population. According to the literature, the social environment and social support shape these health behaviors, particularly among women. The influence of the online social environment and the nature of social support via social media or Web 2.0, however, is not clear. Gaining more clarity in this area is key to both extending the research base on social support for health behavior change in college students and to providing relevant health promotion efforts to this technologically savvy population in the future. The following chapter reiterates the purpose of the study and its research questions. Then, a detailed description of research design, participants, data collection and data analysis are provided along with an account of determining trustworthiness and credibility in the proposed study.

Purpose of the Study

The purpose of this study was to describe the ways in which social networking sites (SNS) provide college females with social support for their diet and/or physical activity goals. The following questions guided this research project:

1. How do college females engage with the topics of diet and/or physical activity during their daily social networking site (SNS) usage?
2. In what ways do their SNS experiences provide college females with social support for diet and/or exercise behaviors?

Research Design

Maxwell (2005) explained that an explicitly identified research paradigm helps to situate and guide the design of a study through the assumptions about the nature of the world (i.e. ontology) and how it is understood (i.e. epistemology). A research paradigm, along with the personal experience of the researcher, existing theory/prior research and exploratory or pilot research, made up the conceptual framework for a study (Maxwell, 2005). An interpretist/constructivist philosophical paradigm guided the design of this research project. With such framework, the aim of the researcher was to discover, report, and construct realities from the reality of the participants (Maxwell, 2005). Merriam (2009) further described this epistemological perspective by stating that the overall goal of a researcher with an interpretist/constructivist perspective was to describe, understand, or interpret an experience through multiple realities that are bound to a particular context.

Qualitative research designs fit well within an interpretist/constructivist perspective. As Merriam (2009, p.13) states, qualitative researchers are “interested in understanding the meaning people have constructed, that is, how people make sense of their world and the experience they have in that world”. There are several designs within qualitative research, but all qualitative studies have several characteristics in common (Denzin & Lincoln, 2005; Merriam, 2009). Qualitative research (a) focuses on meaning, understanding and or process, (b) includes a purposeful sample, (c) utilizes interviews, observations and documents for data collection, (d) uses inductive and comparative data analysis techniques (e) presents richly descriptive findings as themes or categories (Merriam, 2009).

Beyond the characteristics listed above, this study included epoche bracketing and data horizontalization. Epoche bracketing is to make an effort to account for personal feelings,

prejudice and assumptions based on prior experience of the researcher. Horizontalization of the data, means that all of the data in this study (i.e. journals, observation notes and interview transcripts) were given equal weight or value while organizing them in clusters and themes (Merriam, 2009).

The phenomenon of interest in this study was the experience of receiving social support for diet and/or physical activity goals via the online social environment. The purpose of this study was to describe the ways in which social networking sites (SNS) provided college females with social support for their diet and/or physical activity goals. In this study, college females were recruited and data from participant journals, online observation and phone interviews were collected during the 28-day data collection phase in order to provide a broad and detailed description of the phenomenon and to respond the research questions.

Considering a Preliminary Study

Several researchers stress the importance of conducting a pilot study, or a small scale version used as a trial run for the full study (Teijlingen and Hundley, 2001. Isaac and Michaels, 1995). Teijlingen and Hundley (2001) offer 16 reasons for pilot studies, including, the development and testing of instruments, assessing the feasibility of the proposed data collection and analysis techniques to uncover potential problems. Despite this list of reasons, supporting pilot study usage, the importance of a pilot study in qualitative research, is debated. Due to the progressive nature of data collection and analysis, where earlier actions serve to inform and refine subsequent ones in the research process, a pilot study may be unnecessary (Teijligen & Hundley, 2001). The benefits may still extend, however, to the development of a clear focus for the research study and to the development of efficacy for novice researchers in qualitative data collection techniques such as participant interviews (Teijligen & Hundley, 2001).

As an emerging researcher, I have had the opportunity to complete several other qualitative or mixed method studies independently or as a part of coursework, which allowed me to collect data via observation and navigate the process of qualitative data analysis. I have also had the opportunity to consider some of the variables within the current study, as an instructor of a health and wellness class for undergraduates and as a CrossFit coach, which is why I had interest in pursuing the topic of research. Despite having some familiarity with the research process and the topic, I chose to conduct a preliminary study of the methods and materials used for data collection in this study. I recruited two women who met the inclusion criteria for the study to assist with the preliminary study for one week, and during this time, both women completed a version of the participant journal, had their SNSs observed daily and completed the semi-structured interview protocol.

This preliminary phase helped to refine the process of recruitment, the data collection instruments and the organization of data for the analysis phase. Participants for the preliminary phase were identified from my personal network of friends within SNSs. I used Facebook to reach out to the preliminary study participants, inform them of the process and ask if they would assist me. This process was used the cover letter and consent forms created for the purposes of the research project. I also used the email account set up for the full research project. This gave me the opportunity to find out any glitches I might have with technology and/or the information I used in recruitment, consent and data collection. After they agreed to assist in the process, I sent them each the initial email about the study and consent for participation. There were several clarifying questions, which led to the minor revision of this document and the Google form in which it was written. Gathering data from the journal, SNS observations and phone interviews gave me an idea of what type of data might be coming in the full study. I

recognized that the participant journal responses may be limited, but that the interviews and observations could be a place to explore the things they wrote in the journals further. I saw examples of data with their SNSs, such as posts on meals, exercise and comments on these posts by their friends and family. Conducting the preliminary SNS observation was particularly helpful in figuring out the number of observations would be needed each day. I originally thought I would need to observe several times a day, but found that with a small number of friends, my newsfeeds stayed current. Because the daily SNS activity of just two participants is a manageable amount, I could log on once a day and see the activity of each participant for more than the last 24 hours.

The preliminary study efforts helped me to work out the logistics of how to do the SNS observation and the phone interview as well. I found that using my smart phone was most helpful, especially for Twitter and Instagram, because the app allows for a few more features than the web-version. For example, the Instagram application allows followers to see the list of followers their friends' have and to see the recent activity of their friends. I found out, though, that I needed to log out of my personal SNS accounts on my smart phone for the duration of the SNS observation, because the phone confused my personal and research accounts. During the preliminary week, I took a photo with my smart phone and tried to share it on Instagram, but it uploaded to my research account instead of the personal account. In order to keep the personal and research accounts separate, I removed my personal SNS accounts from my smart phone for the duration of the observation during the study. The preliminary procedure also helped me to sort out the logistics of the phone interview via Google Voice. I was able to practice the script and I also found out that in order to take advantage of the Google voice call recording feature, I must have the participant call in to my Google Voice number. So, I first called the participant,

confirmed the time still worked for the interview, asked again about consent for recording, and then had the participant hang up and immediately call back. Upon connecting, I pushed *4 to begin recording the call. All interviews were then able to be recorded and saved directly within my Google research account.

While transcribing the preliminary data I found an internet based application to help the process, which allowed me to transcribe the study data faster. I got a chance to see the types of data that may be given to the interview questions. As a result of some confusion during the pilot interviews, I added SNS-based examples when describing each of the supportive functions. For example, when asking about informational support, I would not only tell them the brief description, but also gave them an example like, finding a recipe. This allowed the participants to connect to the concepts and provide more of their own examples, if they had them or to recognize when those concepts really did not apply to their SNS use. Overall, the preliminary efforts were helpful primarily in practicing the logistics of conducting the data recruitment and data collection fully via social media and also in thinking through the wording of the data collection materials.

Beyond the preliminary testing efforts described above, the data collection materials used in the study underwent a review by a 5-person committee of scholars from both within and outside the field of health education. Additionally, the purpose and procedures of the research project, along with the recruitment and data collection materials was submitted to the Human Subjects Committee at Southern Illinois University (SIU) for approval prior to the recruitment of participants.

Participants

The participants in this study were female, ages 18-29, and met the following criteria:

- Enrolled at least part time (spring, summer or fall, 2015) in a college or university in the United States
- Used at least one popular social networking site (i.e. Facebook, Instagram, Pinterest or Twitter)
- Had at least one health behavior goal related to diet and/or physical activity
- Conducted SNS activity in English

Participant recruitment began after receiving approval of the research project from the Human Subjects Committee at Southern Illinois University (SIU) in May of 2015. Typical case purposive sampling was used to recruit participants (Merriam, 2009), meaning that each participant met the requirements listed above to be considered a typical. Beyond meeting the requirements of the typical case, a convenience sample of social network site users (i.e. Facebook and Twitter) was used to recruit participants. The recruitment channel was online only. The reach of the recruitment is difficult to assess, but the number of shares, likes, comments, email responses and tweets or retweets was counted. A recruitment message announcing the study was posted on both Twitter and Facebook on May 29th, 2015.

Additionally, an email, listing the recruitment message tweet and Facebook status was sent to personal contacts of the researcher with a request that the tweet and/or Facebook status be posted through both personal and public profiles to promote greater access and visibility of the recruitment messages within the social networking sites. The recruitment messages are listed below.

Tweet: COLLEGE WOMEN: Research on health goals & social media. \$25 gift card for completion. Email HLTHrsrchSIU@gmail.com by June 5th for info.

Facebook Post: “Announcement: College women, your participation is needed for a research study on personal health goals and social media use. All participants who complete the study will receive a \$25 gift card. Email HLTHrsrchSIU@gmail.com by June 5th for more information. Participation is limited- email today!”

The recruitment message directed interested parties to email the researcher for more information. Upon receipt of a request, an email containing the study description (i.e. cover letter) was sent from the Gmail account set up by the researcher for the purposes of the study only (Appendix D). The cover letter, along with the consent form was formatted in Google forms. If after reviewing the cover letter, women who met the requirements for participation and wished to participate, they could select an option within the form to complete the consent for participation (Appendix D). Recruitment continued until at least 10, but no more than 15 participants had given consent for participation. HLTHrsrchSIU@gmail.com was the email address designated for the purposes of this research project only; participant interactions were not handled within the researcher’s personal or school email account. The emails collected in this account for this purposes of this research project were deleted upon completion of this research project.

Data Collection

In this study, data were collected for four weeks, or 28 days. The first 21 days information was collected through daily observation of participants’ SNS use and the completion of a participant journal at the end of each week. During the final week, each participant was interviewed by the researcher. Participants were given an incentive for consenting to SNS observation for the duration of the research project as well as completing all four forms of the

participant journal and the interview. The incentive was valued at \$25 and was distributed as an online gift card to amazon.com.

Selecting an appropriate time-frame for the data collection, specifically for the SNS observation, was a challenge due to the small number of examples and a lack of established best practice within social science research. A three-week timeframe was selected based on the length of data collection and the number of methods described in several peer reviewed articles reporting on SNS behavior and/or social support (Gosling, Augustine, Vazire, Holtman & Gaddis, 2011; Oh, Ozkaya & LaRose, 2014; Pempek, Yermoluyera, & Calvert, 2009; Subrahmanyam et al., 2008; Vaterlaus, Patten, Roche & Young, 2015). Oh and colleagues (2014) used a daily journal for 5 days; Vaterlaus et al. (2015) used focus groups data only. Gosling and colleagues (2011) used the most rigorous methods in a two-part study on personality and Facebook behavior and chose to use participant surveys along with Facebook profile observations. The observation, however, was a point in time representation of the Facebook profile that was reviewed just once time by nine different reviewers. Pempek, Yermoluyera and Calvert (2009) collected data on SNS usage from one follow-up survey and a week's worth of participant diaries, which were formatted more like checklists than open-ended diary responses. Subrahmanyam et al., (2008) used what they describe in their abstract as, "face to face and online questionnaires" to collect data on general SNS and messaging behavior of their participants.

Another consideration in the selection of data collection time for the SNS observation was the reliability and validity of the online profile data and the degree to which it may be subject to social desirability factors. Data from research on SNS and personality indicates that the information on these sites reflect the users' actual personality versus a self-inflated image or a

more socially acceptable version of their personality (Back, Stopher, Vazire, Gaddis, Schmukle, Egloff & Gosling, 2010; Gosling, Augustine, Vazire, Holtman & Gaddis, 2011). The three weeks of observation selected for this study surpassed the length of time used by the researchers listed above researchers. This additional collection length, along with multiple SNS platforms per participant and two other forms of data collection (i.e. participant journals and an interview) was chosen because it allowed for the broadest scope and detail of description of the phenomenon of interest. Overall, data collection focused on the following information:

1. Participants' diet and/or physical activity goals and behaviors.
2. Social networking site usage and content related to diet and/or physical activity.
3. Interactions within SNS use related to diet and physical activity.
4. Sources of social support.
5. Constructs from social cognitive theory and functional measures of social support.

The data came from the content that participants created or interacted with in some way on their SNSs. They wrote about the content or interactions in the journals, I observed the interactions through SNS observations and I talked to the women about the content and interactions again during the phone interview. So, for example, when a participant shared a photo of herself exercising or making a healthy snack, it was something I was able to observe and compare the ways in which it was in line with her said goals. I observed comments made on the photos, such as a friend saying, 'great job-keep it up' or, 'looks good, what is the recipe for that?' If a friend offered an exercise tip or asked to plan a future workout time together, I also noted this interaction and the potential for social support.

During the interview, I had the opportunity to compare my observations with the participant to find out whether or not they attributed support from the SNS interactions that I

observed. The interview was an opportunity for me to ask about other SNS activity that was not observable, such as reading articles or watching videos that are shared within the platforms by friends and followers.

SNS Observation

In this study, the natural environment was online, and as such, in order to observe the environment, the researcher had to become a part of it. Online observations of participants' SNSs were used as one source of data in this study. Although information shared on SNS is considered public domain and consent for the use of public information is not required, it was best practice to request consent, particularly when conducting research aimed at exploring online social networks beyond what is publicly available (APA, 2011). The observation began when the participant returned the first page of the participant journal (Appendix C), which not only indicated consent for such observation but also indicated the list of the participant's SNSs and associated usernames. The participant provided their username for each active SNS, and the researcher, using accounts created only for the purposes of this research project, *added* or *followed* the participant on each of their SNS. Observation of SNS use occurred each day until the completion of the three weeks, when the final participant journal page was returned, and at that point, the researcher removed or unfollowed the participant and terminated the SNS accounts created for the purpose of the study.

The SNS included in this study aligned with the most popular sites used by persons aged 18-29: Facebook, Instagram, Twitter and Pinterest (Duggan, Ellison, Lampe, Lenhart & Madden, 2014). The researcher conducted SNS observation for each participant on all four SNS (or the number of SNS the participant uses) each day, and a detailed observation log was kept for each participant daily (Appendix D). Daily observation allowed for the review of participant SNS

time-stamped content and activity, such as personal posts, shared content, comments and/or conversations, photos and captions. The logistical and practical details of gathering data through each SNS are noted below.

Much of the activity within SNSs is observable, but there are some things that could not be tracked. Posting, tweeting or pinning is all observable activity. For example, some participants posted a status about heading to the gym, tweeted about being at the farmer's market getting fresh produce, or they pinned a new recipe to a healthy eating board they've created. Similarly, participant shares, retweets, likes and comments were also observable on SNSs. Sharing and retweeting are ways of posting content from another SNS user onto their own wall or feed, such as sharing an article on the benefits of yoga or retweeting tips for meal preparation. *Likes* are saved within the SNSs and most of the time a friend or follower can see what has been liked by the participant within the last SNS session. They may have liked a post of someone else's transformation (e.g. weightloss), for example. Reading, scrolling through a newsfeed or viewing content, however, is not observable. All of these activities that were related to diet and physical activity were recorded in the SNS observation log, and compared along with participant journal responses and the interview responses to better understand the participant's SNS experience.

In order to become a part of the online environment, but maintain confidentiality as well as separation from personal SNS accounts, new SNS accounts were set up by the researcher for this study under the username: HLTHrsrchSIU for all four SNS platforms. The materials shared directly onto a participant's profile, newsfeed or post by friends or follows were included in the general observation, but no direct quotes were gathered from these entities. This aligns with the APA (2011) recommendations for using social media in research, which states that data should

be restricted only to persons having given consent for participation, and to use an account that has no personal connections beyond the research project. Additionally, on the researcher's Facebook, Twitter and Instagram profiles, the following post was made public: "Observational research in progress from June 7th- June 28th. For more information contact hlthsrchsiu@gmail.com". Details on the use and data collection from each of the four SNS platforms follows.

Facebook

A new Facebook profile was created in order to observe participant experiences within this SNS. A profile and cover photo related to health and wellness was added, and a description of the research project and the researchers contact information was included in the 'about me' section of the new profile. Participants were added through the "add friend" feature. Settings were changed so that "everyone" can send the profile friend requests and that only "friends" can see posts. Email address were allowed to "friends" only, and no other personal information was shared. The friend list was edited for privacy so that only the researcher can see the friend list, which will consist of participants in the study. Participant profiles along with their news feeds, likes, posts, videos, photos, friend list, and comments were observed.

Instagram

Within Instagram, the second SNS used for data collection, a new Instagram account was set up for the purposes of the study only, and participants were added through the "follow" or "request to follow" feature. A profile photo related to health and wellness was added to the account. Participant photos, videos, captions, comments, hashtags, list of "following", "followers" and likes were observed.

Twitter

Within Twitter, similar to the other SNSs, an account was started for the purposes of the research project, and a cover photo and profile picture related to health and wellness was added to the account. In the settings under “tweet privacy” the “location off” was selected. All tweets, retweets, comments, photos, videos, likes and list of “following” and “followers” was observed.

Pinterest

Lastly, a new user profile was also created in Pinterest for the purpose of this research project. No boards were created in this profile. Participants were added through the option to “find friends” and “follow” them. All “boards”, “pins” (including the topic and the caption) “likes”, friend lists and followers were observed.

The online observation began once the participant returns the first page of the participant journal and concluded at the end of the third week after the participant returned the final page of the participant journal, unless the participant chose to end the SNS at an earlier time. The researcher initiated the start and end the friendships (i.e. SNS connections) online, but the participant had the option, at any time, to “unfriend”, “unfollow” or “block” the researcher profile from the designated SNS. No activity (e.g. posts, comments, tweets, likes) was made from the researcher to the participants during the online observation period. As mentioned previously, participant correspondence, including reminders to submit the participant journal pages, did primarily go through the channel of email with the use of HLTHrsrchSIU@gmail.com for the researcher and through the email account provided by the participant. In addition to email during the online observation, SNS was also used to send participant reminders through personal communication only, not communication that was visible to others on SNS (i.e. Facebook Messenger).

Participant Journals

In addition to SNS observation, participant journaling, which was used for SNS recall and termed *momentary sampling* by Oh, Ozkaya & LaRose (2014), was used to collect data in this study. The choice to include this format of data collection was a pragmatic one; it is a way to get the best quality and quantity of data from participant in a format that is convenient and usable to them. Not only does the journaling technique allow for detailed information on several variables to be collected over the course of several days, but it also gives the opportunity for the data to be recorded as it happens, in real-time, throughout the participant's day or week. Recently, researchers Oh, Ozkaya and LaRose (2014) used this momentarily sampling technique to collect data related to life satisfaction and social networking for five days. Similarly, researchers conducting a descriptive study on college students' use of social networking sites utilized a diary-like form, containing both open-ended questions and checklists to collect daily information on SNS behavior (Pempek, Yermoluyera, & Calvert, 2009).

The journaling in this study occurred with an open-ended questionnaire formatted into a Google form developed in Google drive, and was called the *participant journal* (Appendix C). This participant journal had four pages: one page of demographic questions and three pages of SNS recall. Each page of the journal was sent separately to the participants via email during the first three weeks of the data collection phase. Page one, the overview and demographics page, was sent to each participant on day one of the study, after receipt of her consent form. On this first page, participants responded to questions about their social media use, current diet and physical activity goals and perceived barriers to these goals along with demographic questions such as their year in school, age and marital status. The remaining three pages of the participant journal, the SNS recall pages, were sent to each participant at the end of weeks one through three

of the data collection phase. The SNS recall page was sent via email each week on Thursday afternoon, and participants were asked to submit the completed form by midnight Saturday. Although this tool, an open-ended questionnaire, was not as reflexive as in-person interviewing (Maxwell, 2009), adaptations to the order and selection of survey questions for subsequent SNS recall pages were made as needed based on responses made in the first week of SNS recall journal. Follow-up questions were noted during preliminary analysis, and were included in the participant interview during week four.

Follow-up Phone Interviews

At the end of week three, once the final participant journal page had been submitted, the researcher unfriended or unfollowed the participants and the online observation ended. One follow-up phone interview was conducted with each participant during week four of the study. The interview was scheduled at a time convenient for the participant and followed a semi-structured format (Appendix E.) The interview was used to clarify, confirm and add-on to some of the responses given in the participant journal and/or observations made during the first three weeks of the study. The interviews were conducted via phone with the use of Google Voice, recorded in Google Voice, and transcribed onto a word document by the researcher during the two weeks following data collection.

Data Analysis

The goal of qualitative data analysis in this study was to make sense out of the data and to respond to the central research questions (Merriam, 2009). The process was reflexive and required “visiting and revisiting the data and connecting them with emerging insight, progressively leading to refined focus and understanding” (Srivastava & Hopwood, 2009, p.77). At the culmination of the four-week collection phase, the data consisted of the open-ended

questionnaire responses from each participant journal, notes from the daily SNS observation log, and researcher memos. Because the analysis of data is an iterative process, it took place both during and after the four-week data collection phase. As soon as all participants returned portion one of the journal, a descriptive analysis of the responses was conducted to develop participant profiles. Coding began after the review of the first participant journal page, continued weekly during data collection and once completed, thematic development ensued.

As soon as all participants returned page one of the journal, a descriptive analysis of responses was conducted to develop initial participant profiles. The description included a basic demographic profile of all participants, as well as descriptive information on diet and physical activity goals and perceived barriers and enablers to behavior change. The analysis for the remaining journal pages and the SNS observation was conducted throughout the first three weeks of the data collection phase with the use of weekly researcher memos. Once all three forms of data were collected, the data were compiled by type for each participant and a participant packet was formed. The initial profile and the remaining contents of the entire packet, meaning all three forms of data, were reviewed, the results were compiled on a separate sheet of paper and a final participant profile was written for each participant.

A qualitative analyst is said to be “constantly on the hunt for concepts and themes... that provide the best explanation of what’s going on in an inquiry” (Srivastava & Hopwood, 2009, p. 76). To ensure the constancy of the analysis, researcher memos were written at the end of each week to facilitate reflection and insight on the data and the process of the study (Merriam, 2009). Maxwell (2005) calls these memos a tool for critical thinking, analysis and self-critique, and states that they are “ways to get ideas down to facilitate reflection and insight” (p.13). Weekly, during the first three weeks of the data collection phase, I engaged in the process of reduction,

consolidation and interpretation of the data from the participant journals and the SNS observation log in order to make meaning of the data (Merriam, 2009). First, during consolidation, data from the participant journals and data from SNS observation log sheets was compiled together per week, by participant. Every participant had their own packet of data and it was added to throughout the data collection phase as new data were collected. At the culmination of the data collection phase, after the participant interviews had been transcribed, the packets included the initial participant profile, the responses from all three SNS recall journal submissions, the SNS observation log and their interview transcription. These participant packets, which were essentially Word documents printed out and paper-clipped together by participant, were kept intact throughout the analysis and used for the process of reducing and interpreting the data.

There were multiple steps in the process of consolidating and interpreting the data. The participant profiles were created first, by, as mentioned above, reviewing the initial participant profile and the additional journal, observation and interview data to create a final participant profile. This profile gave a keen look into the health goals, SNS use, and perceived support via SNS use for each of the twelve participants.

Following the completion of individual participant profiles, I had the task of coding and analyzing the data as a group in order to respond to the central research questions for the study. This phase, coding, is, “assigning some sort of short hand designation to various aspects of your data so you can easily retrieve specific pieces of data” (Merriam, 2009, p. 173). Closed codes are those codes that are assigned to the data that have been developed prior to the start of data analysis from literature and theory. The basis for the closed codes in this study is described

below and codes are listed in table 3.1. The open codes were developed by the researcher during analysis and go beyond the pre-determined coding options or constructs.

The participant packets were reviewed by the researcher three times during the data analysis, by topic (i.e. physical activity content, nutrition content and social support) to complete line by line open and closed coding for each data type (i.e. journal responses, SNS observation log entries and interview transcripts). A color was assigned to each topic and line by line coding was done through the use of highlighting pieces of text and writing codes in the margin near the text. Physical activity was coded in yellow highlighter and codes were written in pink felt tip pen. Nutrition was coded in blue highlighter and codes were written in blue felt tip pen, and social support was coded using a green highlighter and a green felt-tip pen. All twelve packets were coded by data type sequentially and all three data types were completed prior to moving on to the next topic. So, all twelve participant journals were coded for physical activity, and then all twelve SNS observation logs were coded for physical activity and finally all twelve interview transcripts were coded for physical activity. When each topic was completed, prior to moving on to the next topic, a separate document was used to house the codes by each data type. In total, three additional documents were created (i.e. journal codes, observation codes and interview codes) per topic. These three documents were then reviewed prior to completing one last document for each topic with categories and notes related to the emerging themes. The topics of nutrition and then social support were coded in a similar progression. The final step in the process of consolidating and interpreting the data, which is the development of themes, was conducted after all data had been collected. Themes stemmed directly from the coding process and reflected the two central research questions.

The closed codes used in the data analysis of this study came from health behavior theory and from research and theory on social support. During the development of the research plan, it was assumed that the constructs from SCT and sources of social support might be valuable to understanding and interpreting the data along with the functional measures of support (Cohen & Underwood, 2002) as listed in table 3.1 below. After having collected the data, however, it became clear that only the functional measures of support were the closed codes that best aligned with the data. The other two categories were not used as closed codes.

Table 3.1

List of Closed Codes for Data Analysis

Type of Code	Functional Support Measures	SCT	Sources of Support/Interaction
List of Code Names	Instrumental Support Informational Support Companionship Support Emotional Support Validation	Behavioral Capability Observational Learning Reinforcement	Family Friend Neighbor Adult mentor Stranger Agency/Business

Within social support, the perspective of the functional measurement approach is multi-dimensional and assumes that there are different types of supportive functions provided through social relationships (Cohen, Underwood & Gottlieb, 2000). A table listing the supportive functions, other corresponding terms in the literature and examples is found below (Table 3.2) (Cohen, Underwood & Gottlieb, 2000, p. 89). In this study, portions of the data that connect to the definitions of or the examples of one or more of these supportive functions will be coded as such.

The supportive functions and their definitions are as follows (Cohen, Underwood & Gottlieb, 2002, 2002):

- **Emotional Support**- the availability of one or more persons who can listen sympathetically when an individual is having problems and can provide indications of caring and acceptance.
- **Instrumental Support**- involves practical help when necessary, such as assisting with transportation, helping with household chores and child care, and providing tangible aid such as bringing tools or lending money.
- **Informational Support**- is providing knowledge that is useful for solving problems, such as providing information about community resources and services or providing advice and guidance about alternative courses of action.
- **Companionship Support**- involves the availability of persons with whom one can participate in social and leisure activities such as trips and parties, cultural activities (e.g. going to movies or museums), or recreational activities such as sporting events or hiking.
- **Validation** – is based on the concept that social relationships can provide information about the appropriateness or normativeness of the behavior.

Table 3.2

Description of Supportive Functions

Function	Other Terms	Examples
Emotional Support	Confidant support, esteem support, reassurance of worth, attachment, intimacy	Allow discussion of feelings, expression of concerns/worries; indicate sympathy, approval, caring, acceptance of person
Instrumental support	Tangible support, practical support, behavioral assistance, material aid	Provide money, household goods, tools, transportation, child care, assistance with cooking, cleaning, shopping, repairs
Informational Support	Advice/guidance, appraisal support, cognitive guidance, problem solving	Provide information about resources, suggest alternative courses of action, provide advice about effectiveness
Companionship Support	Belonging, socializing, integration	Provide partner for sports, outdoor activities, movies, theater, museums, restaurants, shopping, parties, trips
Validation	Feedback, social comparison	Provide consensus information re prevalence of problems, normativeness of individual's behavior/feelings, individual's relative status in population

As previously described, all coding, category and theme development took place with the use of typed, printed packets grouped by data source for each participant. The coding was done

by hand through the use of color-coordinated highlighter and felt tip pen markings on the documents. Handwritten documents of codes by data source (i.e. journals, SNs observation and interviews) were produced for each of the three central topics (i.e. physical activity content, nutrition content and social support). One final handwritten document per topic served to organize codes into clusters and categories which were then used to generate thematic responses to the two central research questions. There was not any qualitative data software used in the data analysis in this project. Its use was considered initially, but after having collected the data and organized it by type and by participant to use for the writing of the final participant profiles, I felt that working off of physical copies during the group-wise analysis would better connect, me to the data and the process of analysis.

Data Trustworthiness/Credibility

The essence of reliability and validity are important to all research studies. In qualitative research design, however, alternative terms are used in place of internal and external validity and reliability: credibility; applicability, or transferability; consistency, or dependability; and confirmability, or neutrality (Lincoln & Guba, 1985). Instead of reliability, per se, a qualitative researcher is interested in the ability of obtaining the same results in a replication study, and the accurate reflection of the phenomenon studied is sought in place of validity.

In order to ensure credibility, transferability, consistency and confirmability, Merriam (2009) explains eight strategies that promote validity and reliability in a qualitative study. They include: triangulation, member checks, adequate engagement in data collection, researcher's position or reflexivity, peer review/examination, audit trail, rich and thick descriptions, and maximum variation. The following were used in the study as described below.

Triangulation: This study made use of more than one source of data: participant journals, SNS observation, and interviews, which was a key component of triangulation. The selection to use more than one source for data collection gave the opportunity for the researcher to confirm and overlap or to reject the findings of one to the other.

Member Checks: The follow-up phone interview served as a type of member check during data collection. Participants were asked to complete a weekly journal response on their SNS use for the first three weeks of data collection. Observations were made to SNS use daily during this time as well, and a log was kept of these observations. During the final week, each participant was asked a series of questions during the phone interview that helped to confirm and or clarify the information shared within the journal and observation.

Adequate engagement in data collection: Daily SNS observation along with periodic researcher memos served to ensure regular connectivity with the data. Additionally, reviewing the responses of the participant journals each week and conducting the semi-structured interview assisted in researcher connectivity to the data collection throughout the four weeks of the study. Upon completion of the interviews, the researcher transcribed each interview, again assuring a high level of connectivity with the data from each participant. There were no research assistants used during the data collection or analysis in this project.

Researcher's position or reflexivity: Information on the researcher's position was included in chapter one and was also accounted for through the research notes section of the SNS observation log form and the daily memos. A second reflexive memo was written after the culmination of data collection and analysis and is included in Chapter Five.

Peer review/examination: A five-person dissertation committee oversaw this study. As such, all study methods and materials were approved prior to the beginning of the data collection, and

the dissertation chair and the member of the committee who have expertise in qualitative research guided the data analysis process. Additionally, the data collection methods and materials were piloted by two women who met the criteria for the study.

Audit trail: A series of researcher notes and memos provides an audit trail for the steps taken during participants recruitment and data collection. The documents used in data collection, the participant journal pages, the SNS observation log, and the interview transcripts provided an audit trail for all data. The documents created during data analysis, along with the coding done by highlighting and note-taking on the data sheets by color for each topic provide an audit trail for the data analysis.

Rich and thick description: The analysis of data at both the individual and grouped levels aid in the production of results that offer a thorough interpretation of the experience.

Maximum variation: The sample of twelve women represents a variation among ages, educational level, geographic region, vocation, and race/ethnicity.

Summary

This study employs a descriptive qualitative design. College females who met the delimitations were recruited to participate in a 28-day data collection phase that included open-ended survey via journaling, online observation of SNS usage and one follow-up interview. Data from participant journal responses, field notes from the online observations, interview transcripts and research memos were reduced, consolidated and interpreted to make meaning out of the data and to answer the research questions central to the purpose of the study. In the following chapter the results of the data collection and analysis are presented.

CHAPTER 4

RESULTS

For this descriptive qualitative, college females who met the study criteria were recruited to participate in a 28-day data collection phase that included open-ended survey response via online journaling, online observation of SNS usage, and a follow-up phone interview. Data from participant journal responses, field notes from the SNS observations and the interview transcripts were compiled by participant and data type, coded, and then analyzed to answer the research questions central to the purpose of the study.

The purpose of this study was to describe the ways in which social networking sites (SNS) provide college females with social support for their diet and/or physical activity goals. The following questions provided guidance for this research project:

1. How do college females engage with the topics of diet and/or physical activity during their daily social networking site (SNS) usage?
2. In what ways do their SNS experiences provide college females with social support for diet and/or physical activity goals?

In total, 12 women participated in the study, each completing the online journal, SNS observation, and follow-up phone interview. This chapter presents an overview of the participants followed by the results of the study, both individually and as a group, based on the central purpose and guiding research questions.

Overview of Participants

Participant recruitment began after receiving approval of the research project from the Human Subjects Committee at Southern Illinois University (SIU) in May of 2015. The recruitment channel was online only. The reach of the recruitment is difficult to assess, but the

number of shares, likes, comments, email responses and tweets or retweets was counted. A recruitment message announcing the study was posted on both Twitter and Facebook on May 29th, 2015. There was no real response on Twitter, likely due to the researcher's own low usage and connectivity on Twitter, in comparison to Facebook. The message was shared 21 times on Facebook, meaning that 21 people the researcher is connected to on Facebook shared the message to their own Facebook connections. Three likes were made to the original post, and four to the shared posts. Five comments were made on the original post to ask questions and to tag people in the post. The message was posted on Facebook again on June 2nd, 2015. This time the post was shared by 13 people and liked by 11 people.

As of June 5th, 2015 nine people had responded to the recruitment message and submitted consent to participate. On that day, a recruitment message was sent out directly to people who fit the participant criteria and were in the researcher's social network using Facebook messenger (i.e. a direct messaging application). Additionally, an email, listing the recruitment message tweet and Facebook status was sent to personal contacts of the researcher with a request that the tweet and/or Facebook status be posted through both personal and public profiles to promote greater access and visibility of the recruitment messages within the social networking sites. By June 7th, 2015 more than 10 participants responded to the recruitment messages and submitted consent for participation and the study began.

In total, twelve women who responded to the recruitment message and completed the consent for participation fit the criteria for study inclusion. Each woman was between the ages of 18-29 and was enrolled at least part-time at a college or university in the United States for spring, summer or fall of 2015. In addition, they each used at least one popular SNS and had at least one diet- or physical activity-related personal health goal at the time of the study. Despite

the similarities in these 12 study participants, they represent a variation of vocations, geographical locations, types of post-secondary education, and racial identifications (Table 4.1).

Table 4.1

Overview of Participant Characteristics

	Fitness Goal	Diet Goal	BMI	SNS (active)	Race	School	Relationship Status
Annie	Yes	Yes	Normal	Facebook Instagram	White, Pacific Islander	Graduate- Master	Dating
Anwar	Yes	Yes	Normal	Facebook Instagram Pinterest	White	Four-year/ Bachelor	Dating
Bridgett	Yes	Yes	Normal	Facebook Pinterest	White	Graduate- Doctoral	Dating
Emma	Yes	Yes	Overweight	Facebook Instagram	White	Graduate- Master's	Engaged
Denise	Yes	No	Obese	Facebook Instagram Pinterest	White	Two-Year/ Associate	Engaged
Kat	Yes	Yes	Overweight	Facebook Instagram Twitter Pinterest	White	Two-Year/ Associate	Single
Serena	Yes	Yes	Normal	Facebook Pinterest	White	Graduate- Master	Married
Deidra	Yes	Yes	Obese	Facebook Instagram Twitter Pinterest	African American	Four-year/ Bachelor	Single
Jessica	Yes	No	Overweight	Facebook Instagram Twitter	African American	Four-year/ Bachelor	Dating
Jaleesa	Yes	Yes	Normal	Facebook Instagram Twitter Pinterest	White	Vocational/ Certificate	Single
Jenna	Yes	Yes	Normal	Facebook Instagram Twitter Pinterest	White	Four-year/ Bachelor	Dating
Meg	Yes	Yes	Normal	Facebook Instagram Twitter Pinterest	White	Four-year/ Bachelor	Single

When asked about current major, the participants' results clustered into three categories: business, health sciences, and other. There were four participants studying business administration or human resources, and another four studying to be in the health professions (i.e. nursing, physician assistant and veterinarian). The remaining four were studying music, science education, architecture and dietetics. Of the 12, five participants were pursuing a bachelor's degree, four were in graduate programs (i.e. three were pursuing a master's degree and one was pursuing a doctoral degree), two participants were enrolled in a two-year degree program, and one was in a vocational or certificate program. The colleges and universities represented a variety of locations as well. Seven women attended schools in the Midwest, namely in Wisconsin or Illinois, but other participants were in Wyoming, Mississippi, North Carolina, and Louisiana.

Just like education and vocation, participant demographics and social network site use varied. Nine women in the study identified as white only, two identified as African American only, and one identified as both white and Pacific Islander. None of the participants had children, and eight of them had a significant other, either a partner or spouse, at the time of the data collection. All twelve participants indicated having a physical activity goal at the time of the study; 10 had both a diet and physical activity goal and two had physical activity goals only. Based on height and weight data provided in the participant journal and according to the CDC adult BMI calculator, seven participants were normal weight at the start of data collection, three were overweight, and two were obese. Height and weight measures were not assessed at the end of the study. Fitness goals aligned directly with weight loss for seven of the participants, but only one of the ten listed nutrition goals related to weight loss. All 12 participants used at least two of the four SNS's on a regular basis, and five participants indicated using all four sites

regularly. Of the 12 participants, there were two groups with familial relations. Deidra and Jessica are sisters and so are Jenna, Jaleesa and Meg. The remaining seven participants had no prior relationship or connection to one another.

Overview of Data

All 12 women participated fully in the study and completed all methods of data collection within the 28-day time frame. Data collection began on June 7, 2015, when the link to the first page of the participant journal was emailed to all participants. Nine women returned the page by the following day, as requested, and an additional three submitted them by June 9, 2015. Each participant also submitted three subsequent journal pages on SNS recall. All twelve participants gave consent for SNS observation, provided their username for each active site, and approved the friend or follow request from hlthrsiu (i.e. the user account set up for the SNS observation). None of the participants chose to unfriend or unfollow the researcher during the 21-day observation period, which ended June 28, 2015. All twelve participants completed a follow-up phone interview during the fourth week of data collection from June 29 to July 3, 2015. There was a range in length of interview time from 14 minutes up to 40 minutes, and 27 minutes was the average. Data were compiled by type (i.e. journal, observation log, interview transcript) on a single Microsoft Word document for each participant. Total pages of data collected for each participant ranged from nine to fifteen, with eleven being the most common number. As described in Chapter Three, data were analyzed by participant to create an initial participant profile. These profiles are included below in alphabetical order by name for the first seven participants, and then by family connection (i.e. groupings of sisters) for the last five participants. Following the participant profiles is a section on results grouped by research question to respond to the central purpose and research questions of the study.

Participant Profiles

Participant 1: Annie

“I need a break from the vehicle and to get active [during my day], so seeing the friends that I follow [on SNSs] in the same kind of [natural] environment that I am in here in the Tetons, definitely makes me want to go outside, hike and get active.”

Overview: Annie is originally from the Northeast, but she moved to the central Northwest to complete her master’s degree in natural science education at the University of Wyoming. She is white and Pacific Islander, lives with her significant other, but is not married, and does not have children. She is 5’4” and 125lbs, which is a BMI of 21.5 and considered normal according to the CDC (2015).

Although Annie recently began a summer job that requires her to be sedentary, driving a vehicle for 8-10 hours a day, she attempts to maintain a health-conscious and active outdoor lifestyle. While in school during the spring of 2015, she would bike or walk nine blocks to school, but now she hikes in a nearby national forest once or twice a week for over an hour. In fact, her fitness goal since March of 2015 had been to go outside and be active at least 2-3 times a week. During her school year, Annie eats “something light” in the mornings such as a smoothie, yogurt, or granola bar with coffee (honey and skim milk added). Lunch she describes as “hit or miss” because she may forget it or grab something on campus, like a small sandwich or salad with water or juice. She cooks dinner at home, like chicken and a veggie with juice or water. Now, with her change in schedule, Annie finds it difficult to eat throughout the day and is often too tired or gets home too late to prepare an evening meal. Since spring of 2015, her nutrition goal has been to “limit sugary and fast-foods and to cook more and eat healthy.” She names cooking with her boyfriend as something that helps her meet the goal. They both eat

healthy and they shop, pick meals, and cook together, which prevents them from going out to restaurants. Being busy with no overlapping free time limits her progress. Recently she and her boyfriend have not been able to cook together as much, so they go and grab food or nibble on things that are not as healthy as they prefer. She names stress as a chronic barrier, and says that when she is stressed, her coping mechanisms are to be a hermit (stay inside), take naps, or eat sugary snacks, which work against her goal.

SNS Use: Annie uses Facebook and Instagram on a daily basis, and both of these SNS were included in the daily observations for this study. She does have both a Twitter and Pinterest account, but based on her reported usage being minimal to non-existent currently, these SNS's were not included in the daily observations during the first three weeks of the data collection phase of this study. In addition to Facebook and Instagram, Annie uses a personal blog to display her life to friends and family from back home. She also occasionally uses a trail app to help with hiking and finding trails.

She estimates that she logs into Facebook 20 times throughout the day, totaling about two hours, but the amount of time varies depending on her schedule each day. Her Facebook profile, photos, and posts confirm that she is an outdoor enthusiast, a nature lover, and that she leads an active lifestyle on both land and water. Her photos and posts also highlight a strong sense of her relational quality, as many of them include family and friends. During the observation, nearly all of her Facebook posts seem to duplicate the posts made on Instagram, and she confirmed that she typically posts on Instagram and then shares it to Facebook and/or Twitter when it is work related. Often these posts include a wildlife shot and a reference to the Tetons and nature tours.

She estimates that she logs into Instagram 30 or more times a day for two hours total. As of the start of the data collection, she had 1,198 posts, 418 followers, and was following 582

accounts. Her tagline is ‘taming the Tetons’ and she lists the URL of her personal blog in the tagline as well. Annie follows a number of what appear to be outdoor or environmental enthusiasts, agencies, or groups (e.g. Grand Teton Foundation, National Park Service, Fighting Extinction, and The Wilderness Society). Also in the list of accounts she follows are individuals whose profile photos showcase outdoor activity (e.g. on a mountain, climbing, skiing). None of the people or groups she is following appear to be related to nutrition, diet, or healthy eating.

Annie has a Pinterest account, but as noted above, she does not use it very much anymore, so it was included in the initial observation only. She has 2,932 pins, 8 likes, 297 followers, and she is following 299 pinners. She has 27 boards, eight of which relate to nutrition, physical activity, or healthy goals in some way, including 52 pins in a board called “Does the body good” and 108 pins in “Adventure itch.” Annie’s SNS is described in Table 4.2 below.

Table 4.2

Overview of Annie’s SNS Usage

	Facebook	Instagram	Twitter	Pinterest
Has Existing Profile	X	X	X	X
Uses Profile Regularly	X	X	-	-
Log-ins per Day	20+	30+	NA	NA
Time per Day	2 hours	2 hours	NA	NA
Content Added Daily	X	X	-	-
Content Added Weekly	-	-	-	-
Content Added Periodically	-	-	-	X

Fitness and Nutrition in SNS Use: Because Annie uses her SNS’s for both work and personal purposes, many of her posts during the SNS observation period were work related. She considers her role as a tour guide to be one that begs her to “share the Tetons with others,” and she uses the tools of social networking sites to market the natural environment that she loves.

Daily posts of wildlife and nature from her wildlife tours appeared on both Instagram and on Pinterest, as exemplified by Figure 4.1.



Figure 4.1 Nature post on SNS

Fitness or physical activity was present in Annie’s SNS usage. It was observable through several posts on Facebook and Instagram of Annie hiking with one or more friends. She explained that she sees fitness or physical activity primarily by looking through her Facebook and Instagram newsfeed. Many of the people she follows live active outdoor lifestyles and post photos and/or descriptions of their activities like hiking, kayaking, rock climbing, etc. Nutrition or food was not as observable. Annie indicated that she does not really see much of this topic except for the occasional post related to the Paleo Diet of a person she follows. She also mentioned that at one time when she and her partner were learning about the Paleo Diet, she used Pinterest as a way to find and save Paleo recipes.

Support for Health Goals through SNS Use: Annie believes that her SNS use does provide her with support for the current physical activity goal that she has because she is able to see others doing the very activity she wants to do. Seeing the photos and posts inspires and motivates her to spend a night or a free day hiking or being outside. The posts also give her

clues as to where certain wildlife may be or which trails are the prettiest (e.g. due to foliage and/or natural features such as waterfalls), helping her choose a location for her outdoor activity.

After being specifically asked about supportive functions, Annie indicates that informational, emotional, and validation support are what she receives most often via SNS use, and that occasionally she has received companionship support as well. Typically, she receives companionship support via a non-social media interaction, such as a phone call or text message, but a post she saw on Instagram or Facebook may have prompted the interaction. Most often, she receives emotional support via comments or likes on photos she posts, and these come from family and friends as in Figure 4.2 a post for which she received 24 likes and two comments.



Figure 4.2 *Emotional Support via Instagram Post*

Informational support comes in the way of hiking locations or trails and recipes, some of which come from friends online while others come from agencies or people that she follows but does not have a personal relationship with. Validation support comes through the friends and followers in her networks who live similar lifestyles.

Participant 2: Anwar

“...Back when I did my figure competition, I was all about posting my healthy meal and my workouts. I was getting messages all the time from girls telling me I was an inspiration and asking me for help. Now I don’t really post anything.”

Overview: Anwar lives in the south central Midwest, and is in a bachelor’s program in business administration at Morthland College. She is white, has no children, is divorced, and has a current partner with whom she does not live. She is 5’8” and weighs 160lbs, which the CDC considers normal weight (2015). In the past few years, Anwar has had periods where she focused alot on diet and exercise, but currently her schedule and new relationship have made it difficult to do so. She is a massage therapist, and she is also a certified personal trainer, but she does not use her certification currently. Anwar tries to work out at a gym 5-6 times per week and eat small, healthy meals and snacks throughout the day in order to support her recent goal of “getting back down to 145-150lbs.” Getting in some workouts and eating healthy has helped toward this goal, but not having time to exercise and eating/drinking too much junk has hindered her progress. She eats about every 3-4 hours. For breakfast, she usually has one egg and a few egg whites. For lunch, she eats a turkey sandwich, tuna salad, or chicken breast. For snacks, she eats apples with peanut butter, cottage cheese with fruit, protein powder mixed with water, and/or string cheese, and she eats out a lot for supper. A few weeks prior to the start of data collection, Anwar started a nutrition goal to eat smaller portions, eat out less, and stay in a calorie range. Use of the myfitnesspal app and doing meal preparation have helped her make progress toward her goal. Going out to eat, social drinking with friends, and not having a lot of time to prepare healthy meals has gotten in the way of her goals.

SNS Use: Anwar uses Facebook and Instagram daily, and she has a Pinterest account that she uses on a weekly basis. These three SNS's were included in the daily observations. Anwar explained that she is less active on social network sites because of her current schedule, and that she typically logs in and scrolls through her newsfeed or wall. She will occasionally 'like' a post or follow someone new, but she rarely shares a post, comments, or posts her own content. This pattern was confirmed during the SNS observation, with a notable lack of observable activity.

Anwar says she uses Facebook about 10 times a day for 10 minutes, but she does not post daily. Posts to her wall from recent history (i.e. Spring of 2015) include updates and photos others have tagged her in and photos with family and a significant other. Her profile lists Christian religious views, and she has seven photo albums, including one with her first fitness competition. Anwar indicates that her Instagram use is the same as her Facebook use, and that she uses it throughout the day for about 10 minutes at a time. At the start of data collection, she had 334 posts, 142 followers, and was following 194 people. Her most recent post is from four weeks prior, indicating that she does not post often. Previous posts include photos with her significant other, her friends, and posts of quotes. Although Anwar has a Pinterest account, she does not use it as often as Facebook or Instagram, and she estimates that she logs in once a week for 10-15 minutes. At the start of the data collection, she had 1,409 pins, 3 likes, 112 followers, and was following 106 boards or pinners. She had 24 boards of her own, including 14 that had to do with the topic of food or fitness. An overview of Anwar's SNS usage is described in table 4.3.

Table 4.3*Overview of Anwar's SNS Usage*

	Facebook	Instagram	Twitter	Pinterest
Has Existing Profile	X	X	-	X
Uses Profile Regularly	X	X	NA	
Log-ins per Day	10	10	NA	<1
Time per Day	100 min.	10 min.	NA	<1
Content Added Daily	-	-	NA	-
Content Added Weekly	X	X	NA	X
Content Added Periodically	-	-	NA	-

Fitness and Nutrition in SNS Use: During the follow-up interview, Anwar indicated that she does interact with the topics of fitness and nutrition on her SNS's, but that the level or amount has changed. She stated that she, "used to work for Gold's and have personal trainer page." She also mentioned that she did a fitness competition a year ago, and at that time she began following other people in the fitness industry and was also more active in posting information about her own fitness and nutrition habits. Currently, Anwar follows "healthy people" on Facebook and Instagram, and sees their posts in her newsfeed. She also uses Pinterest as a way to search for new workout routines and recipes. Her own Facebook profile has photos of fitness and exercise, mainly in a gym environment, and some meal preparation. These are not current, and there are more photos showing social interactions with no fitness involved. On Instagram, her list of those she is following does appear to include women who are fitness models and a few food-related sites such as, 1minutesnacks, easy recipes, food diy, and cookingschool. There are not any recent fitness or healthy eating posts on her wall, but 24 weeks ago there was a post indicating that she began working at Gold's Gym, and 36 weeks ago she posted a meal preparation photo. On Pinterest, the SNS she uses to "search for new workout routines or health recipes," over half of her boards had to do with those topics, but there were

some incongruities. For example, there were more than 250 pins related to desserts, as compared to just 21 pins from the protein and Paleo boards. The board “food” included 303 pins of all kinds of recipes, a seeming catch-all for her eating interests. There was just one board for fitness, but it did have more than 100 pins.

Support for Health Goals through SNS: When asked about support for health-related goals, Anwar indicated that she tells one or two people about them (e.g. her boyfriend) but that she doesn’t go and ask for help or look for it from anyone else. Specifically related to SNS use, Anwar explained that she used to post about her fitness competition goals last summer and put up pictures of her meal preparation and her workouts. She stated that when she posted those things, she got comments from many people and that it “held [her] accountable to keep going to meet the goal.” Although she thinks she would have met her goal, she says she wouldn’t have been “as successful with the fitness competition” without the influence of the people on her SNS’s. When asked about the five supportive functions of social support, she indicated that her SNS use provides four of the five. Her descriptions, however, reflect past SNS use and not the use she has during the current study or for her current health goals. The comments and likes she got on her fitness competition posts provided emotional support, and she receives informational support through the recipes and workouts she finds on Pinterest, as well as through short articles she finds on Facebook. Also during her fitness competition preparation, she found companionship support when individuals would message her about working out together after they saw a post she made on one of her SNS’s. Lastly, validation support is something that Anwar indicates comes from the ongoing access to photos and information about other professional fitness models and trainers that she is connected to via Instagram and Facebook.

Overall, Anwar’s peer network and strangers with similar health goals provide her with social support via SNS usage.

Participant 3: Bridgett

“Maybe just looking at all the people I worked out with [before we moved] is still motivating. It makes me wish I was there in person; to see their progress is awesome.”

Overview: Bridgett is originally from the Northeast, but is currently a doctoral student in music at the University of North Carolina Greensboro. She moved there about a year ago in order to attend school. She is white, lives with her significant other, and does not have kids. She is 5’5” and 140lbs with a BMI of 23.3, which the CDC considers a normal weight (2015). She worked out regularly until this past school year, and now she says she “generally” runs outside at least three days a week for an hour. She was previously involved in CrossFit prior to moving to North Carolina. Bridgett says that, since February of 2015, her goal has been to “lose some excess weight.” To help her progress, she tries to maintain three workouts per week and avoid eating to excess, but “being busy and not eating as well as [she] should” slows down her progress. Bridgett states that she generally eats three square meals a day. She says breakfast is “quick”, such as a bagel or oatmeal with tea. Lunch and dinner are frozen, organic, packaged meals that she uses during school to save time. She eats a snack close to bedtime, and drinks mostly tea, water, La Croix, and soda on special occasions. Her goal is to eat whole and organic foods when possible, and she says she has “always” had this goal. Only buying whole and organic foods and not buying junk or tempting foods helps her progress toward her goal, but being busy and not having time to cook for herself hurts that progress.

SNS Use: Bridgett has a Facebook and Pinterest account, and she reports that she uses them both regularly. Much of her usage is difficult to observe, and additionally, during the data

collection, her light usage decreased even more due to travel and a busy daily schedule while helping at a music festival in the Midwest. Typically, she uses Facebook about three times a day for 15 minutes. Her “About” section includes previous locations, schools, and workplaces, along with a relationship status that indicates she has been dating someone for the past two years. She has 845 friends and 23 photo albums going back to 2008, and many of her photos include people in them. She plays flute, and she is tagged in many music- or performance-related photos. She does not post daily on her own wall, but is tagged in the posts of others. Bridgett uses Pinterest occasionally, but so infrequently that it was not included in daily observations. During the initial observation, I noted that she has six boards and 124 total pins. She has 20 followers and is following 10 pinners or boards. Three of her six boards are on fitness and nutrition: “fitness,” “food and recipes,” and “quick meals.” An overview of Bridgett’s SNS usage is provided in table 4.4.

Table 4.4

Overview of Bridgett’s SNS Usage

	Facebook	Instagram	Twitter	Pinterest
Has Existing Profile	X	-	-	X
Uses Profile Regularly	X	NA	NA	
Log-ins per Day	3	NA	NA	<1
Time per Day	45 min.	NA	NA	<1
Content Added Daily	-	NA	NA	-
Content Added Weekly	-	NA	NA	-
Content Added Periodically	X	NA	NA	X

Fitness and Nutrition in SNS Use: Facebook is the only SNS on which Bridgett is currently active, and during data collection her use has been varied due to travel and daily schedule. Her profile includes photos of CrossFit activities, outdoor activities (including hiking and trail running) and food. Bridgett indicated that her SNS use includes reading articles or

posts on healthy eating and viewing posts in a closed CrossFit group, which explains the lack of observable activity. She sees more fitness related content than nutrition, stating that these types of articles “pop up in her newsfeed” because she follows group CrossFit pages. She also sees photos of people she knows and used to workout with at a CrossFit box in the Midwest. Occasionally she will see a workout posted on Facebook that she will use, and occasionally she will read articles from the “Eat to Perform” site she follows on Facebook.

Support for Health Goals through SNS: Bridgett typically looks to her boyfriend and other close friends for support in fitness and nutrition goals. When it comes to SNS usage, she states that it gives her motivation and ideas of what she “should be doing on [her] own.” When asked, she agrees that SNS use facilitates several of the supportive functions studied in this project. Informational, emotional, and validation were the highest, and tangible support happened once. Bridgett says that she feels motivation when people she follows in CrossFit post something in the closed group. She also says, “If I feel really good about something I’ve done [related to fitness], I will post it and people encourage me” through comments and likes. Tangible support comes from reading articles and from finding workouts she can do at home. Bridgett notes that validation support comes through having a sense of community via Facebook and being “friends with a whole group who all do one thing [CrossFit].” Despite her move across the country, Bridgett considers SNS use a way to connect with a group of people and a way of physical activity that both help to support her current health goals.

Participant 4: Denise

“I kind of thrive on people seeing me and seeing how much weight I have lost. Hearing the positive reinforcements [via SNS use] makes me realize I have to keep going.”

Overview: Denise is enrolled in a two-year associate degree program in administrative professions at Northeast Wisconsin Technical College. She is white, lives with her significant other in the northern Midwest, and does not have children. She is 5'1" and 216lbs, with a BMI of 40.8, which the CDC lists as obese (2015). Denise has a sedentary job that involves 40 hours a week of computer work. She goes to the gym five days a week, and she goes biking as much as possible, weather permitting. Denise's main goal is weight loss. She would like to be 130lbs; beginning November 20th, 2014, she weighed 273lbs, and she has lost nearly 60lbs already. Some things that she says help her progress are having a gym membership, the support of friends and family, advice from a personal trainer at a gym, and good music to listen to while at the gym. Her own thoughts and eating unhealthy foods work against her progress toward her goal. Denise does not have a nutrition goal currently. She says she tries to "eat healthy" but also says that she indulges every once in a while. She always makes a point to eat breakfast and drink a lot of water.

SNS Use: Because Denise works from home and her work is computer based, she accesses her SNS's throughout the day. She has Facebook, Instagram, and Pinterest accounts, and stated that she is most active on Facebook and least active on Pinterest. Denise estimates that she logs into Facebook 20 times a day for a total of 2-3 hours of usage. She posts most days, and sometimes she writes or shares multiple posts. The content of these posts varies and includes the topics of gaming, biking, check-ins at local establishments such as Anytime Fitness, and some photos. At the start of the data collection, she had 243 friends listed, and the "About" section of her profile indicates that she is engaged and has several family members and relatives connected to her profile. Denise has 18 photo albums, and, like her posts, the photos cover a variety of topics including weight loss, workouts, beer, quotes, cats, pop culture figures like

comic heroes, selfies, and photos with friends and other people. Denise uses Instagram 10-15 times a day for 1-2 hours total. Her headline reads she is “on a weight loss journey and has lost 60lbs as of May 23.” It also indicates she is engaged, loves the Green Bay Packers and has two cats. At the start of data collection, she had 1,314 posts, 215 followers, and was following 167 people or groups. Denise does not post daily, but posts several photos each week related to various content: some inspirational quotes, gaming, selfies, some with one or two people, and current events. She uses Pinterest 3-5 times a day for an hour total. She had 12 boards, 749 pins, 117 likes, 186 followers and was following 89 boards or pinners at the start of data collection. Of these 12 boards, three are most relevant to fitness and nutrition. “Workin’ on my fitness” has 194 pins that include workout examples and lots of motivational quotes, “words” has 223 pins filled with inspirational quotes and “sports” has nine pins. Denise’s SNS usage is described in table 4.5.

Table 4.5

Overview of Denise’s SNS Usage

	Facebook	Instagram	Twitter	Pinterest
Has Existing Profile	X	X	-	X
Uses Profile Regularly	X	X	NA	X
Log-ins per Day	20	10-15	NA	3-5
Time per Day	2-3 hours	1-2 hours	NA	1 hour
Content Added Daily	X	-	NA	-
Content Added Weekly	-	X	NA	X
Content Added Periodically	-	-	NA	-

Fitness and Nutrition in SNS Use: Due to her weight loss journey that began a little more than six months prior to the start of the current study, Denise interacts with the topics of fitness and nutrition on SNS daily. She indicates that both topics are seen together most of the time, but that fitness is her main focus. Her own SNS content reflects these topics. On

Facebook and Instagram she includes fitness and weight loss photos and other content. She posts personal bests in running and biking, progress on her weight loss goal (Figure 4.3) and check-ins at her gym. Beyond the content that she originates, she also sees content from other SNS users. She follows people on Facebook and Instagram who give her ideas and inspiration, including @fighttochange, @bri_getsfit and @fitmotivation. She often sees videos of workouts or tips, motivational quotes, pictures of healthy meals, and before and after progress photos on Instagram and on Facebook. Denise uses the Pinterest health and fitness boards to find things that support her weight loss goal. On Instagram, she will search a hashtag on the post of someone she is following and spend time looking through posts on that particular topic even if it is from people beyond her contact group. She also uses the message features on both Facebook and Instagram to talk to people and ask for fitness and nutrition advice.



Figure 4.3 *Weight loss Progress Posted on Instagram and Facebook*

Support for Health Goals Through SNS: Denise feels strongly that her SNS use is a huge support in her weight loss journey through access to information, motivational quotes, and the examples of others, including one SNS and Instagram user, @bufbunny, who has completed a 100lb weight loss journey of her own. Prior to the weight loss goal, Denise didn't consider herself a very open person, or someone who seeks support in others. She explains,

I don't like share a whole lot of things on Facebook or Instagram, especially about health-related stuff because I am not happy with my weight ... I think SNS use has kinda provided a lot of positive- more positive than negative- that has come from me putting myself out there and seeing what others have to say. I guess seeing the transformation in other people has kind of started the gears turning in my head, that you know, this is possible, I can do it. I think that if I had tried this like 10 years ago when your whole world didn't revolve around social media... it would have been a lot harder for me because I did not have the support I get from people I don't even know. So yeah, I think it's huge- its very beneficial and I am going to keep using it in the future.

Denise indicated that she received three of the five supportive functions via SNS use. She received emotional support constantly, especially from Facebook, because her network of friends is mostly people she knows face-to-face. For example, a post on May 9th indicated that the “Couch to 5k” program was one of her goals and that she completed it. The post received at least 23 likes, and three people commented “good job” or “proud of you” messages (Figure 4.4).

She gets informational support from things she can search on Pinterest and also by asking



Figure 4.4 Couch to 5k Emotional Support on Facebook

questions on Facebook or watching a video she sees on Instagram. She said she gets less validation support, but she gets it from seeing the posts of other people also on a weight loss journey.

Participant 5: Emma

“Since I started my goal I find myself having more [SNS] usage to try to hold myself accountable and making myself known so that people might question me when they notice I’m not doing something toward my goal”

Overview: Emma is a white female enrolled in a graduate program in physician assistant studies at SIU-Carbondale. She lives with her significant other, and has no children. She is 5’ 6.5” and weighs 162lbs, with a BMI of 25.8, which the CDC considers overweight (2015). Emma does CrossFit six times a week and has recently started doing faster cardio an additional three times each week. She also works in the ER and general surgery in 12-hour shifts, and so her job involves lots of standing and light walking. Starting in June of 2015, Emma began a fitness goal of getting stronger but also leaner. She would like to increase the amount she can sprint, and she would like to be able to finish metcons (a type of CrossFit workout) faster. Having friends that like to work out helps her progress toward these goals, but being too heavy is a problem in reaching the goal. She says that her diet will help overcome this problem. Emma describes her eating as “pretty clean with occasional cheat meals and drinking (i.e. alcohol consumption).” Starting Monday, June 8, 2015, she began a “cutting” diet for her upcoming wedding. This refers to a diet that helps her to lose fat and retain lean muscle. She compares it to a phase similar to those who get ready for a fitness competition. On June 8, she also began a goal to lose up to 5-10% body fat. Emma says that reading up on material and paying for a meal plan that will hold her accountable are helping to meet that goal, but that working 12-hour shifts makes it hard to eat regularly. Also, going out and the temptations induced by her friends do not help her to achieve her goal. At the end of the data collection phase, Emma had an injury that led

to her being limited in her ability to run and lift heavy weights. It didn't alter her goal, but the way in which she would accomplish the goal shifted to having more of a focus on nutrition.

SNS Use: Emma uses both Facebook and Instagram daily, posting original content on both sites most days. On Facebook, Emma logs in 15 times a day for about 1-2 hours total. Looking at her profile's newsfeed from the last few months, she posts several times on most days, but has very few shares of others' content (e.g. articles, images that are not her own). She is tagged by friends in posts that include memes and photos, and many of her posts include friends, family (e.g. her parents, sister, and soon-to-be in laws), and her fiancé. Her friend list is set to private, but her observable photo albums include hundreds of photos added by Emma herself, and hundreds more that she has been tagged in by other people since 2008. The photos include many pictures of her daily life, her friends, softball, her significant others, and her family. Her "About" section explains that she distributes AdvoCare, a nutritional supplement line, and that she was engaged in 2014. Emma is not as active on Instagram. She estimates that she logs in four times a day for about 30 minutes total. At the start of data collection, she had 287 followers and followed 305 people. Those she is following often relate to fitness or healthy lifestyle in some way, such as CrossFit affiliates and games athletes like @eattoperform, @progenex, @CrossFit_paducah, @fitaid, and @ager_bomb. She posts daily, sometimes several posts a day, and typically receives between 10-30 likes on most posts and several comments on each. Some of the content on Instagram is shared to Facebook, so there is overlapping information and posts.

Table 4.6

Overview of Emma’s SNS Usage

	Facebook	Instagram	Twitter	Pinterest
Has Existing Profile	X	X	-	-
Uses Profile Regularly	X	X	NA	NA
Log-ins per Day	15	4	NA	NA
Time per Day	1-2 hours	30 min.	NA	NA
Content Added Daily	X	-	NA	NA
Content Added Weekly	-	X	NA	NA
Content Added Periodically	-	-	NA	NA

Fitness and Nutrition in SNS Use: The topics of fitness and nutrition are a part of

Emma’s SNS usage due to the content that she adds to her sites as well as what she sees and connects to from the sites of other people and groups she follows. On Facebook, she believes that there is more access to both fitness and nutrition content. She herself posts almost every day about fitness and weight loss. She shares her own journey (Figure 4.5) and includes active photos with friends. For example, her cover photo from June 10th shows a collage of photos of herself and others doing CrossFit and includes the quote, “Friends are the family we choose for ourselves.” She includes some nutrition posts more recently, such as her June 7th post showcasing her meal preparation (Figure 4.6).



Figure 4.5 Facebook/Instagram Motivational Post



Figure 4.6 *Photo of Meal Preparation*

In addition to what Emma posts herself, she sees fitness and nutrition content in her Facebook and Instagram newsfeeds. On Facebook, she likes pages such as “FitPro”, “aidrite” and “Eat to Perform,” and as a result the articles they share show up in her newsfeed. She also has a lot of friends who are in CrossFit, so she sees the things they post. She believes that she sees more nutrition posts on Instagram because some of the people she follows use AdvoCare, or do Paleo diets, and will post meal pictures. She is also in closed groups for a CrossFit gym, for AdvoCare, and for a 21-day challenge, all of which regularly post on fitness and nutrition, but this activity is not observable to others not in the groups.



Figure 4.7 *Facebook Post on Motivation after a Long Day at Work*

Support for Health Goals through SNS: Emma typically looks for social support for her health goals from her close friends, her family, and her fiancé. She believes that her SNS use does provide her with some support. She explained that posting about her goals and progress on SNS “just kind of keeps [her] accountable” to keep going and working toward her goal. She believes that the little bit of extra support sometimes is just what she needs to keep motivated. “If I am having a bad day and I post something that I did and people encourage me, saying ‘You inspire me’ and things like that, it kind of turns my day around.” One example of this motivation is from a post she made June 19th after she had a long day of work (Figure 4.7).

After discussing the five types of supportive functions, Emma described ways in which she has received all five from her SNS usage, with emotional, validation, and informational supports being the most common. Emma reads short articles on her newsfeed and she searches specific hashtags in Instagram for information, but she also asks her friends/followers for it, too. On May 31, she asked on Facebook, “Ok friends soooo how does one lose muscle mass without stopping working out?” Earlier that day she posted a similar statement, “Ok, I can’t believe I’m saying this, but I have to lose some muscle between now and October to get my muscular back into my wedding dress...” She received 35 comments to the first question and eight comments on the second, most of which included advice and information. She believes the things she posts on her SNS allow people to make comments and support her emotionally. She described it as having many “cheerleaders in your corner.” Being connected to so many people in various parts of the country who have similar fitness goals and lifestyles gives the opportunity to validate her own choices and to see that “there are people like me.” Although not as often, Emma does benefit from tangible or companionship support via SNS use. She explained that the AdvoCare group she is a part of online will occasionally give out free samples of product and that

sometimes, after she posts a fitness post, a friend will message her to meet at an upcoming CrossFit time or plan to go running together.

Participant 6: Kat

“If I’m not working out all day and I’m just being lazy and I get on Facebook or Instagram and I see someone doing something [active] on there... then I am like, ‘wow, they are doing that’ and I don’t really have a reason why I can’t be [doing it too]. It kind of helps me get motivated.”

Overview: Kat is a white female enrolled in a two-year program associate’s degree in nursing at Southeastern Illinois College. She does not have a current spouse/partner or any children, and she had no monthly income at the start of the data collection phase. During the course of the data collection, however, Kat got a job as an RN and began working full time in a nearby city away from home. She is 5’ 9” and weighs 174lbs, with a BMI of 25.7, which is overweight according to the CDC adult BMI calculator (2015). Kat attends CrossFit 2-3 days a week and also walks at least three miles a day when she doesn’t go to CrossFit. She does supplemental things such as V-ups, rope climbs, pull up practice, and some other weightlifting at least once a week. Since the beginning of May 2015, Kat has had a goal of losing 5-10lbs while also increasing her muscle mass. Using apps like MyFitnessPal to track food and MapMyWalk to track her pace and calories earned while walking helps her progress toward her goal, while summer activities that include drinking alcohol, which then leads to late-night eating, distracts her from her goal. Kat tracks her daily intake on MyFitnessPal, and when she eats as planned her intake is 2,200 calories, with macro nutrient numbers set at 160g protein and carbohydrates, and 90g of fat. She tries to limit her sugar intake more than anything else. She typically eats every two hours, drinks water with every meal, and usually includes a high protein source and

works around that. Breakfast is her biggest meal and it consists of three eggs, sausage or bacon, and a bagel or oatmeal with fresh fruit. For lunch she often eats tuna and sweet potato chips. Her snacks are high in carbohydrates, like white rice, or high in protein, like a protein bar or shake, and she eats a lot of nuts at night, such as cashews, almonds and pistachios. For dinner she has chicken or beef, with some form of potato or rice, and vegetables. For the last month, Kat has had a nutrition goal of eating about 2,200 calories a day with specific macronutrients set at 160/160/90g and watching her sodium and sugar intake. She says that MyFitnessPal helps a lot because she can scan foods directly, and it helps her pay attention to food labels and serving sizes. Binge eating after drinking alcohol or lack of food prep hinders her progress. She has had cravings for pizza and other greasy, fattening foods lately. Toward the end of the data collection phase, when Kat began her new job, she temporarily set aside working toward both her nutrition and fitness goal while she got accustomed to her new job, routine, and home.

SNS Use: Kat has profiles on each of the SNS's used in this study. She uses each of them regularly, in varying amounts, but does not always do activity that is observable (e.g. comment or post) on a daily basis. She uses Facebook 15 times a day for two hours total. At the start of data collection, Kat had 646 Facebook friends and 936 photos in seven albums. Her "About" section confirms her education, new job, and a few family members with whom she is also connected on social media. Her brother, mother, and father are in many recent photos with her, and based on photos, her brother and father both do CrossFit with her. Her photos include many shots with people and groups, and there are personal progress shots such as rope climbs and Fran (i.e. a CrossFit WOD). Kat reports that she uses Instagram less than Facebook and estimates that she is on it 15 times a day for an hour total. At the start of the data collection she had 307 posts and 267 followers. She posts several times a week, but not daily. Most of her

photos include other people, and some are of inspirational or motivational quotes and fitness. The list of profiles she is following includes people and groups connected to strength and conditioning and to CrossFit. Kat also uses Twitter about 10 times a day for 30 minutes total. During the data collection, however, she indicates that she uses Twitter as often or more often than Instagram. At the start of the research project, Kat had 5,433 tweets, was following 388 people, and had 328 followers. Her list of accounts she is following includes very few individuals or agencies that appear to be connected to fitness or diet. She tweets several times a day, but not every day, and it is a mixture of her own tweets and retweets.

Pinterest is the SNS she uses the least amount of time. She said that she doesn't log in daily, but is on for about two hours total each week. Kat has eight boards, 797 pins, 81 likes, and 111 followers. She is following 59 pinners or boards. Her boards include 88 pins in "la comida" (food) and 81 pins in "fit and fab," which has a lot of lower body and abdominal workouts.

She describes her SNS use as somewhat passive and says that she is less interactive lately due to a lack of time. She explains, "Now I am normally just looking at stuff, but if I was on there more often, I would have seen things that would have made me want to interact with more people." One of the things she felt that participating in the study did was to help her learn more about herself and her social media usage. She said that having to write down the amount of use each week in the journal made her reflect and think, "Oh my god, I spent so much time on here [SNS] and only maybe 20 minutes were productive." Table 4.7 provides an overview of Kat's SNS use.

Table 4.7*Overview of Kat’s SNS Usage*

	Facebook	Instagram	Twitter	Pinterest
Has Existing Profile	X	X	X	X
Uses Profile Regularly	X	X	X	X
Log-ins per Day	15	15	10	<1
Time per Day	2 hours	1 hour	30- 60 min.	2 hrs/wk
Content Added Daily	X	-	X	-
Content Added Weekly	-	X	-	-
Content Added Periodically	-	-	-	X

Fitness and Nutrition in SNS Use: Most of the fitness and nutrition content Kat sees is placed there by her friends and the groups, boards, pinners, and individuals she follows. She said that as far as her own posts, she “only posts things if [she feels] very proud and other people might think it’s actually good.” She said, for example, she wouldn’t post that she just ran a 12-minute mile, because she doesn’t consider that an accomplishment or something that is impressive to anyone else. Kat explains that on Facebook she ‘constantly’ sees information and posts that pop up from a closed CrossFit group she is in, and that random friends will share articles, which are on her newsfeed, too. When asked, she agreed that she sees articles from group pages that she had liked, such as “Eat to Perform” and CrossFit’s main site. On Instagram she sees videos or pictures of fitness and meals because she follows athletes. She doesn’t see any fitness or nutrition content on Twitter, but she does see some on Pinterest, but “only when [she searches] for it.”

Support for Health Goals through SNS: When looking for support in her diet and fitness goals, Kat said that she looks to a few people, like her brother and CrossFit friends, to support her along with the use of a fitness application. She does think that her SNS use provides her with support for her goals, saying that it is motivational. When asked about the supportive functions, Kat agreed that four of the five types were provided to her in some way via SNS use. She

believes there is emotional support that comes from posting to SNS's, and she tries to solicit that support often. She explains, "I feel like I do that a lot without even realizing it. I post so that I can get feedback and so someone will say, 'You did good.'" Interestingly, even though Kat posts pictures and videos of herself and her fitness accomplishments and attempts, she does not get a lot of feedback from friends and followers as compared to some of the other research participants. For example, on June 22nd, Kat posted a video of herself on Facebook (from Twitter) completing a hang snatch (i.e. Olympic weightlifting move also done in CrossFit) with the caption, "Who needs a thigh gap when you can put 110lbs over your head." There were several likes and comments and even a comment about doing open gym together the next day (companionship support), but no one who congratulated her or said "Wow," or "How great, Kat," etc. Figure 4.8 is another example of a lack of emotional support when she posted her attempt at jumping pull-ups. She received several 'likes,' but no comments, except for one from a family member on what to do better.



Figure 4.8 *Lack of Emotional Support from Instagram Post*

Kat finds that SNS use provides her with more informational support for fitness and CrossFit than for nutritional goals because she reads more about it and sees more content and photos related to it. She also posts a question to friends/followers on Facebook sometimes. Kat

has used SNS to find a partner for open gym at CrossFit, but this activity isn't common. She believes there is validation occurring through SNS usage, but that it isn't always supportive. Currently, she feels that she doesn't have the time to fit a CrossFit workout into her new schedule, and logging into Facebook and seeing "everyone on Facebook doing [CrossFit]" is "annoying." She said that when she had time, however, it did help to see what others were doing and to compare her progress to their progress.

Participant 7: Serena

"I don't want people to know that I am that focused [on my health goals] or that it [my health] is that important to me. Health goals are personal... I don't post a lot about myself because, I guess I don't want to brag or focus the attention on myself."

Overview: Serena is a white female currently enrolled in a Masters of Architecture program at Louisiana State University that will begin in the Fall of 2015. She currently lives in the southern Midwest, is married, and does not have children. She is 5' 7" and 152 lbs with a BMI of 23.8, which is considered normal weight according to the adult BMI calculator at the CDC online (2015). Serena currently works from home, but has to travel to Chicago sometimes for up to two weeks at a time. When at home she sits at a desk for 8-9 hours a day and does CrossFit 4-6 times a week in the evenings after her work is completed. Sometimes she goes on a 20-30 minute run if she is feeling motivated. While in Chicago, she works at a desk for 8-9 hours a day, walks for 30 minutes on lunch breaks and sometimes does CrossFit or runs in the evening. While traveling, she is less motivated and less active. About 10 months ago she set a goal to do a strict pull up. CrossFit has helped to increase her strength, but she has not yet reached her goal. Her diet consists of three meals and a few snacks throughout the day, and she eats a variety of foods. Her breakfast is plain Greek yogurt with berries and honey, and she has

two cups of coffee with butter and coconut oil. Lunch is typically fried eggs, bacon, and fruit, or a salad with cheese, avocado, and tomatoes. Dinner is always a protein and a vegetable, like chicken and broccoli, and smoothies with almond milk, banana, carrots, berries, flax seed, and chia are her go-to snack, smoothie, or a piece of fruit. She likes squash and eggplants instead of pasta and bread, and she only has one serving of those a day. She drinks water, Lacroix water, coffee and milk sometimes. She does not drink soda, but does drink some alcohol 4-5 times a week, but she wants to cut back on this intake. About six months ago she started a goal to eat fewer carbs and less sugar. Planning her day and meals ahead of time is helpful in sticking to a diet that works for her, but she says she loves to eat, and when she is at a barbecue or out with friends or traveling she tends to overindulge and have complete lack of self-control over the food she eats.

SNS Use: Serena has a Facebook and Pinterest account that she uses regularly, but her use is often passive and cannot be observed by friends or followers. She often scrolls, scans, searches, and reads, but doesn't post, like, pin, or comment. She explains, "The way I use social media... I jump on it for a few minutes here and there, just scan newsfeed, and check updates. [I do it] when I am cleaning or working and [when] I am bored and need to switch my mentality for a few minutes." She uses Facebook more often than Pinterest, stating that she goes on a few times a day for 5-10 minutes at a time. At the start of data collection, she had 917 friends and 1,289 photos. Her "About" section confirms her location, previous schools and worksites, and that she has been married for the past year. Serena's religious views are listed as 'Amish' and her political views as 'moderate.' She has 38 photo albums going back to at least 2007. Her photos are a mixture of things including architecture, food, everyday items, the occasional animal, bars and drinks, and people (mostly her fiancé and some other friends). She is tagged in

social photos and several CrossFit-related photos. There are no other fitness images except for some outdoor active biking and hiking. She does not post daily. Emma does have a Twitter account, but it currently has only one tweet and two followers. It was not used for data collection purposes. Emma uses Pinterest most days and says that it is often so that she can “look for recipes.” At the beginning of data collection she had 18 boards, 173 total pins, 128 followers, and was following 102 pinner boards. Her boards include seven pins for Thanksgiving dinner, 18 for healthy lifestyle, 29 for food (e.g. veggie options, and foods made with non-wheat/grain alternatives), and boards for design, style, architecture, favorite places, home, and music. Table 4.8 provides an overview of Serena’s SNS use.

Table 4.8

Overview of Serena’s SNS Usage

	Facebook	Instagram	Twitter	Pinterest
Has Existing Profile	X	-	X	X
Uses Profile Regularly	X	NA	-	X
Log-ins per Day	A few	NA	NA	1
Time per Day	15-30 min.	NA	NA	15 min.
Content Added Daily	-	NA	NA	-
Content Added Weekly	-	NA	NA	-
Content Added Periodically	X	NA	NA	X

Fitness and Nutrition in SNS Use: Serena does notice fitness and nutrition content on her SNS’s, but notices more on Pinterest than on Facebook. She states, “There are so many other topics Facebook tracks that I have showed interest in, like politics and religion, that health and fitness kind of blend in the background.” She does see articles occasionally, or friends from CrossFit will post things. On Pinterest, however, she follows health and fitness boards so her feed is filled with that specific content, and she often goes on to look for healthy recipes. She says that her “Pinterest feed is always filled with fitness pins,” and that she sees a lot of them when she logs in.

Support for Health Goals through SNS: Typically, when looking for support for her health goals, she says her husband helps to keep her “accountable” and helps with cooking healthy meals. She has also used fitness apps, such as WeightWatchers, in the past as a support. As noted above, Serena does see fitness and nutrition related content, especially on Pinterest, but prior to conducting her interview, she didn’t think that it helped her a lot or gave her much support. She indicated that “maybe Pinterest” provided her with some support for her health goals. She explains, “Before I talked to you about this I maybe wasn’t as aware about all of these different avenues that I use to influence me. I never thought Facebook was influential. I wasn’t aware that it does help me.”

After we discussed the supportive functions, Serena identified ways in which her SNS provided all five at some point. She indicated that both informational support and validation are common, but that the other three have happened on at least one occasion. She thinks that the recipes on Pinterest and the posts and articles shared by people she knows and is connected to on Facebook both help to give her informational support. She finds that following several groups of people on Facebook, such as Vegan friends and friends who are active and do CrossFit, motivates her and also “make[s] her] want to do more” if she sees what they are doing. She considers this validation helpful at keeping her working toward her goals. At least once, Facebook has helped facilitate a companion for going to the farmer’s market to shop for healthy foods, and several times she has gotten tangible support in finding groceries that were on sale due to being tagged in a group post on Facebook. Emotional support is something she agrees can happen via SNS use, and at least once she was tagged in a post while doing CrossFit and received positive feedback, but she says making personal posts isn’t something she will do herself. Serena did indicate that not all of the emotional feelings or validation is positive,

however, and said that oftentimes the fitness posts she sees on Pinterest can be a negative influence. She says, “I can do this exercise a million times and I am never going to look like this person [Pinterest fitness model]... I will feel bad about myself.”

Participant 8: Deidra

“I am just used to working out by myself and doing my own thing. I just leave social media topic to whatever...I don’t know why, but I just don’t really post about me going to workout.”

Overview: Deidra, who is Jessica’s sister, is in a bachelor’s program in business administration at Alcorn State University. She is African American, currently has no significant other or children, and lives at home for the summer. She is 5’6” and 245lbs, with a BMI of 39.5, which is obese according to the CDC (2015). Since May of 2015, Deidra’s fitness goal has been to lose seven inches off her waist and 40lbs by the end of September, and to run three miles. During a regular week, she works out four days a week. This includes running, walking, squats, sit-ups, playing basketball, and doing some sort of exercise tape. Her sister, Jessica, is a huge support system for her, and she works out with her often. She said even though she believes she can achieve the goals without Jessica, having her is better because she pushes her and encourages her. Staying consistent and having few distractions helps, and knowing that she has lost weight in the past is a motivation, but not having a gym membership and transportation limits her progress. Since May of 2015, her goal has been to start eating more fish and turkey, and to cut out fast food. During a regular week she does her best to eat three meals a day, but because she is not an early riser she may get in only two meals. She doesn’t snack much and doesn’t care for junk food. She may eat a bag of chips sometimes, but mostly she snacks on fruit, yogurt, granola bars, or fruit snacks. She drinks water, PowerAde, tea, and juice. Avoiding pork and beef helps,

and cooking at home as much as possible supports her goal, but her parents do not cook and have different eating habits, which hinders her progress. During the data collection phase, Deidra's goal remained the same, and she stated in the interview that she had lost some weight and two inches off her waist, and she had improved her running.

SNS Use: Deidra is a high SNS user. She is regularly active on all four SNS's used in this study. She uses Facebook the most, averaging 20 times a day for up to four hours total. She authors multiple posts each day on a variety of topics including current events, civil rights and race issues, religion, sports, entertainment, family, and occasionally fitness. She creates her own posts, but also shares articles and posts written by other SNS users, and she is tagged in the posts of friends and family often. Deidra uses Instagram an estimated 10 times a day for 2-3 hours total. Her tagline includes references to a sorority, Christianity, her horoscope, school, music, and her relationship status. At the start of data collection, Deidra had 263 total posts, 1,379 followers and was following 1,292 people. None of her followers have an obvious connection to fitness or nutrition based on their profile name or photo alone. Deidra is less active on Twitter, but compared to the others in the study, she is very active. She uses Twitter five times a day for about two hours total. At the beginning of data collection she had 3,458 tweets, was following 338, and had 242 followers. Again, those that she is following have no apparent fitness or nutrition sources. Deidra does not tweet every day, but there are days when she tweets or retweets 10-20 times in conversation and singularly. Lastly, Deidra uses Pinterest two times a day for about 30 minutes total. She has three boards, 80 pins, 29 likes, one follower, and follows 20 pinners or boards. Her boards are related to weddings, beauty, Marilyn Monroe, crafts, and fitness/workouts.

Table 4.9*Overview of Deidra’s SNS Usage*

	Facebook	Instagram	Twitter	Pinterest
Has Existing Profile	X	X	X	X
Uses Profile Regularly	X	X	X	X
Log-ins per Day	20	10	5	2
Time per Day	4 hours	2-3 hours	2 hours	30 min.
Content Added Daily	X	-	-	NA
Content Added Weekly	-	X	X	NA
Content Added Periodically	-	-	-	NA

Fitness and Nutrition in SNS Use: Deidra indicates that her social network site use isn’t really dedicated or focused on fitness and nutrition, but that she uses it for a variety of other personal things. She does say that on Facebook and Instagram she follows a few people who she calls ‘workout junkies.’ They post on workouts and clean eating with videos and photos. On Facebook she doesn’t participate in any closed groups and doesn’t follow any group pages that she can think of related to fitness or nutrition, but she does recall having seen some sponsored ads for diet pills and other things. On Twitter Deidra follows one person who talks about running and conditioning, and on Pinterest she follows the health and fitness boards so she sees pins with fitness and dieting.

Support for Health Goals Through SNS: Typically, Deidra tries to be self-supportive when working on a health goal, but she names her sister and a friend as people who are influential in the success of her goals. Despite the fact that Deidra does not see a lot of fitness and nutrition content from her friends and followers, and she rarely posts on the topic herself, she indicates that what she does see during her SNS use helps to influence her health goals. She explains, “Seeing the different people I follow who are doing the same thing I am doing- trying to get healthy and lose weight- that does influence me. If they can do it, I can do it.” When asked about the five supportive functions, though, her answers varied. Deidra does not receive

tangible support via SNS use, and since she doesn't post about her own workouts, she doesn't get companionship support either. She does describe her family, friends, and sister as people who provide her with companionship during runs and walks, but it is not something that she gets from SNS use. One of her few posts about fitness during the online observation included the topic of companionship support (Figure 4.9), but she got the support through face-to-face, or in-person, interactions and not via SNS use.



Figure 4.9 Family and Friend Support Post on Facebook

She says that she gets emotional support from her family, but not on SNS, and, again, since she doesn't really post about her own health goals or workouts, no one comments or likes them. Even though she says that she sees people who show workouts and clean eating on Pinterest, she doesn't think that SNS provided informational support. I was surprised to hear her say that she "doesn't see information sharing" and that she "never really thought of getting recipes from Pinterest" until I used the example of finding a recipe on Pinterest as an example of informational support. She does think that it provides some validation support because she can "see what others are doing for fitness and nutrition and compare."

Participant 9: Jessica

"My social media connection influences my goals because of the people I choose to follow. If you don't follow the people who have the same goals in mind with weight loss or fitness you know you are never going to see it. I follow what I want to be."

Overview: Jessica, who is Deidra's sister, is currently enrolled in a four-year bachelor's program in pre-veterinary medicine at Alcorn State University. She is African American and does not have any children. She has a significant other, but does not live with him. She is 5' 3" tall and 157lbs, with a BMI of 27.8, which is overweight according to the CDC (2015). She has a fitness goal set for the summer to lose 18-20 pounds by September of 2015 so that she can meet the requirement to "be on contract for the Army." She typically walks or goes running every day. During the school year, she says that she walks to all of her classes, is a member of marching band, and is a part of the ROTC program. Through the ROTC morning PT and marching band sessions, she says she "gets a lot of [her] exercise that way." According to Jessica, her sister Deidra is a major influence because she works out with her and motivates her toward her goal, but she reports that "space and transportation" have gotten in her way of making progress on her goal. She lives in a small space, which limits the type of exercise she can do, and she has to plan around the use of someone else's car for when she can workout because she doesn't have her own car. Jessica did not list a specific nutrition goal, and she doesn't have a set time that she eats. During fall and spring, she eats when she can, which is usually once a day, although she snacks throughout the day. She doesn't watch what she eats, but she does watch how much she eats.

SNS Use: Like her sister Deidra, Jessica is a high SNS user. She is connected to three of the four SNS used in this study and active on SnapChat and GroupMe as well. Unlike Deidra, Jessica's SNS activity is not as observable. She often scrolls through her newsfeed, but doesn't comment or post as often. Jessica is on Facebook about 30 minutes spread across the day. As noted, she doesn't post daily, but her timeline has several original posts, which are often photos with captions and various posts she has been tagged in from what appear to be family members.

Her “About” section confirms her school and relationship status as well as a number of family members who are all on Facebook, too. At the start of the data collection she had 3,761 friends, 402 photos in 10 albums, and was tagged in many photos depicting marching band, Alcorn State, and sorority and family events. Jessica estimates that she goes on Instagram three times a day for about 30 minutes total. She joined in March of 2015 and has had 51 posts since then. She has 1,191 followers, and she is following 1,157 users who appear to be individuals versus groups, agencies, or businesses. The content of many of her posts include other people and are related to family and school activities. Jessica says that she logs into Twitter once a day for 15 minutes or less. She had 1,800 tweets, was following 1,637 users and had 1,401 users following her at the start of data collection. There were no obvious tweets about diet or activity, and she said that she mainly goes on Twitter to increase followers or to help other people she knows get more followers. An overview of Jessica’s SNS use is provided in table 4.10.

Table 4.10

Overview of Jessica’s SNS Usage

	Facebook	Instagram	Twitter	Pinterest
Has Existing Profile	X	X	X	X
Uses Profile Regularly	X	X	X	NA
Log-ins per Day	Several	3	1	NA
Time per Day	30 min.	30 min.	<15 min.	NA
Content Added Daily	-	-	-	NA
Content Added Weekly	X	X	-	NA
Content Added Periodically	-	-	X	NA

Fitness and Nutrition in SNS Use: Prior to the start of this study, Jessica had very few direct posts related to food, nutrition, or fitness on her SNS's. She did have several posts relating to physical activity such as marching band or dancing, however. During data collection she shared a post stating that she had a workout partner and a selfie indicating that she has made progress on her weight loss goal (Figure 4.10). Jessica said that she follows several personal trainers on Instagram, and they post things like charts on sit ups, push-ups, and other workouts. She also said that she sees sponsored posts on Twitter for weight loss supplements, diet pills, and drops. She does a lot of activity related to fitness and diet on SnapChat and GroupMe. She will take a picture of herself before and after workouts to send to SnapChat followers and on the GroupMe app she talks to other people in her marching band over the summer, and they share diet and weight loss tips with each other.



Figure 4.10 *Progress Selfie on Instagram*

Support for Health Goals through SNS: While talking to Jessica, her opinion on the influence of SNS use or its ability to provide support for her health goals completely shifted. When first asked she said, “I don’t think that it [SNS use] does that at all.” After describing the ways in which fitness and nutrition show up in her SNS newsfeed, she went on to explain, “I mean maybe now and then I look on there and see a post on Instagram of a personal trainer I follow, and I’ll probably use it for like a day and then be like, forget this, I can just go running [instead].” Then, when I described the five supportive functions, she identified with three of them directly. When she posted about her weight loss progress, she felt that the comments and resulting text messages she got provided emotional support. She regularly finds informational support in Twitter and Instagram in the form of weight loss supplements and workout regimens and calories in certain foods. The one she identified with most was validation support, and she said that seeing before and after photos and the weight loss journeys of the people she follows on Instagram provided validation for her. At the end of the interview she said the quote that appears on her profile, and also said that without SNS usage, “[her] progress would be slower... when [she sees] others on a weight loss journey, it motivates [her] to be better.”

Participant 10: Jaleesa

“The onus is on me to be posting [content on health goals] to give people the opportunity to approve. I don’t always do it- only if I have an accomplishment I want to celebrate, and then I let myself get positive reinforcement.”

Overview: Jaleesa, sister of both Jenna and Meg, is a white female enrolled in a vocational program in dietetics at Mount Mary University. She has no current partner or spouse or children. She is 5’4” and weighs 121lbs, with a BMI of 20.8, which is normal weight according to the CDC adult BMI calculator (2015). Jaleesa’s job is sedentary, but she tries to

stay 'very active.' She runs at least two mornings a week with a friend, doing 2.5 mile intervals of running and walking. She started CrossFit a year and a half ago, and she does that as much as possible, which is between 2-5 times per week during the school year. She also takes her dog on a couple of short walks each week, and she plays on two softball leagues during the summer. Since mid-May when school was over, Jaleesa has had the goals to increase her strength at CrossFit, and to have 'abs,' which she describes as being lean enough to see the definition of her abdominal muscles. Some activity-specific goals are to be able to complete a muscle, do handstand push-ups, do a handstand walk, and do a legless rope climb. She says she hasn't done much to get these goals accomplished or try to name the steps that will help beyond attending CrossFit regularly, but she did talk to her coach about increasing her stamina for WODs (workouts at CrossFit), and she has started doing sprint and hill training for that. Time is a problem because she doesn't have enough of it to work on her goals if she isn't at the gym consistently. She also names too many goals that may be conflicting as a problem. She wants to stay lean, but also wants to build muscle mass to increase her lifting strength. She isn't paying enough attention to her macros to know if she is eating properly. She also has a lack of specific steps to accomplish the goals, and as the saying goes, 'a goal without a plan is just a wish.' She says that her CrossFit community and her love for exercise helps, and she has seen progress, so that's motivation to keep going. Additionally, she has coaches who want to see her succeed.

Jaleesa says what she eats day to day "varies a lot." Generally, her breakfast is a half cup of oatmeal with brown sugar and cinnamon, or two fried eggs and coffee with vanilla almond milk. Her daily snack might be a fruit and nut trail mix bar, or something at the office like a donut. Lunch is often a peanut butter (natural) and jelly (no added sugar) sandwich, or a turkey, cheese, and spinach sandwich with carrot sticks, water, nuts and raisins, and a mini Reese's cup.

She doesn't snack in the afternoon, and some examples of what she eats for dinner include veggie tacos or couscous with turkey sausage and sautéed veggies when she cooks at home. If she eats out, which happens twice a week, she has a burger with a side salad. Jaleesa says she has 'always' had a goal to make better choices in foods most of the time. She says that supportive friends help. One of her friends isn't eating any sweets, so Jaleesa tries to follow her lead. She and her sister are doing a "no soda challenge" for the summer, and her CrossFit friends are always talking about their healthy eating. She has a good community of people around her. She names "life" as something that prevents her goal. She says she likes going out and drinking beer and says her office always has food and treats. She loves sweets and isn't good at portion control. She sometimes snacks mindlessly and isn't good at grocery shopping consistently. She has a busy schedule so she does not want to cook when she gets home.

SNS Use: Jaleesa is a high SNS user, and part of that is fueled by her job. She says, "I'm on social media all day for work. I'm a social media specialist at a marketing agency." She uses all three of the SNS sites included in this research study. She uses it on her "down time" and often describes her activity as "scrolling through mindlessly." Jaleesa uses Facebook five times a day for 30-60 minutes total. She does not post every day, but there are days she has multiple posts. Her recent wall posts include photos with captions and tags from other friends. At the start of data collection, she had 755 photos, 19 albums, and well over half of her photos were fitness or health related, including CrossFit, running, and outdoor activities like hiking. There were also many travel-related photos and many with at least one other person in them, including pictures with her two sisters. Jaleesa's "About" section confirms her worksites, schooling, and places she has lived.

She uses Instagram two times a day for 15 minutes total. At the start of data collection she had 801 posts, 278 followers, and was following 340 individuals and groups. Nearly a third of the people and agencies she follows appear to be related to fitness and nutrition, including @strongfitnessmag, @paleochef, @CrossFit_100, @real dietician, @reebokwomen, and @healthylivingblog. She posts new content several times a week, and often it relates to fitness. Jaleesa estimates that she uses Twitter maybe once a day for five minutes. Her tag line says, “I make deals with the universe. Full time dietetics student, blogger (#fitblog) CrossFit junkie (deadlift 255) and marketer. Skinnyfatlife.com”

She does not tweet daily, but some days she authors many tweets or retweets. At the start of data collection, she had 6,516 total tweets, she was following 535 profiles, and she had 721 followers, which include fitness, CrossFit and nutrition people and groups. Jaleesa uses Pinterest once a day for five minutes. She links her website skinnyfatlife.com on her Pinterest profile and had 27 boards, 1,197 pins, 1,139 likes, 258 followers, and followed 136 boards or pinners at the start of data collection. Twelve of the 27 boards, and well over half of her pins, come from diet, fitness, and healthy goal-related content. Her boards include 35 pins in *paleo*, 115 pins in “healthy stuff,” 42 pins in “treatsies” (desserts), 77 posts in “yum” (food), 74 posts in “ha”, which has fitness quotes, 31 pins on “fit to be fab”, 61 pins on “good for you eats,” 14 posts on “skinnyfat life,” 34 pins on “fitspiration,” 9 pins on “eating on a budget,” 5 pins on “protein,” and 694 pins on “paleo.”

Table 4.11

Overview of Jaleesa’s SNS Usage

	Facebook	Instagram	Twitter	Pinterest
Has Existing Profile	X	X	X	X
Uses Profile Regularly	X	X	X	X
Log-ins per Day	5	2	1	1
Time per Day	30-60 min.	15 min.	5 min.	5 min.
Content Added Daily	X	-	-	-
Content Added Weekly	-	X	-	-
Content Added Periodically	-	-	X	X

Fitness and Nutrition in SNS Use: During the SNS observation, I noted occasional activity on Twitter, but in the interview, when asked about fitness and nutrition topics on SNS’s, she said, “Twitter doesn’t really count because I use that more for marketing.” Besides Twitter, however, the other three SNS sites indicated that there is fitness and nutrition content either shared by or seen by Jaleesa on a regular basis. She confirmed this observation during the interview, stating, “My feed is full of food, CrossFit stuff and motivational quotes.” She explained that she uses Facebook the most often, and on that site she often posts photos and status updates about fitness, especially CrossFit, and that she gets tagged in physical activity she does with her family and her CrossFit friends. On both Instagram and Pinterest she said that she “intentionally follows” people, groups, or pages that relate to fitness, health, and nutrition, and as a result, she sees a lot of CrossFit photos. She also sees recipes and motivational quotes, but a little less often than the fitness and workout posts.

Support for Health Goals through SNS: Jaleesa believes that SNS use provides her with support for her physical activity and nutrition goals. She thinks it ‘especially’ comes from Facebook where she follows group pages, specific athletes, and is in a closed Facebook group with people she works out with regularly. This interaction online gives her access to fitness articles, a way to connect to a workout or competition partners, and accountability for her goals,

because she feels as if her CrossFit friends are “watching” her through the posts she makes. Pinterest was helpful when she did a nutrition challenge because it gave her access to recipes, and Instagram allows her to observe other CrossFitters and their progress or “PRs” (personal records). She is active online with other CrossFitters, both people who attend the same gym as she does and others that she hasn’t met in person but who live within the same geographical region as she does. Jaleesa explains that there is a group Facebook page for members of her gym where people post articles and coordinate times to meet for workouts. She also explained she is friends on Facebook and Instagram only with other people who do CrossFit, and they communicate back and forth with each other via SNS, liking content or posting a note of congratulations on a photo. Jaleesa primarily described feeling motivated by the people she follows on SNS, especially the CrossFitters, but when talking specifically about seeing meal preparation and/or healthy eating posts, she described some less positive emotions. She explained, “I started to feel a little bummed about the health eating stuff. I know I should be eating better, and I know I make a picture-perfect plate of eggs and fresh berries if I wanted to, but I don’t. I hate getting caught up in the comparison.” When I asked her specifically about the five supportive functions, she believed that all are or have been provided through her SNS use. Emotional, informational, and companionship support seemed to be provided the most often. She believes that through posting fitness accomplishments on Instagram and Facebook, (Figure 4.11) people have the opportunity to provide emotional support through “liking” the content or commenting on it.



Figure 4.11 *Fitness Post on Instagram Showing Emotional Support*

Jaleesa reads articles on Facebook and searches for specific recipes on Pinterest, which is informational support, and she says that for companionship support, SNS use is essential. She explains that she “sees people in real life [at the gym], but social media is how we communicate.” Although rare, Jaleesa did give one example of tangible support when she was sent a pair of new CrossFit shoes due to an Instagram video that she posted during the CrossFit Games. Lastly, validation support is something that she agrees happens all the time, especially for her CrossFit lifestyle as she is able to see others like her through who she follows on Facebook and Instagram. She hadn’t thought about how much SNS usage provided that specific type of support until I talked to her about it and defined the construct, however, and was surprised by this category.

Participant 11: Jenna

“I can just scroll through the feed [on Pinterest] to see if something pops out at me. I don’t have to go looking for it. I will repin it and I know I can go back to it later.”

Overview: Jenna, sister to both Jaleesa and Meg, is a white female who is currently enrolled in a four-year bachelor’s program in human resources management at the University of Wisconsin Oshkosh. She has a significant other, but does not live with him, and has no children. She has a BMI of 20.7, which is considered normal according to the CDC adult BMI calculator (2016). During a typical week, Jenna goes to the student Rec center 4-5 times. She runs a 5k or uses the elliptical, followed by ab, arm, or leg exercises, and stretching. On average, she is at the gym for an hour and a half, depending on the amount of homework she has. If her schedule permits, she also attends group classes like butts and guts, cycling, and TRX. Over the summer the schedule changes and it is more difficult for her to get this exercise due to her lack of a membership in a gym at home. She runs or bikes outside 3-4 times a week, plays in softball leagues twice a week, and tries to do arm, ab, and leg exercises that don’t require equipment. She works in an office environment. Since the fall of 2014, Jenna has had a goal to maintain a toned physique and to improve her endurance toward running a 10k. Having the student recreation membership helped, but the after-effects of a knee surgery in 2013 makes the running goal difficult. She also has weak hips, which she says causes knee pain. She names Pinterest as helpful in her goal because she uses it to find short workout routines specific to different body parts and to help keep her workouts interesting. She enjoys running but does not leave time to do other exercises when she has a lot of studying or homework.

During the week she always eats breakfast, which includes cereal, granola, toast, breakfast sandwiches, or Pop-Tarts if she’s rushed, and she makes pancakes and French toast on

the weekends. Her mid-morning snack includes crackers, pretzels, or Greek yogurt, and lunch is a frozen entrée like a Lean Pocket, a fruit, a vegetable, and sometimes crackers or pretzels. She packs another similar snack for the afternoon. Her dinners are basic while in school and include a protein, grain, and vegetable, but for the summer she lives at home and eats what her family prepares most days. She drinks fruit juice in the morning and water during the day. She has been trying to limit sweets like candy and ice cream to two per week now. Since the spring of 2015, Jenna has had a nutrition goal to drink at least 70oz of water a day and also to cut out sugar (ice cream, soda, etc). Things that help her maintain this goal are always bringing a water bottle with her and not carrying cash, which prevents vending machine use. She says the goal is easier to keep up with during school. She does not enjoy the taste of water, which makes it hard to drink, and being at home for the summer, she has less control over the things that are in the house to drink and eat.

SNS Use: Jenna is active on all four SNS each day. She uses Facebook four times a day for 45 minutes total. She has 421 friends and is a sister to Jaleesa and Meg. Her “About” section confirms that she graduated high school in 2011, and that she studies at UW-Oshkosh and has previously studied at UW-Green Bay. It also displays her current internship, several family members she is connected to via Facebook, and her relationship status since fall of 2009. At the start of data collection, she had 29 albums going back to 2009. Jenna does not post daily, but she does have periods of multiple posts on a day, such as during a recent family trip. She posts several times a week, often a photo with caption, but also shares articles or other content she didn’t originate. Observation confirms that she does not post overtly fitness or diet-related content, but that she does include photos and events with sports and outdoor activity.

She uses Instagram four times a day for 30 minutes total. At the start of data collection Jenna had 239 posts, 98 followers, and was following 129 people or groups. She originates several posts a week, but not daily. Nearly all posts include people, several selfies, some scenery shots, and/or desserts. There are occasional fitness-related photos and motivational quotes, and she is following some fitness/health groups (e.g. *Fitness* mag, *Health* magazine, Nike women, *Self*, *Shape* and sports teams). Jenna logs on to Twitter once a day for 5-10 minutes. She had 1,441 tweets, was following 191 profiles, and had 96 followers at the start of data collection. She writes her own tweets and also retweets other people’s material. The amount of observable activity on her Twitter is quite low. She has had nothing new on her wall for over a month, and prior to that she had just three tweets or retweets in April and a handful in March. She logs into Pinterest three times a day for 30 minutes total. She had 13 boards, 3,291 pins, 20 likes, and 129 followers. Her boards include 623 pins in “mmm food,” 216 in “words to live by,” 211 in “work it girl,” and her other boards include “style,” “beauty,” “love,” “marriage,” “bucket list,” and “drinks.” Table 4.12 provides an overview of Jenna’s SNS use.

Table 4.12

Overview of Jenna’s SNS Usage

	Facebook	Instagram	Twitter	Pinterest
Has Existing Profile	X	X	X	X
Uses Profile Regularly	X	X	X	X
Log-ins per Day	4	4	1	3
Time per Day	45 min.	30 min.	5-10 min.	30
Content Added Daily	-	-	-	-
Content Added Weekly	X	X	-	-
Content Added Periodically	-	-	X	X

Fitness and Nutrition in SNS Use: Jenna sees a lot of fitness and nutrition on her SNS, but she doesn’t consider her usage of SNS very active. Much of what she does online is passive and not easily observable. She describes her usage as “scrolling,” “checking,” and “browsing”

for things. For fitness, she sees posts and pins on healthy eating and exercises, and she follows people and groups that “remind [her] of her goals.” She says that her Facebook use is “social only,” and that she doesn’t follow health or fitness, so she doesn’t see either of those much. Pinterest is what she uses to find recipes, routines, and motivational statements.

Support for Health Goals through SNS: Typically Jenna looks to her family, friends, or sisters for support reaching her fitness and nutrition goals. Over the summer, living at home, she gets help from her parents cooking meals, and she has companionship for runs or softball from her high school friends back home. Her sisters provide support, too, because they have similar goals (Figure 4.12) and they can influence her parents to buy healthy foods for around the house.

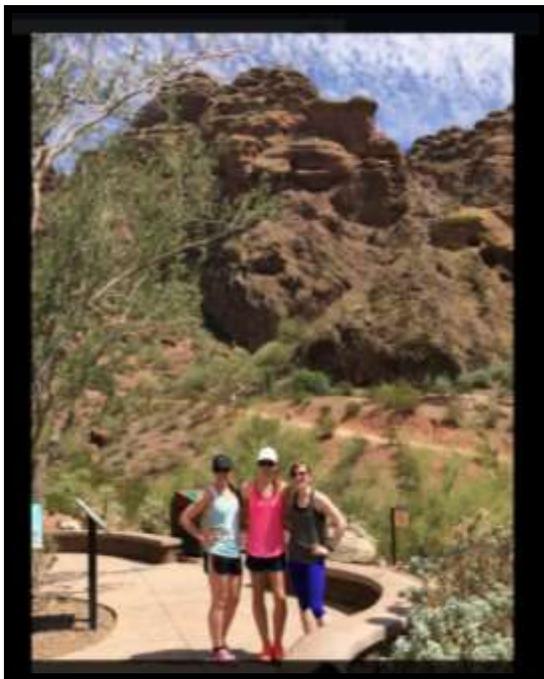


Figure 4.12 *Post of Sisters Hiking Together on Facebook*

Jenna agrees that SNS use gives her support for her health goals, but that Pinterest is the site that is the most useful. After I asked her about posting health-related content, she said that posting the photos or status updates “provides support.” She explained, “It’s definitely a feel good thing... just people ‘liking’ that I completed a run or had a personal best is a feel good

thing for sure.” She doesn’t do it often though, and describes that she posts only if it’s, “out of the normal, like biking 15 miles” or something like that, and she also states that she does it for herself, but also to get “reassurance from others.” Even if she doesn’t post, she will often scroll through Pinterest to find interesting things for later. She likes to have access to recipes and workouts on Pinterest. When asked about the five supportive functions, she said that she gets informational and validation support most frequently. Workouts and recipes on Pinterest provide her with information and she says that she “looks at what other people are doing [related to fitness and diet]” on Facebook and Instagram, which provides her with validation for her own health goals. She also receives some emotional support through the things she posts on Facebook, and occasionally she will find companionship through SNS use through a Facebook post as well. One example of this is when she makes a post about an upcoming run (e.g. a 5K) and people she is connected to on Facebook will comment or send her an inbox message that they are interested in joining to run. She does not receive tangible support from SNS usage.

Participant 12: Meg

“Social media is what I use to see what other people are up to... I really don’t see it as a fitness thing.”

Overview: Meg, sister to both Jaleesa and Jenna, is enrolled in pre-nursing at UW-Madison. She is white, has no current spouse or significant other, and has no children. She reported no income at the start of the data collection, but as the collection progressed, she stated that she began working as a CNA 20-30 hours a week. She is 5’5” and 138lbs, with a BMI of 23, which is normal weight according to the CDC adult BMI calculator (2015). Her fitness goal is to work out more and lose the extra weight. This goal began June 1, 2015. In addition to her job as a CNA that will require her to be on her feet and helping to assist people for 20-30 hours

a week, she also tries to work out for 60 minutes (e.g. run, bike, or circuit training) 4-6 days a week. She said that she didn't get to work out as much as she would have liked to her freshman year of college (the year previous to the study) and as a result she gained 7lbs. Using Fitbit to help her track her fitness and weight helps her progress, but the weather and lack of gym membership has gotten in the way of her achieving that goal. She does use Pinterest to find workouts she can do at home, however. Her nutrition goal, since June 1, 2015, is to eat healthier and eliminate empty calories.

During a regular week, she eats all three meals. For breakfast, she has cereal or eggs, along with a piece of fruit. For lunch, she eats either a sandwich with some vegetables or a salad with some Greek yogurt. She usually has a snack around 3pm or 4pm, such as cheese and crackers, popcorn, or an apple. Dinner usually includes some kind of meat, some bread, skim milk, and a vegetable. Occasionally she has some sort of dessert, like ice cream, later at night. Meg says that she had unhealthy eating habits her freshman year and that those played a part in her weight gain. She believes she has more time to focus on her eating now. "Myfitnesspal" has helped her track her food and calorie intake. She lives at home (with her sister Jenna) for the summer, and says that her mom has a lot of unhealthy food in the house, so it is difficult not to eat that when it is so accessible. She believes this access prevents progress toward her goal.

SNS Use: Meg uses all four SNS's in this study regularly, but she is the only one of the participants who lists Twitter as the site she uses most often. She logs into Facebook and Instagram 3-4 times a day for about 30 minutes total. At the start of data collection, she had 458 Facebook friends. Her profile confirms that she is a nursing student in Madison, WI, and it shows that Meg follows several public groups on Facebook (none of which are related to fitness or nutrition), and she uses the events feature to plan events and to indicate that she is going to

attend them. She ‘likes’ 1,446 things, and has 10 albums and hundreds of photos not in albums, including photos that she is tagged in from other people on Facebook.

On Instagram, she had 104 posts, 227 followers, and was 196 following people or groups. Nearly all of the people she follows are individual people, and not groups or agencies, with a few celebrities and two Wisconsin sports teams. None stand out as fitness or nutrition focused. Nearly all of the photos she posts on Instagram include people, and she posts about once a week. She uses Twitter about five times a day for about 45 minutes total. She had 264 followers and was following 267 users, many of which include UW-Madison groups, college-related feeds, satirical or comedic feeds, and celebrity feeds. She follows some health and fitness (e.g. Fitbit) users, but very few. She posts several times a day, and most of her Twitter feed includes retweets, though none during the study or the recent past were related to fitness or nutrition.

Meg uses Pinterest about 10 minutes per week. She had 12 boards, 396 pins, 39 likes, 62 followers and was following 34 pinners (no boards). She has 28 pins on a board for healthy eating, and 13 pins in get fit, but she also has 36 pins in a board for ‘foood, which includes cakes, cookies, dessert. She has a board for words to live by and one for life goals. Although Meg reports using SNS’s regularly, there were several spans during data collection where there was no observable activity. Logging in, searching for recipes or workouts, and scrolling through the newsfeed cannot be accounted for, unlike posting, pinning, tweeting or commenting. An overview of Meg’s SNS use is provided in table 4.13.

Table 4.13*Overview of Meg's SNS Usage*

	Facebook	Instagram	Twitter	Pinterest
Has Existing Profile	X	X	X	X
Uses Profile Regularly	X	X	X	X
Log-ins per Day	3-4	3-4	5	<1
Time per Day	30 min.	30 min.	45 min.	<10
Content Added Daily	-	-	-	-
Content Added Weekly	-	-	X	-
Content Added Periodically	X	X	-	X

Fitness and Nutrition in SNS Use: Meg describes limited exposure to fitness and

nutrition content in her SNS use. Pinterest is the site in which she sees those topics the most often, and that's due to the fact that she 'goes to certain boards' to find workouts. She gave an example of a dumbbell activity she found on Pinterest and completed at home earlier in the week. SNS observation showed that Meg's Twitter feed occasionally mentioned college sports, and her Facebook posts included one about her Fitbit and a friend who had a transformation post. According to Meg, she "really doesn't see anything related to fitness" on Instagram. Meg mentioned that she sees recipes and healthy snack options on Pinterest and nutrition on Twitter, but that she doesn't "see anything much related to nutrition on Instagram or Facebook."

Support for Health Goals through SNS: Generally when seeking social support for her health goals she looks to her mom to help in buying healthy groceries, her sisters to go for a bike ride or other form of exercise (Figure 4.13) with her, and to herself for creating a plan for her summer. When asked about ways in which SNS use helps to support her fitness and nutrition goals, she initially denied it as a source of support. She explained, "I think of fitness as my own thing I guess, like something I need to work on personally. Social media is kind of like, 'Hey this is what everyone else is doing today'. I really don't see it as a fitness thing."



Figure 4.13 *Facebook Post of 5K Run with Sisters*

During the interview, when asked about each of the five supportive functions, she did find some potential support, but it was still not something she sees as supportive to her. Both tangible and companionship support are things that she says she would “talk about in person.” She said she does use the networking features of her Fitbit, however, including the five-day work week hustle and other challenges and competitions between other Fitbit users. Similarly, with emotional support, she said that she would “just talk to someone” and that she is not “one of those people who gets hung up on ‘ohhh 50 likes on Instagram.’” She says she doesn’t “care about that stuff.” Meg does see Pinterest as a source of informational support in that she uses it to find out how to make a recipe or do a workout, and she thinks that she gets some validation support by seeing the transformation post or a nutritional post uploaded by another user. These types of posts do “motivate” her to continue her own health goals.

Results by Research Question

RQ 1: How do college females engage with the topics of diet and/or physical activity during their daily social networking site (SNS) usage?

Overview

Based on journal responses, SNS observations, and participant interviews, the women in this study do engage with the topics of diet and/or physical activity to varying degrees across all four of the SNS platforms in this study. They engaged with the topic of physical activity/fitness in user-generated content, friend or follower generated content, and through third party (e.g. sponsored advertisements) content. The twelve agreed that physical activity and diet-related content is readily viewable on Facebook, Instagram, and Pinterest.

All four SNS platforms were represented among the twelve participants, and every participant used at least two SNSs regularly during the data collection. Facebook was the most commonly used, with Instagram following closely behind. Pinterest was also used by over half of the participants, and Twitter was not widely used during the data collection. Several women, like Serena and Jenna, spoke of using Pinterest most often related to their diet and physical activity content, but the majority of participants indicated Facebook and Instagram provided much of the content they see or interact with on the topics. There was some variation by topic, though, and for the majority of women, fitness or fitness and diet combined, such as when following a personal trainer who posts both workout plans and meal ideas, was more prevalent than content on diet alone. Fitness and diet/fitness combined content was found most often through Facebook and Instagram posts with attached photos, articles, or video, and diet alone content were found most often through Pinterest boards (e.g. recipes) or in Instagram posts (e.g. meal photos).

All participants mentioned some form of passive engagement with diet or physical activity during SNS use, including reading, skimming, scrolling through, scanning, and checking their newsfeed on Facebook, Instagram, and Twitter, or boards on Pinterest. While doing so, they noted reading articles and posts, seeing photos or videos with captions, and skimming over sponsored advertisements or recommended articles. Many of the participants chose to author posts, tweets, or pins on the subjects. Posts and tweets often included both words and a photo or video with a caption. Participants also shared, reposted, retweeted, or repinned content from other users onto their own SNS profiles. This content was often an article or written post (with and without an attached photo) made by a group, agency, or individual user they follow. While all participants acknowledged creating original content on diet or physical activity at some point as an SNS user, their habits varied during data collection. Emma, Denise, and Jaleesa posted weekly to daily on one or both topics, whereas Bridgett, Serena and Anwar are participants who made very few, if any original posts during data collection.

Overall, although all twelve women found diet and physical activity content within their SNS use, the subject of the content, how they described it, and how the content arrived within their SNS experience differed. I found that many of the women mentioned weight loss and/or inspiration when asked to describe content on diet and physical activity. I also noted a wide variation in the types of things that each woman used to refer to diet (e.g. healthy eating, clean eating, and Paleo) or to refer to physical activity (e.g. CrossFit, cardio, and getting outdoors). Finally, some users in the study described the topics as Emma did, saying it was, “Constant; in my face every day,” while others, like Meg, didn’t “see anything much” related to the topics on certain SNS’s. Depending on *what* they chose to post, as well as *who* the users chose to follow

on all four sites, and the closed groups they joined or pages/agencies they liked on Facebook, the participants had very different SNS experiences.

The three themes that emerged in response to the first research question directly relate to the categories described above: the subject, description, and arrival of diet and physical activity content. Theme one, *Fitness and Nutrition... With a Side of Weight Loss and Inspiration*, describes the tendency of the participants to include content that went beyond what I considered to be more typically associated with diet and physical activity within the data. Theme two, *Participants Voice Two Sides of the Same Coin*, describes the variation of words and phrases the participants used to describe diet and physical activity, and theme three, *Participants Choose Their Own Adventure*, speaks to the way in which the SNS actions of the participants resulted in different experiences with the topics of diet and physical activity. These three themes will be described more fully in the following section.

The Content: Fitness and Nutrition... with a Side of Weight Loss and Inspiration

It was not surprising that in a study on diet and physical activity, the participants talked about, wrote about, and engaged in SNS activity related directly to exercise and eating. It was, however, somewhat surprising to find that when writing about the subject in their journals, and in discussing the topics during the interviews, many of the women also wrote and talked about weight loss and inspiration.

My intention, when selecting the topic focus of this research project, was to be as inclusive as possible and to allow room for the participants to include whatever they considered to be health goals related to the topic of diet and physical activity. Within the participant journal, the women were asked to describe anything they saw or read on physical activity or diet, but as the responses came in the first few weeks, I chose to add to the question during the interview. I

asked about ways in which the topic of fitness *or* physical activity was a part of their SNS use, and similarly with the topics of diet *or* nutrition. I expected to get responses from them that varied, which I will describe in the following theme, but I did not expect to get responses that were, seemingly to me, beyond the scope of the central topics. The subject of much of the content the women described fit directly within the topics of food and activity, but not all of it. Specifically, many women talk about weight loss, progress, or transformation when asked about both diet and physical activity, and several women respond about inspiration when asked about the topic of physical activity alone.

When describing the subject of fitness, most of what the women mentioned fit into ideas for physical activity or completing physical activity themselves. They described getting “workouts,” “workout regimens,” or “ideas for exercises” from pins on Pinterest. They also described watching videos posted by personal trainers, CrossFitters, or healthy people they follow on Facebook and Instagram, and reading posts or articles about fitness on these two sites as well. Jenna said in her journal that during week two she pinned three workout routines for abdominals and core on Pinterest and completed two of them. Denise wrote in her journal and further explained during her interview that she follows certain individuals, like @buffbunny and @bri_getsfit on Instagram, who post examples of workouts and exercises, such as the video of proper form for bicep curls and how to warm up prior to squatting. While observing Jaleesa’s SNS use, I noticed that she often ‘liked’ or commented on the posts made by other CrossFit athletes on Facebook and Instagram. During her interview she said that she follows a lot of athletes and enjoys seeing them “get personal records (PRs) for their lifts” on Instagram. All of these examples showcase the participants’ interaction with content generated by other SNS users that helped them get information and skills on physical activity.

In addition to describing ways in which they got ideas for physical activity, some of the participants included their own content on SNS about their physical activity habits. This content included check-ins from a third party app when working out at a local gym or CrossFit box, selfies or group photos during or after working out, and status updates describing hiking, biking, playing Frisbee or softball, and other activities. Some participants did this often, while others were less frequent or did not post about their physical activity at all. There were no original posts by Anwar and Bridgett. Serena was tagged in a photo swimming with others but didn't post any content herself. Meg tweeted once that her "Fitbit broke" and wasn't counting her steps. Kat posted a photo of herself holding a barbell (with 110lbs) overhead during a workout on Instagram and Facebook. Jessica made a reference to her "new workout buddy" in an Instagram caption, and her sister Deidra included a Facebook status update about walking/running with several people. Jenna shared a 5k run PR via Facebook, and Annie posted several photos and status references to hiking. Denise, Emma, and Jaleesa made multiple posts or were tagged in multiple posts related to working out during the SNS observation. Denise used Swarm to check-in at Anytime Fitness and when playing Frisbee golf. She also shared a Runkeeper app post stating she biked 9.94 miles with her fiancé. Both Emma and Jaleesa were in multiple posts with other CrossFit athletes. Jaleesa was also in a CrossFit competition and posted many photos of the event, and Emma was preparing for a competition and posted several photos of her team preparing together. Many of the women in the study showcased ways in which they were actively involved in physical activity.

Within diet-related content, the women most often mentioned getting ideas for meals and snacks or a specific type of diet with which they were unfamiliar. Ideas for these new meals came in the form of recipes from boards on Pinterest and from photos of meals or meal

preparation on Instagram. Getting information for unfamiliar diets, such as Paleo, vegan, or clean eating came again from recipes labeled by diet type on Pinterest, but also through articles on Facebook and food posts on Instagram labeled with the diet type via hashtag (e.g. #cleaneating, #paleo). Anwar wrote in her journal that she “pinned health smoothie recipes and made a few smoothies.” Although Deidra said she hadn’t thought about “getting recipes on Pinterest,” she does see nutritional posts from “home chefs” on Facebook who show recipes of how to “eat the same things with less calories.” Serena said that she goes on Pinterest several times each week specifically to “look for healthy food or vegetarian recipes.” During the interview, Annie describes how she used Pinterest when her boyfriend changed to a paleo diet. “Being on Pinterest is like Google, you can type something and it will come up with a bunch of options for you to ‘like’ or to try.” She explained that she used Pinterest to, “gain more information and ideas on how he eats.” In the observation I noted that she had a board with Paleo recipes, and during the interview she described creating the board during the time they were learning about his diet, and she explained that now she doesn’t have to “go on Pinterest so much to understand those recipes.” Serena gave a similar description in using Pinterest to find vegan recipes, and Jaleesa also used it when she began the Paleo diet. Kat described the way in which nutrition and Instagram intersect, saying, “The only place I notice anything about people’s nutrition is on Instagram because they will post pictures of their food and list their macros or something to do with food.” Emma is one of those people Kat described, and several times during the data collection she was observed posting food on Instagram, like when she posted a photo with the caption, “@[Instagramuser’s] dinner on top... [pizza] and me prepping for my lunches and dinners on the bottom [chicken, broccoli, rice] #ugh #thinkaboutthedress.” A few of the participants stated that they occasionally read nutrition content, but it was not typical of the

majority. Bridgett, who did not post much content on either topic, stated that she regularly “reads [articles] about food and the best foods to eat in order to achieve [her] goals” that she finds on her Facebook newsfeed from “Eat to Perform,” a page she has liked. These examples help to showcase the way in which the participants engaged with diet through their SNS use.

In addition to gathering information on working out and new meal options, and showcasing their own fitness and meal attempts, the topic of weight loss was inherently associated with diet and physical activity throughout the data. Participants referred to it as weight loss, but also as “success stories,” “other people’s progress,” or “transformations.” These labels referred to some posts made by the users themselves, like Emma and Denise who posted their own progress photos or updates, but were mainly in reference to viewing friends’ posts on Facebook and Instagram or other users’ pins on Pinterest. This was noted in the journal submissions but was most apparent during the follow-up interviews. In her journal submissions, Deidra said that she went on Instagram to read “success stories” and that on Pinterest she sees “a lot of success stories about people who lost a ton of weight.” During the interview, Jessica said that she sees “posts of the regimen they [personal trainers] put people on—the diet or workout regimen or how to burn [a certain amount of] calories.” Denise, who is on a weight loss journey of her own, said that she follows people on Instagram who have already done what she is trying to do, watches “their results,” and messages them to “comment on their weight loss or progress.” Jenna ‘liked’ an example of a weight loss transformation posted by @ToneitUp on Instagram, and Meg mentioned in the interview that even though fitness and diet aren’t a huge part of her SNS use, she does see “pictures of people’s transformations,” and thinks to herself, “good for them.”

Beyond weight loss, another subject that emerged from the diet and physical activity content in all three forms of data collection from some participants was inspiration. Jenna, Jaleesa, and Denise all mentioned in their journal that they find quotes, mainly on Instagram and Pinterest that motivate or inspire them when asked about things on physical activity or diet. Jaleesa said in her interview that one of the ways fitness and nutrition are a part of her SNS use is through motivational quotes she reads on “not giving up and always giving it your all” on Pinterest. Denise gave an example of one such quote in her journal saying that it helped her mentally especially when it comes to going into the weight room when there are a lot of men around: “If we quit every time we felt uncomfortable, we wouldn’t achieve anything.” Emma also said in her journal on week one that she looks for “motivational fitness posts” before she goes to bed. In the SNS observations, Emma posted an inspirational quote related to commitment with a caption that read,

“Wanting to be in the best shape possible is a mindset I’ve always had. However, I constantly was finding myself weak on the will power side. I would not be able to say no to foods that I know would not properly fuel my body. This past week alone I’ve been noticing little changes, and that’s because I have stayed consistent. I won’t lie, there are plenty of temptations around me.. But I have a choice in everything. I choose to stay committed.”

Even though these inspirational quotes did not always explicitly connect to diet or physical activity, for several of the women in the study, the quotes were synonymous with the topics and were a big part of the SNS content they considered connected to their diet and physical activity goals. They included them in their journal responses when asked about diet or physical activity-related content and mentioned them when asked the same thing during the phone interviews.

Describing the Content: Participants Voice Two Sides of the Same Coin

As I mentioned above, my intention when selecting the topic focus of this research project was to be as inclusive as possible and to allow room for the participants to include whatever they consider to be health goals related to the topic of diet and physical activity. From my point of view, I operationalized the term ‘diet’ to refer to eating habits and the food choices, preferences, and patterns of the participants. Similarly, I operationalized the term ‘physical activity’ as exercise habits or the fitness choices, preferences, and patterns of the participants. I also chose, in the phone interview, to state, “fitness *or* physical activity” and “diet *or* nutrition” when asking several of the questions. Based on the participant journal responses, I had a hunch that some participants didn’t connect to the terms ‘diet and physical activity’ in the same way they did ‘fitness and nutrition’ and vice versa, so I used both terms to widen the potential pool of responses. In doing so, not only did offshoot categories of weight loss and inspiration emerge, but so did a myriad of ways to describe ‘diet’ and ‘physical activity.’

The descriptions of physical activity were more numerous than those of diet. Among the participants, Annie stands alone in her description. For her, fitness and physical activity is parallel with being active outdoors. She wrote a lot about wildlife, the outdoors, and nature in her journal, and she mentioned being more active to combat her sedentary day job giving wildlife tours. She went on several hikes during the data collection and called one, “somewhat challenging and a good workout.” At no point did she refer to doing exercises or working out at a gym. To her, the outdoors is a gym, which she reiterates in her journal during week two, saying that a hike she and a co-worker went on “gave [her] the opportunity to go outside on my day off and do some exercise.” Another nuance to the description of physical activity came from the participants who were involved with CrossFit, or had been in the recent past. Emma and

Jaleesa were both actively involved in CrossFit during the data collection. Serena did some CrossFit, but also traveled up to a week at a time for work and did not do CrossFit during the travel. Kat was a CrossFitter, but became employed just as the study began, so she was temporarily not participating due to a move and schedule change. Bridgett, too, was a CrossFitter prior to moving to North Carolina for graduate school, but she still mentioned regularly checking the private group on Facebook from her former box (CrossFit Gym) to find potential workouts she could do at home. When this group of CrossFit athletes spoke of physical activity, it often included the term CrossFit. Instead of saying “workout” or “go to the gym,” they would type or say, “I did CrossFit today” or “I’m going to ‘CrossFit’ after work.” They also used terms like WOD (Workout of the Day) and box (the name of a CrossFit gym) to describe their fitness habits.

These women were also more likely than the other participants to mention weights or weightlifting to describe their physical activity. Jaleesa said in her week one journal entry, “I’m a CrossFitter, so I follow a lot of CrossFit stuff on both Pinterest and Instagram, so those obviously promote physical activity.” In her interview, she mentioned being a part of a closed group with other members at her box and how they used it to communicate with each other: “There was a CrossFit competition [coming up] so people would post in [the group] for updates on WODs or what time teams needed to get there.” She also mentioned that her box would “occasionally share articles about CrossFit” on Facebook. Kat also mentioned the closed group she is in for her CrossFit box, saying that “Stuff like that [diet and physical activity] is constantly popping up.” Several of Emma’s posts during the observation were about or included something related to CrossFit. At one point, she posted a photo with two other women saying that, “Team no thigh gap are getting ready for Battle in the ‘Burg” which was an upcoming CrossFit

competition. The following day she was in another photo on Facebook and Instagram with the same girls with a comment added that they were at CrossFit Chipper, a new home box and that, “These girls were the first to WOD in it.”

In addition to the outdoors, hiking, and doing CrossFit, there were several other ways in which participants described physical activity. Anwar, who used to be more actively engaged in the topic of physical activity on SNS’s, connected it to her previous involvement as a figure competitor and a trainer at Gold’s Gym. Jenna described pinning “exercise routines” when completing her journal, and later, during the interview she described seeing “little workouts” and “ab exercises” on Pinterest. She also talked about going running several times. Denise talked the most about going to the gym and doing exercises. She also used Swarm to check in on Facebook when she was at Anytime Fitness (her gym) several times. During her interview, she described following people on Instagram who, “workout and go to the gym,” and the “personal trainer from [her] gym” who is friends with her on Facebook. Both Jessica and Deidra also mentioned following personal trainers or “healthy people who workout at the gym,” but Jessica also included running, ROTC training, and marching band practice in her explanation of physical activity.

Interestingly, none of the participants except Annie included team sports or other outdoor recreation within the fitness or physical activity category in their journal or interview unless prompted. Serena was tagged in a photo swimming; Anwar, Meg, and Jenna all were tagged in a post or posted about playing or attending a team sport; Denise posted a check-in playing Frisbee golf; and both Meg and Jenna were in a softball league at the time of the data collection. None of these instances were mentioned by the participants in their journals, and neither Jenna nor Meg discussed playing softball until directly asked during their respective interviews. It was

then that they shared about playing in a league and using a closed group on Facebook to communicate with their teammates during the season.

The terms for describing diet, although fewer, were no less distinct than those used for physical activity. One trend in the participants' language was to use "healthy" when referring to snacks, recipes, or meals. Jenna stands out as an example of this trend. In the journal she used phrases such as "healthy diet" pins and posts on "healthy eating" on Instagram. Later, in the interview, she explained that "[fitness tips and] health eating types of things are what I look for on Pinterest," and that she wants to "find healthy recipes that are easy" because she and her parents, whom she lived with for the summer, all have full time jobs. Denise mentions following people on Instagram who "eat healthy." Meg used the health and fitness board on Pinterest during two of the weeks to find "healthy snack ideas" and "healthy snacks and recipes." The actual meaning of "healthy" is not really fleshed out during the data collection. Does it refer to low-fat, low-sugar, or low-sodium foods? Does it refer to the inclusion of more fresh fruits and vegetables, whole grains, or lean meats? It cannot be determined by the responses of the participants in this study, as many of them simply state that they are interested in "healthy foods." Deidra and Kat both specifically mentioned calories when talking about diet and nutrition during the interview, and Kat said in her interview that she sees posts on Instagram of food where people will "list their macros," which are calorie counts by macronutrient group. Bridgett didn't mention anything related to nutrition specifically except that she "likes one or two things related to that" on Facebook. Serena and Annie both referred to types of diets (i.e. paleo and vegan) when talking about nutrition and mentioned looking for recipes and meals for those diets during the interview. They also both emphasized eating whole foods, or clean foods, and cooking more meals from home.

Despite the variation of terms, the women believed they were discussing diet and physical activity, which is why I describe it as two sides of the same coin. Each woman was reflecting on her understanding of and experience with the topics of physical activity and/or diet. Based on their responses, it became clear that their vantage points for these topics were different from one another, as if they were describing the same coin from various angles.

The Arrival of Content: Participants Choose Their Own Adventure

The results of this study highlight the broadening scope of what is associated with diet and physical activity content, and the variation by which the participants describe the content. This final section will describe how the content arrived within the SNS's of the participants and the ways the user controlled the flow of content. During data collection it became very clear that although each participant engaged with the topics of diet and physical activity in their SNS usage, the amount and frequency of such content was very different for each person, and each person was able to control the amount and frequency through their own actions or inactions. I equated it to a choose-your-own-adventure story where the reader can select options throughout the story that thereby affect the outcome of the story.

The women with little to no content on diet and physical activity within their SNS activity had the following characteristics: predominantly passive SNS behaviors, lack of original posts on the topics, rarely sought out the topics, followed or liked very few individuals or groups who engaged in the content, and were not members of closed groups on Facebook. Meg and Deidra are both examples of this type of SNS user. Deidra explained during her interview that she doesn't "really experience any information sharing of fitness or nutrition" and that she "may see some articles every now and then, but not as much posts from people." She also admits that she "[doesn't] post about going to work out" because it's just not something she does. The

observation confirmed that, although she posts on multiple SNS's most days, there were only a few fitness memes posted during the entire three weeks. Meg admitted that she does search for information on the health and fitness board in Pinterest, but beyond that the observation data and interview data confirm very little interaction with the topics of diet and physical activity. She stated that she doesn't see "anything related to fitness or much related to nutrition on Instagram or Facebook." Later in the interview she said she doesn't "comment very often" and that she is a passive SNS user on Instagram and Facebook. She explained, "I am just not an avid poster. I am more on there to look at other people's stuff." Bridgett is another participant who engages with the content in a very limited way. There were very few original posts noted during the SNS observation and none related to the topics of diet and physical activity. During her interview she mentioned that she sees fitness through a closed group page for CrossFit and through certain pages she has liked or subscribed to on Facebook, but when asked about diet she stated that she "[doesn't] subscribe to much with that regard.". She also described her passive approach to SNS use saying it's mainly just her "looking in" and "looking at all the people [she] worked out with ...before we moved, just seeing them and their progress is still motivating."

Anwar, Serena, and Jenna are all participants who, despite few active posts, still saw quite a bit of content on both diet and physical activity because of the people and groups they follow and their habits of searching for the topics on Pinterest. When Anwar was competing in a figure competition and was a trainer at Gold's Gym, she chose to follow athletes and sports brands on Instagram and Facebook. Serena, because of her involvement in CrossFit and interest in Paleo and vegan cooking, has also added friends who have similar interests and has subscribed to a few related pages on Facebook. Jenna searches Pinterest regularly for fitness tips and healthy recipes, and she has followed brands like Nike and Underarmor on Instagram. Both of

these women see content in their Facebook and Instagram newsfeeds that originates from the posts of the people and pages they choose to follow.

The women with a lot of content on diet and physical activity within their SNS activity had the following characteristics: interactive SNS users who regularly post about diet and physical activity, often seek additional information on the topics, followed or liked various individuals or groups who engaged in the content, and were members of at least one closed group on Facebook. Emma, Denise, and Jaleesa are examples of such users. These women described seeing or reading content on physical activity and diet each week of the participant journal. Each one was noted to have posted several diet or physical activity posts each week of the SNS observation, and they all commented or 'liked' the diet or physical activity content of other SNS users, too. In the interview these women described numerous friends on Instagram and Facebook who had similar health goals as themselves, and they each subscribed to pages on Facebook or followed boards on Pinterest related to the content. Again, each friend a user follows or page a user subscribes to adds to the content generated in that user's newsfeed for the respective SNS. The more a user adds diet- and fitness-minded people, groups, or agencies into their social networks, the more likely the user is to see and engage with those topics. Each of these women was also a member of at least one closed group. Denise belonged to a group of other runners, Jaleesa belonged to a group for the members of her CrossFit box, and Emma belonged to three groups; one was for CrossFit, one was for a supplement company called AdvoCare, and a third was called 21-day challenge, which focused on setting health goals.

RQ 2: In what ways do their SNS experiences provide college females with social support for diet and/or physical activity goals?

Overview

Participants were given the opportunity to provide feedback on ways they received support for their health goals from SNS usage in a variety of ways. In the participant journal, which was sent to them online at the end of weeks one, two, and three of data collection, they were asked if they saw or read anything on diet or physical activity that week, whether or not they interacted with a person or group about the content, and to describe whether the interactions supported their goals in some way. During the interview in week four they were first asked what kind of support they look for to help reach personal health goals, and then how SNS use helps to support the goals, if at all. After they responded to those questions, I asked them about each of the five supportive functions, giving generic examples first. If the participant did not respond or wasn't clear, I also prompted with what I had heard them already say during the interview or with something I read in the journal or saw during the observation. For example, with informational support, I explained that it is the type of support that provides information, resources, alternative courses of action, or advice about effectiveness on something, and I asked if this was a type of support they got from their SNS use. If they seemed unsure, or responded in a limited fashion, I sometimes prompted them by saying, "For example, some people mentioned finding recipes on Pinterest for healthy snacks, and that is an example of informational support." I might also say something like, "I noticed you mentioned being in a closed group. Have you ever noticed any kind of information related to your goals being shared there?"

Both the journal responses and the responses to the initial interview questions were limited when compared to the responses they gave after having been educated on the five

supportive functions. The women first described information they received from SNS use as their main type of support, with some indicating that they derive motivation and accountability from their use as well. After discussing the supportive functions, each of the participants expanded on their perception of support to include one or more additional type of support.

After analyzing all the data and comparing the women who perceived less support from their SNS use to those who perceived more, three key themes emerged. Theme one, *Information, Motivation and Accountability Are the Perceived Benefits*, describes the types of support the participants believed they received from SNS use. Theme two, *Supportive Functions Are Active, but Largely Unnoticed*, speaks to the lack of response given by the participants regarding the five supportive functions until it was explicitly asked about during the interview phase of the data collection. The third theme, *Vulnerability Helps, and the Golden Rule Continues to Rule Online*, describes the way in which participants' interactions on SNS use, specifically in sharing their goals and progress and in offering support to their followers, predicted greater receipt of social support. The participants who found more support for their diet and physical activity goals through SNS use shared their goals, progress, and/or needs throughout the data collection phase, and they also liked and commented on health efforts made by other SNS users. The themes are described in greater detail below.

Information, Motivation and Accountability Are the Perceived Benefits

As mentioned in the section above, the participants were given the opportunity to respond on ways in which their SNS supported their diet and physical activity goals in several ways in both the participant journal and the interview. Without any prompts or guidelines on what constitutes support, the women gave examples of information gathering and used terms such as motivation and accountability to describe what they felt was most supportive.

All 12 participants indicated using SNS's for gathering information about diet and physical activity in some way. The most common ways in which this informational support occurred were through recipes, meals, snacks, workout plans, or exercises. Over half described using Pinterest to find recipes that aligned with their health goals. They described both searching for specific types, such as healthy snacks or Paleo meals, and also simply going to the health and fitness board to scroll through pins. Jenna described this in her journal during week one, saying she spent 15-20 minutes on Pinterest scrolling "through follower pins or going through the 'popular' category." She pinned a few items on "healthy eating" to her own boards. The same was true with Serena. During week two she reported having gone on Pinterest five times that week "specifically to look for healthy food or vegetarian recipes." Beyond Pinterest, several women reported reading information on Facebook that supported their goals, and others described getting information through the posts of other Instagram and Facebook users, especially those who were personal trainers or athletes themselves. Denise follows several people on Instagram who have gone through a personal weight loss journey. She reported getting information on how to do an exercise and about stretching through viewing two videos posted by a user she follows on Instagram. Jessica mentioned in her interview that she follows personal trainers on Instagram who post the "diet or workout regimens" that they prescribe for people, and it gives her information for things that she can try for weight loss. Jessica is also one of the few who mentioned that she gets information from Twitter, mainly in the form of advertisements telling about weight loss supplements.

Some of the women also described being motivated by or receiving motivation from their SNS use. The terms "inspiration" and "motivation" were both used in the journals and interviews, sometimes in different ways. The participants used the terms to describe quotes and

emotional statements that bolstered their spirits and also to refer to being propelled to action. They used the terms interchangeably in two ways: to refer to having a better attitude and to indicate a spur to action. Jaleesa provided an example of the perception of motivation, and the dual use of the term. The use of the term is throughout her journal entries, stating that her Pinterest feed is full of “motivational quotes” and that Instagram is “another site that I find to be motivational” because of the athletes she follows. She says the posts “help [her] stay motivated” and that seeing the pictures and comments of herself and others tagged in a CrossFit competition “was definitely motivating.” At the very end of her interview during week four, she continued on the theme of motivation. She summarized her SNS use and its influence on her goals as one that is motivational, saying,

“I think I may have said this in one of my journal entries, but I definitely see my SNS increase when I feel like I am not doing a good job at motivating myself. Sometimes if I am in a really good groove of working out a few times a week and making good choices, then I am not checking in on that stuff [SNS activity] as much, but if I am having a hard time, kind of in a lull and need to pick myself back up, that's where I will go and read the articles, look at the pictures, maybe watch some videos and just try to get myself re-energized. It's like ‘yeah, I really do love being super active and making those good choices. I need to get back into this’ and it's kind of a re-motivator for me.”

Bridgett described SNS influence as one that is not all that supportive personally, but something she uses “for motivation and ideas of what to do on [her] own.” Deidra described in her journal examples of posts she viewed on the topics of diet and physical activity that “give [her] motivation” and that specifically viewing “success stories gave [her] a boost of motivation to keep going and stay consistent.” Kat said that the “transformation pictures” on Instagram

“help motivate [her] to go work out.” Later, during the interview she indicated that motivation was also the main thing she perceived from her SNS use. She described seeing friends on Facebook and Instagram doing physical activity: “I am like ‘Wow, they are doing that? I don’t really have a reason why I can’t be doing that right now, too’ and it kind of helps me get motivated.” Serena explained a similar sentiment during her interview, saying that she is a little competitive and that when she sees, via Facebook, that other people she knows are really physically active, “It’s kind of like a motivator” to “go for that run [she’s] been talking [herself] out of.”

Emma is one of the participants who mentioned the perceived benefit of “accountability” from her SNS use. She said that she increased her SNS usage after setting her fitness goal. She believes having the content posted, “keeps [her] accountable” and that “goals are very difficult for you- that’s why they are goals. If you post them on social media you might get some backlash, or you might get a lot of support from people and sometimes that’s all you need [to keep going].”

When she was training for a figure competition, Anwar began posting all her healthy meals and workouts, and she felt like the support from SNS use kept her accountable during the training. She explains, “When I sent a post I didn’t really so much do it for anyone but me... When I started and saw everyone was commenting and messaging, I was like ‘Oh crap! I have to keep it up because all these people are watching now.’”

Supportive Functions Are Active, But Largely Unnoticed Benefits

Even as early as the first week of data collection, when I compared the SNS observation notes from the week with the responses in the first SNS recall journal page from each participant, I noticed what I labeled a “disconnect” in what the women reported and what I observed. Our

perception of support did not match. The participants' perceptions, detailed above, lacked many of the supportive functions I noted while observing posts, pins, tweets, shares, likes, tags, and comments written on their content. I did not explicitly state the names or definitions of the five supportive functions until the second half of the phone interviews, which was in week four of the data collection. As a result, data collected prior to that point in the study was unaffected by the researcher's influence regarding possible mechanisms of support.

In the journal responses, all of the women gave examples of diet and physical activity content they saw on SNS's each week, but rarely did any one of them indicate that they interacted with a person or group related to that content or that the interactions supported their goals in some way. For example, Jessica reported that she "read about a diet pill on Facebook" and "pinned healthy smoothie recipes and made a few smoothies this week." She also reported no interaction or support, despite the fact that some person or group on Facebook wrote and shared the article on Facebook, and another Pinterest user posted the smoothie recipes that she found, pinned, and used. A second example came from Emma in week two. She describes seeing photos of a friend in a "physique competition" and says that it kept her motivated to see the end result of her goals. She indicated that she did have interaction that week, selecting the "friend" and "encouragement or pep talk" category options, but then described a text conversation she had that week and doesn't mention the SNS images and their support. Lastly, Jenna listed several diet and physical activity examples from her week two and three of the study, including when she "saw a friend use [the] MapMyFitness app" which prompted her to "download the app to track [her] bike rides," but she indicated no interaction or support for those two weeks. When I coded the section of responses, I saw evidence of informational, validation, and emotional support.

While taking notes during the SNS observation, I saw evidence of all five supportive functions. Tangible support was only evidenced twice: once when Annie posted on Facebook asking to “borrow electricity,” which had nothing to do with the research topic, and once when Serena was tagged in a photo showing a health food product she drinks on sale at a local store. Informational support, although reportedly common according to the journal entries from the same time period, were difficult to observe. Emma shared an informational post about CrossFit kids, and she also sought information about a good dentist and was tagged in a post seeking her information about physical activity. There was also a post shared about Fitbit and a pin about an abdominal challenge. If a participant read an article or viewed a photo without sharing it, commenting on it, commenting about it in a new status, or liking it, there is no evidence of the transaction. Evidence of companionship support was easier to find. Jaleesa shared a post about an upcoming 5k run/walk and tagged other people in it, including Meg and Jenna. Kat posted a photo of herself weightlifting, and the comments indicated that her brother, who commented, was her coach; she also commented on a photo asking if other people were attending CrossFit the next day. Jaleesa and Emma were both tagged in teammates’ photos during practice or competition. Jessica posted on Instagram that she had a “new workout buddy,” and Denise checked in at a farmer’s market with her fiancé. There was certainly evidence that companionship existed in real life, but whether or not SNS use facilitated the companionship in some way was yet to be determined until the interviews. Evidence for validation support was somewhat similar to companionship in that I saw the potential during observation, but I had to confirm through the journals and wait until the interviews to clarify. I saw many participants ‘like’ the diet, physical activity, or weight loss content of other SNS users and I also noted that many of the women ‘liked’ pages on Facebook or began following new users on Instagram or

Pinterest related to the research topic. It is possible that following these users provided validation to the participants, and many indicated being “inspired or motivated” by other SNS users in their journal responses, but it was not confirmed as perceived validation until the interviews. Observations of emotional support occurred most often in the form of ‘likes’ and comments on an original post made by one of the participants or on a post in which a participant was tagged. Comments often included “good job” or “proud of you” sentiments from the friends and followers of the women. This happened most frequently on Facebook and Instagram.

After defining each supportive function, and in many cases providing a generic example of it within SNS use, the participants often confirmed my perceptions of support and occasionally added their own additional examples.

All of the participants indicated the receipt of informational support from their SNS use, most frequently through Facebook posts of articles and videos, and from pins related to recipes and workouts on Pinterest. Some participants got the information just scrolling through their newsfeed or checking social media, but others, like Denise and Serena, described going to specific boards on Pinterest or searching key terms to find the information. Bridgett subscribes to CrossFit and reads articles that show up on Facebook, and Emma and Kat both subscribe to Eat to Perform and read articles on diet from that agency on Facebook. Emma, Kat, Jaleesa, Denise, and Bridgett all described getting information from one or more closed groups they belong to on Facebook.

All of the participants also reported getting validation support from their SNS use as well. Many of the women described that the validation comes from seeing images and posts from people in their SNS networks who are pursuing a similar goal or trying to live a similar lifestyle, such as an active outdoor lifestyle, CrossFit lifestyle, or Paleo eating. Bridgett, who had moved

recently from Illinois to North Carolina, was particularly reflective on this point in the interview. In Illinois she was a part of a CrossFit community, one that she still follows online. She felt that SNS use gives her the opportunity to “see that sense of community still,” and that it’s like “being friends with a whole group of people who all do one thing.” Both Emma and Jaleesa, active CrossFitters, feel that this type of support happens through their SNS use and it helps them combat the people around them who question their diet and physical activity choices. Emma said during her interview that SNS helps her to see that “[she’s] not crazy in the fact that [she likes] to workout a lot” and that knowing there are “people in the world that are the exact same way makes [her] feel better about [herself].” Jaleesa explained that, “There are plenty of CrossFit haters out there.” She finds that seeing friends or other CrossFitters getting great results inspires her, and she believes that “It’s good to have that reassurance” that she is on the right track with her own health goals.

Emotional support was reported to be prevalent for those participants who actively shared about their goals or progress online. After I described this type of support during the interview, Kat responded saying, “Oh yeah, I feel like I do this a lot and other people probably do it, too, without even realizing it. I will post a video on there and you almost post it just so that you can get that kind of feedback—just so someone will say, ‘Hey, that’s awesome’ or ‘You did good.’” Denise, who posts about her workouts and weight loss progress on Facebook and Instagram, said during her interview, “I get more emotional support from Facebook I guess because I know those people [more] personally than I do through Instagram.” She explained that on Instagram she does have people comment and also message her to ask for advice, but that on Facebook, “[She sees] more family and friends commenting on my weight loss and telling [her] how good [she looks].” Jaleesa said that emotional support came mainly through Facebook and Instagram,

giving the example of the “positive reinforcement” she got for doing the CrossFit competition. She explained, “People were commenting on my photos or just ‘liking’ things to say congrats and that was really awesome.” Annie, another regular SNS user who posts wildlife, nature, and outdoor activity on Facebook and Instagram, said she definitely gets emotional support from her SNS usage: “If it’s a summit pose or showing a progression of a hike and someone comments, I am going to feel really good about it. Yes, I accomplished it, but it’s also nice if someone acknowledges it.” She put it well, saying, “Who doesn’t like a pep talk or, you know, a ‘good job?’” Other participants reported that they had experienced emotional support, but that it was less frequent and occurred when they took the initiative to post. Only Meg and Deidra said during their interview that SNS use didn’t provide this type of support. Both indicated that it was because they don’t post that type of content.

Companionship was noted especially by the CrossFit athletes, Emma, Kat, and Jaleesa. Each of them was a part of a closed group with other CrossFit athletes who attend the same box. This group page was used for a variety of functions described by the women, but one of the main uses was to connect to other people for an upcoming WOD, open gym time, or competition. Jessica agreed that SNS use could potentially provide companionship support, but that it didn’t for her because she uses the apps GroupMe or SnapChat to tell people about her workouts or find people who want to run with her. Jenna and Meg both used a closed group to coordinate schedules and practices with their summer softball teams as well. Anwar said that when she was more active posting about her fitness competition, SNS’s provided a way for other people to connect with her, either through commenting on a post or through direct messaging on Facebook and Instagram, to plan for workouts, grocery shopping, or meal preparation together. Serena and Annie felt that SNS’s could provide companionship support, but felt that for them, something

online might prompt a conversation that would happen in person, or via text or phone call. For example, Annie saw photos of wildlife or a hiking trail that would prompt her to text a co-worker during her lunch break to ask if they'd like to hike with her that night.

By the end of the interview, after discussing the five supportive functions, Serena felt a change in her perception of support. She said, "I feel like before I talked to you about this, maybe I wasn't aware of all these different avenues that I use to influence me. I never really thought Facebook was [a support], but I think maybe sub consciously or like I just wasn't aware that it does help me more than I thought it did." Jessica had a similar experience during the interview. She is the woman who first responded, "I don't think that it does at all" when asked how SNS use provides support for her diet and physical activity goals, but after describing each supportive function and fleshing out how they might apply to her, she voiced agreement on emotional support derived from Instagram use and the comments she gets on posts, informational support from Twitter and Instagram, and validation support from the other people she follows on Instagram who are on weight loss journeys. At the very end when I asked her, "Is there anything else you'd like me to know about your SNS use and its influence on your goals?" she had a completely different outlook: "My social media connection influences [my goals] because of the people I choose to follow." She attributes the pace of her progress to SNS use, saying, "I think my progress would be slower because you know sometimes when people are on a weight loss journey and they see others who are on a weight loss journey it helps them because they are like, 'If they can do it, I can do it,' and it kind of motivates you to be better than the next person."

Vulnerability Helps and the Golden Rule Continues to Rule Online

Not all of the participants reported experiencing much social support for their diet and physical activity goals from SNS usage. Each woman recognized at least one way that they have

experienced support via SNS use, but a few of the women felt that they received a great deal of support, even more than they realized prior to doing the study, from SNS use. Some of the participants attributed the receipt of support to their own actions and the ways in which they chose to talk about or share their health goals within their SNS profile(s). One of those actions was being vulnerable. Telling the SNS world, their followers, about their health goals and/or the progress they had made toward those goals was a vulnerable act because the goals were personal and sometimes the progress was not linear or what the participant considered successful. Sharing the goal gave their followers a chance to critique it, and/or give their approval. As Jaleesa put it during her interview, “Sometimes the onus is on me to be posting it to give people the opportunity to approve. ...I don’t always do that, but I definitely know that I feel good when I have an accomplishment, that I let myself celebrate it and get that positive reinforcement.” A second SNS action is similar to the golden rule, which is essentially to do things to others that you would like them to do for you. In this case, the participants who reported the receipt of social support for their health goals were also the ones who more often provided support for their SNS followers.

Jaleesa, Emma, and Denise displayed openness to their SNS followers about their personal goals, and they provided social support for other SNS users. Jaleesa posted diet or physical activity content seven times during the SNS observation, was tagged in related content three times, and ‘liked’ or commented on related content posted by other users almost every day. Emma, another participant who reported a receiving a lot of support from her SNS use, said that she has been more active with her usage and her diet and physical activity since she started working toward her fitness goals: “Since I started my fitness goals I find myself having more [SNS] usage... that’s more so to try and hold myself accountable. If people know I am doing

something, they might ask me about it.” Emma posted photos doing morning cardio, CrossFit, and photos of her meal preparation during the SNS observation period. She also included progress, or motivational posts, to let people know her feelings about how the goals were going. Emma is a part of three closed groups on Facebook, and she says that in the AdvoCare group, where “people are constantly starting up challenges,” she and the other members are “all there to support each other and there is no judgment in this type of group.” She is also a part of a closed group for a new CrossFit box, and she describes a back and forth relationship, saying, “I try to encourage them and they also encourage me so it is kind of a good balanced out relationship. They are the best cheerleaders in [my] corner.” Denise believes that she wouldn’t have come as far on her weight loss journey if it hadn’t been for social media and her choice to “put herself out there.” During the SNS observation period she posted diet or physical activity content five times and was noted to ‘like’ or comment on the content of other users several times a week. At one point she said that she “didn’t like sharing a lot” about health-related stuff on Facebook or Instagram. During the interview she said, “I guess I am glad that I put myself out there because I am getting positive reinforcement and positive comments that I don’t think I would have gotten any other way.” She believes it’s a win and that nothing negative has come from putting herself out there. She reports only the benefit of “support I get from people I don’t even know.”

Conversely, several participants did not find their SNS use to be a big support to their diet and physical activity goals, and recognized that their actions also play a role in this lack of support. When asked in the interview how SNS helps to support her health goals, Meg replied, “Hmmm, uhh, I don’t know, I mean I guess I kind of think of those as two different entities. I think of fitness as kind of my own thing, like something I need to work on personally, and social media is kind of like ‘Hey this is what everybody else is doing today.’” Later in the interview,

when discussing emotional support for health goals, she stated, “I don’t really post about that often. I am not one of those people who post ‘#tbt look at my transformation, I lost 12lbs, blah, blah, blah.’ I am just not that kind of person, so I don’t use SNS for most of my support.” She followed it up by saying she is “old school” and that, “If [she wanted] emotional support, [she’d] just talk to someone.” Meg reported informational support from SNS, however, saying that she used Pinterest to find recipes and workouts to support her goals. After I explained validation support, she also agreed that she gets some of that when she sees the transformations of friends on Facebook, and it motivates her to keep going with her own goals.

Meg was not the only participant who reported little support based on her SNS use. While observing Serena’s SNS use, there were no original posts, shares, or pins related to diet, physical activity, or healthy goals, nor were there any observable ‘likes’ or comments on related content of her Facebook friends. Although in her journal and interview she stated that she uses Pinterest to find information on recipes, she stated in her interview that, “Facebook doesn’t help [her] at all” with support for her health goals. She reported using an app on her phone to track her diet goals, but said she would never post about it on Facebook. She explained, “I don’t want people to know that I am that focused [on the goals] or that it’s that important to me.” This statement highlights her preference to keep her goals private. She chooses not to open up and share about health goals to her network of friends online.

Similarly, Deidra reported early in her interview that SNS use did influence her goals, allowing her access to see other people “doing the same thing [she is] trying to do—get healthy and lose weight.” Other than a few examples of informational support and some validation through other users on a similar journey, Deidra said that she didn’t receive any other types of support online. She stated, “I don’t really post, I don’t know why I don’t, but I just don’t really

post about going to work out and stuff like that.” She also said that, although she may see a few articles every now and then on Facebook, she doesn’t experience “any information sharing of fitness or nutrition.” Her sister Jessica said in her interview, “I don’t think that it does at all,” when asked whether SNS use supported her diet and physical activity goals. She is a high user of SNS’s, and posts multiple times on several SNS’s each day, but only a few memes were related to diet or fitness during the observation. This pair of sisters did not share a lot of information on diet or physical activity to their SNS networks, nor did they report interacting with others by commenting, ‘liking,’ or sharing diet or fitness content. As a result, they derived less support for their diet and physical activity goals from their SNS’s compared to some of the other participants.

Anwar was particularly interesting in that she has experienced both sides of support via SNS use (high and low), and she attributes it to her actions. She indicated being vulnerable, or open, about her health goals and progress at one point, and she also stated that she used to provide more support to other SNS users on their diet and fitness goals than she does now. A little over a year ago, Anwar competed in a fitness competition, and prior to the competition she went through a weight loss journey and altered both her diet and physical activity. During the interview she explained, “Back when I did my figure competition I was all about posting my healthy meals and all my workouts.” She further described getting messages from people congratulating her, asking for tips, and making plans to work out together or do meal preparation. During that time, she felt that SNS use was supportive. During the data collection for this study, however, she did not post any content related to diet or physical activity, and she reported very little interaction with the topics at all saying, “Now I really don’t post anything.”

She still got informational support from searching Pinterest for recipes and workouts, but not much else that she considered support.

Summary

After analyzing data from the participant journals, SNS observations, and phone interviews, the results were organized by participant and as a group to respond to the purpose of the study and two central research questions. Participant profile descriptions added value to the results by allowing readers to better understand the individual differences among the participants in respect to their diet and physical activity goals, their SNS use, the ways in which they interact with the topics of diet and physical activity, and their reflections on support. Combining the data gives the reader an overview of how these women, in general, engage with the topics of diet and physical activity through their SNS use and how that use provides support for their health goals. Three themes explain how the participants engage with diet and physical activity: (1) Fitness and Nutrition... With a Side of Weight Loss and Motivation, (2) Participants Voice Two Sides of the Same Coin, and (3) Participants Choose Their Own Adventure. Another three themes explain the ways in which the SNS experience of the participants provided them with social support for their diet and physical activity goals: (1) Information, Motivation and Accountability Are the Perceived Benefits, (2) Supportive Functions Are Active, But Largely Unnoticed, and (3) Vulnerability Helps, and The Golden Rule Continues to Rule Online. Chapter 5 will provide a summary of the study, followed by the conclusions and a discussion of the results, and detailed recommendations for research and practice.

CHAPTER 5

SUMMARY, CONCLUSIONS, DISCUSSION, AND RECOMMENDATIONS

Summary of Study

In this study, I set out to better describe the phenomenon of receiving social support in the online SNS environment, specifically for college females with health goals related to diet and/or physical activity. I recruited a convenience sample of 12 female SNS users who fit specific criteria (i.e. age, college enrollment, use of SNS, and current diet and/or physical activity goals). These college women represented various vocations, ages within the delineated age-range, educational levels, and geographic locations in the U.S. During a 28-day period I gathered data on their health goals, general SNS usage, the presence of diet and physical activity content within their SNS's, and the perceived support received from their SNS use. I did so using three different methods, the first of which was having the participants fill out a weekly journal page at the end of weeks one, two, and three. The second method was connecting to their SNS's and observing online activity for each woman in weeks one, two, and three, and the third method was conducting a semi-structured phone interview with each woman during week four. While collecting the data, I began to organize it by participant during weeks one through three, and at the end of data collection I wrote a detailed participant profile for each woman. In each profile I detailed diet and physical activity behaviors, SNS behaviors, engagement with diet and physical activity online, and perceived social support for each participant.

After organizing and analyzing the data by participant, I went through the data by type (i.e. journal entries, SNS observation notes, and interview transcripts), coding and developing themes to respond to the central research questions, which were how the women engaged with the topics of diet and physical activity in SNS use, and how this use provided social support for

their health goals. Much of the coding was open coding, but from the literature on social support (Cohen, Underwood & Gottlieb, 2000), the five closed codes for supportive functions (i.e. informational, tangible, companionship, validation and emotional supports) were used as well. While analyzing the codes, themes emerged in response to each research question. My first research question was, “How do college females engage with the topics of diet and/or physical activity during their daily social networking site usage?” After reviewing the data, I identified three themes to respond to this question. Theme one, *Fitness and Nutrition...With a Side of Weight Loss and Inspiration*, describes the tendency of the participants to include content that went beyond what I considered to be more typically associated with diet and physical activity within the data. Theme two, *Participants Voice Two Sides of the Same Coin*, connects to the variation of words and phrases the participants used to describe diet and physical activity, and theme three, *Participants Choose Their Own Adventure*, speaks to the way in which the SNS actions of the participants resulted in different online experiences with the topics of diet and physical activity.

After reflecting on the second research question, “In what ways do their SNS experiences provide college females with social support for diet and/or physical activity behaviors?” three themes emerged. Theme one, *Information, Motivation, and Accountability Are the Perceived Benefits*, describes the types of support the participants believed they received from SNS use. Theme two, *Supportive Functions Are Active, But Largely Unnoticed*, speaks to the lack of response given by the participants regarding the five supportive functions until it was explicitly asked about during the interview phase of the data collection. The third theme, *Vulnerability Helps, and the Golden Rule Continues to Rule Online*, describes the way in which the participants’ interactions on SNS’s, specifically in sharing their goals and progress and in

offering support to their followers, predicted greater receipt of social support. The participants who found more support for their diet and physical activity goals through SNS use shared their goals, progress, and/or needs throughout the data collection phase, and they also liked and commented on health efforts made by other SNS users.

Conclusions

The purpose of this study was to describe the ways in which social networking sites (SNS's) provide college females with social support for their diet and/or physical activity goals. The project was guided by two overarching research questions, (1) *How do college females engage with the topics of diet and/or physical activity during their daily social networking site (SNS) usage?* and (2) *In what ways do their SNS experiences provide college females with social support for diet and/or physical activity goals?* The conclusions respond to the questions and overall purpose and are as follows:

1. The participants of this study engaged with the topics of diet and physical activity regularly during their personal SNS use on Facebook, Instagram and Pinterest. They did so both passively, by scrolling, reading, or watching, and actively, by commenting, liking, pinning, posting, or sharing. There was a spectrum of use noted, where some participants engaged in primarily passive SNS use while others engaged in primarily active SNS use patterns.
2. Diet and physical activity were described differently by the participants in the study, and weight loss and inspiration were included by the participants within the topics of diet and physical activity.
3. The selection of friends, or connections within their SNS profiles, impacted the amount to which participants engaged with diet and/or physical activity content. Participants

who followed specific people, groups, boards, or agencies that posted diet and physical activity content were more likely to report regular interaction with such content during their daily SNS use.

4. Participants received three general types of support for their diet and/or physical activity goals from SNS use: (1) Getting new information, (2) receiving motivation, and (3) providing accountability for their goals.
5. The women were unaware, to some degree, of the support they received via SNS use.

After I discussed the five supportive functions used within this research project with each participant, the women identified additional types of support.

6. Participants who shared their goals with their SNS followers, updated their followers on their progress, and asked questions to their followers within SNS's, also reported receiving the most support for their diet and/or physical activity goals from SNS use.

The conclusions of this study highlight current SNS practices in college females, related to the topics of diet, physical activity, and their connected behavior change goals. The conclusions may better inform planning and implementation of diet and physical activity health behavior programs that include an online, social component. Overall, I concluded that college women who participated in this study are using their SNS's to engage with the topics of diet and physical activity already and that they do find some social support from this use that helps them to reach their related health goals. The ways in which they already engage with the topics and the types of support they most often perceived as helpful for their goals can serve as a guide for health educators as they seek to better understand the online social environment and navigate ways to incorporate SNS use into information gathering, program planning, and administrative practices for health education and health promotion behavior change. Specific recommendations

for health education and health promotion practice and for research will follow the discussion below.

Discussion

The conclusions of this study bring up a number of implications, which are fleshed out in this section. An attempt is made to connect the implications back to the broader literature within health behavior and the social sciences.

Social network site use trends and patterns were identified from this research project as they related to the topics of diet and/or physical activity. Overall, the SNS usage of these participants reflected that of the general young adult population. Duggan, Ellison, Lampe, Lenhart, & Madden reported social network usership by 18-29-year-olds as 87% Facebook, 37% Twitter, 53% Instagram, and 34% Pinterest in 2015, and noted that multi-platform use is on the rise with 52% of online adults using two or more social media sites. The women in this study all reported use of more than one SNS, and Facebook and Instagram were the most used of the four sites. Participants engaged with the topics of diet and physical activity regularly during their personal SNS use on Facebook, Instagram, and Pinterest. They did so both passively, by scrolling, reading, or watching, and actively, by commenting, liking, pinning, posting, or sharing. There was a spectrum of use noted, where some participants engaged in primarily passive SNS use while others engaged in primarily active SNS use patterns. This spectrum is similar to what a researcher in Norway found in a longitudinal study identifying five distinct types of social network users: sporadics, lurkers, socializers, debaters, and advanced (Brandtzaeg, 2012). Brandtzaeg also noted that females were more likely to be SNS users than males. These SNS usage trends are naturally occurring within the online social environment of the college women in this study, and knowledge of such trends gives researchers and program planners more

information regarding the current SNS behaviors, which is a helpful component when identifying channels for marketing, program recruitment, or strategies in health communication.

The topics of weight loss and inspiration were identified by participants when asked about diet and physical activity content. Additionally, the topics of diet and physical activity were described differently across participants. For several of the women in this study, weight loss was their goal, and the diet and physical activity behavior changes were a means to an end. This finding is consistent with trends identified in the National College Health Assessment, in which 56% of women reported exercising to lose weight and 40% reported dieting to lose weight in the 30 days prior to taking the assessment (NCHA, 2013).

Other participants had goals specifically to make changes in their diet and physical activity behaviors. Furthermore, some participants identified inspiration as essential to their diet and physical activity goals. This amount of variation among participants regarding what defines diet and physical activity, and what types of goals are included in the scope of the topics, may translate into difficulty for program planners. Researchers conducting a meta-analysis conducted with existing data reports on physical activity behaviors in college students found that only between 40-50% of college students are active, and that overall, health and physical activity professionals working in higher education have not been able to increase healthy behaviors (Keating, Guan, Pinero, & Bridges, 2010). When college students themselves, like the women in this study, have differing views on how to define health behavior areas, and have varying ways in which they shape their goals, it might influence program outcomes. There is value in clarifying, from the participants' standpoint, just what they mean when they set out to change their diet or physical activity behaviors. Program developers may need to include a broader scope or range of program objectives and/or strategies to accomplish the outcomes and

accommodate the various directions that participants want to take their behavior change, instead of having a formulated approach to health education programming. The data indicates that taking a Health at Every Size (HAES) approach, particularly in programming for college women, may be more effective than the traditional approach that emphasized weight and weight loss (Reel & Stuart, 2012; Bacon & Aphramor, 2011).

Women who reported seeing and engaging with the topics most often were ones who followed specific people, groups, and pages related to diet and/or physical activity. The SNS connections of these participants were not limited to people they knew in real life. This connects to the research on SNS use done by Duggan, Ellison, Lampe, Lenhart, & Madden, who explain that users connect with a variety of people via social media, including family members, current and past friends, work colleagues, parents, neighbors, and people they have never met in person (2015). The women in the study reported various types of support and content derived from family and friends, as well as individuals or agencies with whom she was not acquainted with beyond SNS use. SNS users have an influence on their own likelihood of getting support through their actions. They can affect the content of their own online social networks greatly and have the opportunity, as several mentioned, to put themselves around like-minded individuals or people with similar goals.

With the emergence of social media, or Web 2.0, researchers note that the opportunity for providing social support for health behaviors through the online social environment emerges as well (Vaterlaus, Patten, Roche & Young, 2015). Oh, Ozkaya & LaRose (2014) noted the influence of social networking sites on social factors and life satisfaction in the general adult population and Hale, Hannum, & Espelage (2005) found that tangible support, disclosure, belonging, and social intimacy were the social support components experienced in their study

examining the association between social support and physical health in a sample of 247 college students. When asked, the participants in this research study identified receiving three general types of support for their diet and/or physical activity goals from SNS use: (1) Getting new information, (2) receiving motivation, and (3) providing accountability for their goals.

Information, motivation, and accountability are major types of SNS support for health goals.

The experiences of social support described by the participants relate to several of the constructs in the social cognitive theory (SCT), namely, behavioral capability and observational learning (NIH, 20005; Baranowski, Perry & Parcel, 2002). Women in the study described receiving new knowledge from SNS use that aided them in making diet and/or physical activity changes, for example, by searching Pinterest for healthy recipes or workout tips. This action is similar to the construct of behavioral capability, which refers to knowledge and skill to perform a given behavior (Baranowski, Perry & Parcel, 2002). Several of the women also described observational learning, or acquiring new behaviors or information through watching the actions or the outcomes of others, similar to themselves (NIH, 2005). This observational learning is highlighted by following other Instagram users who are in the process of making diet and exercise change. Through the photos and videos on the users' profile, the women were able to watch the progress and pattern their own behavior changes to follow. Bandura (2004) discusses the potential for "interactive computer-assisted" media to provide a means for "informing, enabling, motivating, and guiding people in their efforts to make lifestyle changes." He further states the media, "promote changes by "informing, modeling, motivating, and guiding personal changes (Bandura, 2004, p. 150)." The conclusions of the current study align with his statements in finding that the women identify receiving information, motivation and accountability for their

health behavior change goals through the use of SNSs, which are computer-assisted, interactive media.

Despite the responses given by the women in this study regarding types of social support, they each were unaware, to some degree, of some of the support they receive via SNS use. After being told more about the five supportive functions during the follow-up phone interviews, all of the women in the study identified additional types of support they receive via SNS use. This is reflected in what little we know about the influence of social media on young adult health behaviors. Researchers Vaterlaus, Patten, Roche, & Young conducted focus groups with young adults to find out their perceptions of social media and its influence on their exercise and diet health behaviors (2015). Participants indicated that its influence was both a barrier and a motivator. Motivators for physical activity included the provision of specific apps (e.g. Nike, map my run); access to new exercise; following pages or organizations on Facebook, Instagram, Twitter, or Pinterest for motivation; seeing other people's accomplishments (e.g. #transformationtuesday); progress in specific exercise programs like CrossFit; motivational quotes that increased personal desire; and wanting to look their best in the pictures they post/share on social media. Motivators for diet were identified as new recipes or ideas for meals; posting photos of food; selfies of weight loss from other SNS users. These findings relate to the categories of functional support used to analyze the data from this study. Researchers predominantly agree that it is the perception of support, and not just the actual receipt of such support, that is key to the function of social support (Cohen, Underwood & Gottlieb, 2000; Heitzmann & Kaplan, 1988; Tay, Tan, Diener & Gonzalez, 2012).

Participants who shared their goals with their SNS followers, updated their followers on progress, and asked questions to their followers within SNS's, also reported receiving the most

support for their diet and/or physical activity goals from SNS use. The women who reported the most support are the ones who chose to share their goals, their progress, and their questions or needs with others online and who offered support for the health goals of others within their online network. This pattern describes reciprocal determinism at work in the online social environment. Reciprocal determinism, an important concept in social cognitive theory, examines the causal relationships between these factors, proposing that behavior is a function of person (internal factors) and environment (external factors) each acting upon the other (Harackiewicz & Kihlstrom, 1990). It is further defined as a dynamic interaction among a person, the behavior, and the environment in which the behavior is performed (Baranowski, Perry & Parcel, 2002; NIH, 2005). This gives insight into the ways in which participants find social support from the SNS's they are already a part of, and again gives an opportunity for health education specialists to adapt their program planning and implementation practices to better accommodate and facilitate what is happening naturally.

Discussion Beyond the Study Conclusions

While conducting this research project several ideas arose that seemed insightful. These were not directly related to the central research questions, and therefore not essentially housed within the study themes and findings, but were noteworthy nonetheless. First of all, while collecting data via online methods and observing SNS use from an insider's perspective, I continually wondered about ways by which to do it better, both in terms of logistics and in terms of ethical considerations. Furthermore, as I analyzed the data, I began to use several codes that symbolized a relationship or a relational component, (i.e. passive vs. active, disconnect, and lack of interaction) which made me question the potential backlash the online social environment may be causing in our human interactions and relationships.

Using SNS for Data Collection: Logistics and Ethical Considerations

When setting up the methods for data collection, as described in section three of this paper, I consulted research papers describing use of social media in general and its use specifically for data collection. Additionally, I had an insider's perspective on each SNS because I use all four of the platforms in this study myself, and I tested the study materials and methods with two college females prior to conducting the full research project. Despite these preliminary measures, I still found that there were logistical pieces and ethical considerations that needed to be worked out during the data collection phase.

First of all, I found that becoming an insider and viewing the data from within the participants' actual social network is more beneficial and is as close to the natural setting in online observation as a researcher can get. Having a Word document or some other form of text-only display showing the users' posts, status updates, tweets, etc. is not the same as being able to see them on the users' profiles and connected to the 'likes' and comments of other users. Because there were so few participants, it was manageable to check into the site once a day and still see their use patterns. Facebook, for example, will allow friends to see what each other has posted, but also what they 'liked' and commented on. These actions show up in the combined profile newsfeed. My research profile only included 12 people, so the list was quite small each day, but if I had been following a larger group of participants, I would have had to log in and check the newsfeed more often to observe behaviors such as 'likes,' comments, and subscriptions to new pages or the addition of new friends. This level of interaction is similar on Twitter and Instagram. Following someone allows you access not only to their posts and shares, but also to the other activity they do in pinning, 'liking,' and adding new friends. With a small participant pool, I was able to log on just once a day and see these behaviors, but with more

friends, not all activity for each person would be saved for 24 hours, resulting in the need to log in and observe more often. It is possible to change preferences in some of the SNS's, however, so that followers are not able to access your activity log, thereby not allowing for the observation of 'likes,' scribbling, or commenting. I did not ask each participant about their preferences, so I cannot be certain that I was observing all their behavior. Facebook allows for closed groups, which only members can access, and all four sites allow for direct messages to other users, which other friends cannot access or observe. I tried to ask about these behaviors during the interview, but it requires considerable recall on the part of the participants.

There were other small problems I found. First, Instagram offers additional features when used on a mobile device and in app form that are not available through a traditional computer. On the mobile app, users can view the list of their friends' other followers, and they can see the recent activity of their friends and followers as well. Another problem came from having both a research account and personal account for each of the four SNS platforms. Several times throughout the study, for example, I inadvertently shared a photo to the wrong Instagram account (which I promptly deleted) because my mobile phone was confused as to which account I preferred. To mitigate this, I deleted all personal accounts from my mobile device during the data collection and only logged in from a computer. I also had difficulties in getting the computer to use the research accounts instead of my personal SNS accounts, but this issue was easier to navigate on a computer than with the smart phone. Additionally, because of Google's integration, when I chose to open up my research accounts and connect them to a Google email account, I had several friends from my personal Google accounts request to follow the research accounts. I noticed this particularly on Instagram. I have seen, during personal use, a message come across Instagram saying, 'Your Facebook friend, "[insert username here]," has joined

Instagram as @[username],” and I believe that is what happened when I opened new SNS accounts for the research project. Since I had all accounts set so that I had to approve all friend requests, I was able to block all non-participants, but it could have been an ethical issue had I not set that feature beforehand within each account.

Lastly, another ethical consideration, due to the use of SNS sites for data collection and the logistics of their use, was how to present the data without breaching the confidentiality of other SNS users who were not in the study. When the women signed the waiver indicating informed consent to participate, they had the option to select that they agreed to my use of quotes, comments, shares, posts, etc. that they put on their SNS. In reality, that data is intertwined with the names and images of other users who did not sign the consent form, so I opted in most cases to be very selective with the use of images and posts. I felt this was a good choice ethically, but that it did not showcase the data as well as it would have if I could have used 5 to 10 images per participant to represent their use and engagement with the topics online. There is certainly a need, as I mentioned above, for continued research into best practices for gathering data from SNS use.

SNS Backlash? Our Changing Perceptions of Interaction

Social networks have traditionally been just that, a web of people that enhance each person’s opportunity for relating and interacting with one another. Typically, the term “social network” has been applied to a network with a vocational or personal setting in real life. People can use and grow these networks through face-to-face interactions at conferences or professional gatherings, school functions, or neighborhood meetings where real-time exchanges take place. When the real-life boundary gets stretched to include the online social network, and social

networking sites like the four used in this study, what does it do to the nature of ‘networking’ and real-time interactions with individual people?

As I analyzed the data, I began to use several codes that symbolized a relationship or a relational component, (i.e. passive vs. active, disconnect and lack of interact) which made me question the potential backlash the online social environment may be causing in our human interactions and relationships. For example, I found that in their journal responses, participants rarely described their use as “interactive.” In fact, it was noted fewer than 10 times from all 12 participants across the three weeks of data collection. I found it hard to believe that the participants did not consider it interactive when they searched for a recipe on Pinterest, for example, and then found one and pinned it to their own board. Personally, I would consider it an interaction with my neighbor if I went to her house to ask her about healthy snack recipes, wrote down what she said, and put it in my recipe box at home. Somehow, even though behind every pin on Pinterest is a pinner, and the participants had to go to that Pinner’s profile or board to access the recipe in order to take it and pin it on their own profile, they consider this less interactive. I think the lack of real-time exchange with another person is part of it. Somehow the social factor gets lost and the SNS user feels as if they are, in a way, just providing themselves with information, forgetting the user behind the information who created and shared it for them to retrieve or read or watch or see.

The other term I found myself using during coding was “passive vs. active,” and it referred to the type of SNS user each participant seemed to be, based on my observations. While analyzing the data, I would indicate a span of days when there was “no observable activity” for a participant, meaning they hadn’t posted new content, ‘liked’ or commented on someone else’s content, added a new follower, or subscribed to a new page or board. From reading the journal

entries, I knew these women were using their SNS's, but what they were doing was what I labeled "passive" use. Later as I went back to read over the language of the journals and what was used in the interview transcripts, I pulled out phrases like, "checked," "scanned," "scrolled," "saw," "watched," "looked at," and "searched," and housed these all under the category of passive use. Conversely, "posting," "tweeting," "sharing," "retweeting," "pinning," "liking," "subscribing," and "commenting" were all housed under the category of active use. This passive use, which very much permeates the type of use common to these SNS users, seems very contrary to real-life social support. If in real life one of these women went to a professional conference in her vocational field, and during that conference she stood, watched, sat, listened, and ate (all passive functions), would she have expanded her professional social network at the end of the meeting? She certainly would not expand her network as much as her co-worker who chose to discuss, meet, mingle, and exchange business cards with others in attendance at the meeting. It is concerning that an SNS user can effectively expand their online social network without actually practicing or developing the skills it takes to expand one's network. I believe that there is a need to continue to explore the nature of the online social environment and to better understand its role and function in our real-world relationships and interpersonal skills.

Recommendations for Health Education and Health Promotion Practice

The findings of this study highlight current social media practices in select college females, which may inform the planning and implementation of health behavior programs that include a health behavior change in diet and/or physical activity, as well as ones that include an online, social component. It is a descriptive qualitative that employs qualitative methods of data collection within a group of 12 college women. The results are not meant to be extrapolated to all college women who meet the study criteria, but they are meant to be transferrable so that

concepts highlighted in this study may prove useful when applied to health education practice. The results do not point to specific, conclusive courses of action, but they do provide rationale for additional considerations within current health education/health promotion practice, and they have implications that align with several of the responsibilities for certified health education specialists.

Data collection for assessment and evaluation

Normative beliefs are a construct in health education theory, and the results of this study suggest that college women are using more than one SNS daily and finding information and validation related to their health goals from such use. This validation support, which was identified by participants as being particularly present within their Facebook and Instagram use, gives them constant access to the normative beliefs their peers have related to diet and physical activity. The theory of planned behavior, an interpersonal theory used in health education and health promotion, identifies normative beliefs as an important construct in understanding an individual's intention to perform a given health behavior (McKenzie, Neiger & Thackeray, 2013). This implies that SNS use is a potential channel for the development of normative beliefs, and one that health educators could include while collecting assessment data, as well as evaluation data as it relates to diet and physical activity behavior change in college women.

The results of the study highlighted that the topics of diet and physical activity were described differently across participants. This is important for those conducting assessment and evaluation in health education and health promotion programming. When gathering data related to diet or physical activity, health educators need to be aware of the varied meanings of these terms to the general public and determine the ways in which those variations could affect the data.

Planning and implementation

As stated in the conclusion section above, the results of this study highlight the ways in which college women engage with diet and physical activity online and how they receive support for their behavior-change goals. All of the women in this study used two or more SNS sites regularly and engaged with the topics through these networks in some way. These women all identified informational support and validation support through SNS use, even when they generally didn't use SNS to acknowledge their health behavior-change goals. As such, this provides a rationale for program planners to continue to seek ways to access and shape these natural online SNS channels for use during behavior-change interventions with college women. Historically, health professionals have had difficulty impacting the health behaviors of college students. Researchers conducting a meta-analysis with existing data reports on physical activity behaviors in college students found that, overall, health and physical activity professionals working in higher education have not been able to increase healthy behaviors (Keating, Guan, Pinero, & Bridges, 2010). These same researchers found a lack of, and multi-level, behavior-change approaches in current college student literature, and indicated a need to further focus on activity patterns and the determinants of the health behaviors of college students (Keating et al., 2010). Health educators should include program strategies to better incorporate the existing SNS use behaviors of information seeking, and to encourage more sharing goals and progress in online forums among college women who have diet and physical activity goals.

Communicating health education and acting as a resource for health education

Health educators must expand their use of SNS as a channel for health communication and marketing efforts. All of the women in this study received some kind of informational support via SNS use, but it was not from health education specialists. It came from their friends and family, from online health bloggers, from aspiring personal trainers, from media sources like magazines and local news agencies, and from many for-profit agencies and sports brands. Very few, if any of the sources of those articles, videos, blogs, recipes, workouts, etc. were created by or with the guidance of health education specialists.

When I went through an undergraduate professional preparation program in community health education from 1999-2003, I was instructed in the development and use of print materials for health promotion. Gone are the days of creating a print brochure, flyer, or program manual. Our population, especially the younger generation, is already accessing most of their information online. It is our opportunity to be more proactive in creating, guiding, and sharing this information via a medium that this population actually uses.

Administering health education/health promotion programs.

Health educators who are responsible for planning and administering programs, should consider potential online partners when developing a list of personnel resources. SNS users have a significant influence on their likelihood of getting support through their own actions. They can affect the content of their own online social networks greatly through the people, groups, pages, and boards they choose to follow, and they have the opportunity to put themselves within a network of like-minded individuals or people with similar goals. Based on this finding, program developers might consider how they build in the opportunity for participants to connect to a more supportive and informative online environment. Giving participants guidance on how to add friends and followers on SNS's, developing group pages for participants to join, or offering

updated lists of existing groups, users, or boards they might connect to could prove useful in behavior-change programming. One of the roles in administering health education programs is to identify stakeholders, key leaders, and other personnel instrumental in carry out the program.

I believe the results of this study provide rationale for the inclusion of virtual partners, ones that have already secured a place within SNS's and have a reach to potential participants in the online social environment. As I mentioned above, the general population of college students is already online and seeking information and other sources of support through SNS channels. We can have a more direct role in the supply of that information and use the features and functions of these channels within behavior-change interventions. Our virtual partners may already have a SNS presence, web-based materials and followers. While many health education agencies, namely local, regional, and even some at the state level, do not have the funding or technological expertise to do replicate this work, we may be able to better achieve these changes through partnerships.

Recommendations for Future Research

Defining the Online Social Environment

We health education researchers need to better understand the online social environment and its potential for use in assessment, program implementation and program evaluation. The social environment has become an area of exploration in the past few decades, with research being conducted on social determinants of health, social networks, social capital, and, like the focus of this project, social support. Since the advancement of computer and Internet technologies in the 21st Century, that social environment has been extended. In 2013 researchers conducted a systematic review related to all literature on the intersection of Web 2.0 and health from 2004 on, finding 514 unique publications. Of these, 267 were classified as commentaries

and reviews, 213 as descriptive studies, and just 34 as interventions (Chou, Prestin, Lyons, & Wen, 2013). These researchers note that Web 2.0 technologies have significantly changed the health communication landscape, and that more research is needed to answer the critical question of how the current Web 2.0 environment affects health attitudes and beliefs (Chou et al., 2013).

As such, there is a need for additional research that helps to understand the evolving social influences and the extent to which they influence health behavior patterns within this population. Defining the online social environment, which includes, but is not limited to, social networking sites described in this research project, is essential. Researchers need to find out more about this online social network, to define it and who is using it, and to determine what they are using it for so that we can continue to grow in our ability to create health education and health promotion programs, as well as assessment practices that are relevant and in line with what the younger generation of the population is doing. Overall, as the authors of one commentary note, emerging adulthood is a developmentally unique life-stage when one's family and social network begin to shift, and the establishment of independence and healthy behavior practices that prevent chronic disease into adulthood are critical (Nelson, Story, Larson, Nuemark-Sztainer & Lytle, 2008).

Understanding Channels of Social Support

We health educators need to better understand the ways in which social support operate through online SNS channels for various segments of the population. We also need to research the degree to which these natural channels of support can be used to increase health behavior change program outcomes. The results of this research project illuminate examples of social support naturally occurring in the online SNS environment for college women, thereby adding to the body of literature about ways in which social support may influence health outcomes. More

traditionally, the categories of social support were formed around family, friends, significant others, co-workers, neighbors and other individuals and groups found within the actual (i.e. bound by physical location) social networks. Research on social support for health behaviors indicates the benefit of social support among women. For example, females noted social support as a factor for both healthy eating and physical activity, but males indicated it as a motivational factor for physical activity only in a 2011 study conducted by LaCaille, Dauner, Kraembeer & Pedersen. Gruber (2008) also researched social influence patterns of both college student physical activity and food consumption habits, noting that females reported receiving greater social support for their diet and exercise.

So, although the current literature base provides a baseline for social support and its impact on women's health behaviors, the research has not been conducted through the channels of social networking sites. Within the online social network, traditional boundaries are blurred. As indicated by the networks of women in this study, social networking sites include people and groups in other geographical regions, people the user previously knew, and others unknown to the individual in real life. Within health education and health promotion research, it is necessary to flesh out what types of support are solicited, from whom, and what perceived value is placed on the information depending on its origin, in order to better understand ways in which professionals can have an impact online.

Reflective Positionality

This research project was very personally and professionally satisfying. I had the opportunity to further scrutinize a set of tools that I use on a daily basis through the lens of a general topic (i.e. health behavior change) in which I am professionally invested. Because I was so familiar with the social networking sites and the topic of health behavior change, however, I

felt that I had to constantly check my bias during data collection, and that strong opinions, feelings, and assumptions arose during the data collections based on how I interact with the topic personally. I am an avid Facebook and Instagram user who follows many health and fitness users, and I do so on purpose in order to shape my online environment so that it will give me the most information and inspiration to continue towards what I feel is optimal health. I use Pinterest to gather and store diet and physical activity information, and I subscribe to various entities on Facebook and read articles about fitness, weight loss, food, food production, and eating for performance on a daily basis. Beyond this SNS use, I am in several closed groups, and I belong to a number of group pages for a few CrossFit boxes. I follow a number of entities and individuals on Instagram as well and often view photos and read captions that relate to my own health journey, and I also share health information on Facebook and occasionally on Twitter. On Twitter, I also follow news outlets, like Huffington Post, and public health agencies, like the World Health Organization and the American Public Health Association. All of my own personal activity influenced the way I viewed the participants' activity. In some ways this helped because it gave me insight into the possibilities, such as the potential for what might come across their newsfeed or wall, and how it might possibly be used to support their health goals. It was also somewhat of a hindrance, though, in that I was aware that not everyone may interact with the content on SNS's the way I do, and even if they did, they might not perceive its value toward shaping their health behavior goals the way I do. For these reasons, the interview was especially valuable in separating my bias in observation and interpretation of participant journals from the perceptions of the participants. Not only was I able to get a fresh look into what they perceived as support near the start of the interview, but later in the interview, I was also able to ask them about my assumptions up to that point. If I perceived that the comments

received under photos they posted offered emotional support, the interview gave me a chance to vet that assumption more fully. Also, if I perceived that a specific person or agency they were following was a source of informational support, I had the chance to ask about that impact in the interview.

Another factor I had to be cognizant of was my personal connection to several of the participants in the study. Of the twelve women in the study, I had interacted with four of them in real life prior to the study. All four women were acquaintances through my involvement in one of two CrossFit boxes in Southern Illinois. One of the four, Bridgett, was someone with whom I'd had very little interaction, and she moved away over six months prior to the study. Kat is someone whom I had coached for several months, and I had seen and interacted with her weekly while at her CrossFit box, but my coaching had stopped prior to the start of the study, and I did not have any face-to-face interaction with her during the study. Both Emma and Serena were members of the same CrossFit box I attended before, during, and just following the study. I had worked out with Emma several times a week for over a year, and we occasionally would interact before or after the workouts, but we did not spend time together outside of CrossFit. Due to conflicting schedules and her summer travel plans, we did not have any face-to-face interaction just prior to or during the study. Serena and I also worked out together at the same CrossFit box, but less frequently than I did with Emma. Kat, Emma, and Serena were all a part of my personal online social network of friends prior to and after the study. The other eight participants were all friends of a friend of mine, and so, in a way, none of the participants were total strangers. This occurred because of my choice to recruit participants through a convenience sample of SNS users using my own SNS's as a starting point for recruiting. For the most part I didn't feel that my connection to some of the participants hindered the study, and if anything it made it easier for

me to interpret some of my observations and to interview them. I was able, for example, to know who was commenting on the users' posts or tagging them in photos. I was also able to prompt them with specific examples during the interview. For example, I was able to remind Emma that she is an AdvoCare distributor, and I asked if she was in a closed group for that and whether or not it provided any of the supportive functions. I was particularly careful not to bring up the study in person, of course, both to those people I knew or to the friends of the people in the study. I did, however, have to be particularly careful in several instances while developing the participant profiles for the results section due to my familiarity with the four individuals. As a result, I was careful to double and triple check that the things I wrote about them came directly from what I read, observed, or heard in the data collection for the study and not from previous interaction. Having access to their SNS profiles helped in the case of the individuals I did not know because I had access to previous posts and photos so that I could develop a deeper sense of who they were and what their online use was like even before the three weeks of observations. This put them on more equal footing with the participants with whom I had already been connected via SNS for several months on a personal level.

In summary, again, I feel as if this project gave me a wonderful opportunity to explore and to think more about the online social network and its influence on the health and wellness of college women, a population with whom I will continue working as a professor in health education and health promotion. I am eager to continue work in the realm of SNS use, identifying best practices for the use of SNS in data collection and identifying ways in which health educators can use the naturally occurring supports within social media to support health communication strategies and health education strategies, resulting in greater success for health behavior change within the college population.

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APPENDICES

Appendix A
Recruitment Messages

Email message: To be sent to personal contacts of researcher with request to post tweet or fb status in a place where female college students might see it and respond.

Good morning everyone-

As you know, I am eagerly working towards the completion of my ph.d. and I have finally been given the go-ahead on my dissertation research! The qualitative research project I'm conducting aims to explore social support for diet and physical activity through social networking sites. This four week project centers on personal health and wellness goals and social media usage of college females.

I'd like to recruit 10-15 participants, so I am emailing to ask for your help. The messages below were designed to be disseminated via Twitter and Facebook. Please share these in a place where college females might see them and respond, and spread the announcement via word of mouth to anyone who might be interested. If you have any questions, please feel free to email me!

Recruitment messages- to be posted and shared or retweeted online.

Tweet: COLLEGE WOMEN: Research on health goals & social media. \$25 gift card for completion. Email HLTHrsrchSIU@gmail.com by June 5th for info.

Facebook Post: “Announcement: College women, your participation is needed for a research study on personal health goals and social media use. All participants who complete the study will receive a \$25 gift card. Email HLTHrsrchSIU@gmail.com by June 5th for more information. Participation is limited- email today!”

Appendix B

Cover Letter and Consent Form

Cover Letter (Sent via email to those who respond to recruitment message)

From: Bethany Kies

Subject: Research Request on social support, social networking sites and healthy goals

To: All Potential Participants

I am a graduate student in health education at Southern Illinois University at Carbondale. In order to complete my doctoral program, I am conducting a 4-week research project to better understand how personal health and wellness goals of young adult women are supported through social network sites (e.g. Facebook, Instagram, Twitter and/or Pinterest). To be a participant in this study, you **must be a female enrolled (currently or during Spring of 2015) at least part-time in a post-secondary institution in the United States AND meet the following:**

- Be between the ages of 18-29.
- Have at least one current nutrition or physical activity related goal.
- Use at least one social networking site: Facebook, Twitter, Instagram or Pinterest
- Use English as the primary language on the above social networking site(s).

If you meet the above requirements, you are eligible to participate in the study. If you choose to participate, there are three things I will ask you to do. First, I will send you a journal to complete. There will be four pages total, one sent the first day to get some background information, and three others sent at the end of weeks 1-3. The journal pages will be Google docs, sent to your email as a weblink, and will take about 10 minutes to complete. Secondly, I will ask for your consent to *friend* or *follow* you on the social networking sites you use regularly. This will be during weeks 1-3 ONLY. Finally, during the last week of the study I will set up one short interview session with you via Google Hangouts or Google Voice, which will last less than an hour. Each participant who *adds* me (note: not my personal social media sites) on social media and completes the journal pages and one interview, will **receive a \$25 gift card** to the online retailer, Amazon.com.

If you agree to participate, please read and submit the consent form by following the link listed below. The study will begin on June 7th, 2015 and end on July 5th, 2015. ***If you do not wish to participate***, no additional action is required.

Thank you for taking the time to consider participation in this research project!

Bethany Kies, MPH, CHES
hlthsrchsiu@gmail.com

This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be address to the Committee Chairperson, Office of Sponsored Projects Administration, Southern Illinois University Carbondale, IL 62901-4709. Phone (618) 453-4533.
Email: siuhsc@siu.edu

Consent Form (Formatted as a Google Form and sent to participant via weblink from Google drive)

Study Title: Social support, social networking sites and healthy goals: A study of college females

Person Responsible for Research: Ph.D. Candidate, Bethany Kies, MPH, CHES; Faculty advisor, Dr. Roberta Ogletree (SIU Carbondale)

Study Description: The purpose of this research project is to explore how social networking sites (SNS) provide support for the health and wellness goals of college females. Approximately 10-15 women will participate in this 4 week study. If you agree to participate, you will be asked to complete a participant journal and one interview. Each portion of the journal (three total) will take about 10 minutes to complete, and will be submitted online through Google forms. One follow-up interview will be scheduled during the fourth week, via Goggle hangouts or Google voice. It will take approximately 45 minutes. During the study you will also be asked to ‘friend’ or ‘follow’ the researcher’s social networking sites (Facebook, Instagram, Twitter and/or Pinterest). This is for observation only. No posts (e.g. comments, advertisements, shares, or photos) will be made to your social networking site or to that of the participant’s friends and followers. Observation will be limited to participant profiles and pages only, and will not extend to the participant’s network of friends and followers. Upon completion of the participant journal during week three, SNS observation will end, and the researcher will ‘unfriend’ or ‘unfollow’ each participant.

Risks / Benefits: Risks to participants are considered minimal. There will be no costs for participating. All participants who agree to social networking site observation, complete the participant journal pages and interview will receive a \$25 gift card to amazon.com, an online retailer.

Confidentiality: Every effort will be made to keep your responses confidential and no individual participant will ever be identified by name. Data from this study, including the participant journal submissions, interview responses and the researcher’s observation notes will be saved on a password protected computer until data analysis has been complete, which will be no later than August 1, 2015. Only Bethany Kies, and Dr. Roberta Ogletree will have access to the data.

Voluntary Participation: Your participation in this study is voluntary. You may choose to not answer any of the questions or withdraw from this study at any time, and to *unfriend* or *unfollow* the researcher’s on social media at any time. Your decision will not change any present or future relationship with Southern Illinois University.

Who do I contact for questions about the study: For more information about the study or study procedures, contact Bethany Kies, at hlthsrchsiu@gmail.com or Dr. Roberta Ogletree at bobbie@siu.edu

Research Participant’s Consent to Participate in Research (select all that apply):

- ‘I understand that participation is voluntary and I can withdraw at anytime’
- ‘I have read the above information, and I **agree** to participate in this research. I understand that Bethany Kies will collect my journal and interview responses for the study and observe my SNS during three weeks only.’

Additionally (select one):

- ‘I **agree** Bethany Kies can quote me (e.g. status updates, comments, captions, photos, shares, pins) in her final research paper. I understand that my name or identifying information will not be included.’
- ‘I **disagree** Bethany Kies can quote me in her final research paper.’

Participant Signature: _____ Date: _____

Who do I contact for questions about my rights or complaints towards my treatment as a research subject? This project has been reviewed and approved by the SIUC Human Subjects Committee. Questions concerning your rights as a participant in this research may be address to the Committee Chairperson, Office of Sponsored Projects Administration, Southern Illinois University Carbondale, IL 62901-4709. Phone (618) 453-4533. Email: siuhsc@siu.edu

Appendix C
Participant Journal

Participant Journal Page 1

(Formatted as a Google Form in Google Drive, and sent via email in 4 sections)

Directions: This is the first page of the participant journal and it includes questions about you, your diet and/or physical activity goals, and your social networking site use. Please complete each question with as much detail as possible. Thank you!

1. Year in school/major
2. Type of post-secondary education (e.g. 2 year, 4 year, graduate)
3. Race/ethnicity
4. Marital status
5. Parental status
6. Approx. monthly income
7. Height/weight

8. Active social networking sites (list your username for each, or write NA)
 - a. Facebook: _____
 - b. Instagram: _____
 - c. Twitter: _____
 - d. Pinterest: _____

9. SNS usage per day
 - a. Total time (average) _____
 - b. Number of times per day (average) _____

10. Describe your physical activity (or exercise) habits during most weeks:

11. Describe your eating habits on a regular week:

12. Do you have a current physical activity/fitness/ exercise goal?
 - a. If yes...list your goal(s):
 - b. When did you begin this goal/ these goals?
 - c. Describe your progress so far:
 - d. Tell me about the things that have helped you so far:
 - e. Tell me about the things that have gotten in the way so far:

13. Do you have a current diet/eating/nutrition goal?
 - a. If yes... list your goal(s):
 - b. When did you begin this goal/ these goals?
 - c. Describe your progress so far:
 - d. Tell me about the things that have helped you so far:
 - e. Tell me about the things that have gotten in the way so far:

You have completed the first portion of the journal! Within 24 hours, you will receive 'friend request' or 'request to follow' from "HLTHrsrehSIU" in each of the social networking sites you've listed. Later this week, Thursday, you will be emailed a link to another portion of the journal to submit. All journal entries must be submitted in order to be eligible to receive the \$25 gift card.

Participant Journal: Social Media Recall Use

1. Describe your social networking site use this week:
 - a. How long did you use social networking sites and how many sites did you visit each day?
2. Did you see or read anything related to physical activity or diet on a social networking site this week?
 - a. If so, tell me about those things:
3. Did you interact with anyone (group or individual) related to physical activity or diet on your social networking site this week?
 - a. If so, tell me about the interaction (s):
 - b. What kinds of people were involved (select all that apply)
 - i. Friends, family, co-worker, neighbor, mentor/teacher/advisor, stranger, agency/business
 - c. Did any of the following things occur during the interaction (s) (check all that apply):
 - i. Encouragement or pep talks, giving information, receiving information, offering to help with something, chatting or catching up, making plans to hang out, affirming something you did or said
 - d. In what ways did these interactions support your diet and/or physical activity goal(s)? Be specific and detailed, use examples if possible.

* The participant journal for this week is complete. All journal forms must be submitted by Saturday of each week to be eligible for the \$25 gift card. Thank you! Type your email address to confirm submission.

Appendix D
Online Observation Form

**Online Social Environment
Observation Form (Used one per participant)**

Overall Purpose of the Study: The purpose of this study is to describe the ways in which social networking sites (SNS) provide college females with social support for their diet and/or physical activity goals.

Methods: Direct observation of research participants' online social environment within four social networking sites: Facebook, Instagram, Twitter, Pinterest. Observation of posts, tweets, pins, boards, comments, captions, photos, videos, likes, friend lists, shares and other materials found on and associated with participant SNS profiles.

Participant ID:

Date/Time	SNS	Observations	Observer Comments
	FB		
	INST		
	TWT		
	PNT		
	FB		
	INST		
	TWT		
	PNT		
	FB		
	INST		
	TWT		
	PNT		
	FB		
	INST		
	TWT		
	PNT		

Appendix E
Interview Protocol

Semi-Structured Interview Protocol/Questions

Central Research Questions:

1. How do college females engage with the topics of diet and/or physical activity during their daily social networking site (SNS) experience?
2. In what way does their SNS experience provide college females with social support for diet and/or exercise behaviors?

Interview protocol:

Introductory material:

Thank you for agreeing to participate in this research project and to share your thoughts and experiences with me college female and SNS user. I am hoping to get a better understanding of the ways in which social networking sites (SNS) provide college females with social support for their diet and/or physical activity goals. Before we go any further, let's review the consent form that you signed at the beginning of the research study. With your consent, I will record our conversation and take a few notes on paper during it. Is that still okay with you?

Interview questions: Reflecting back on the past few weeks (June 2015)...

I'd like to know about your social media usage in the past few weeks.

1. Was your SNS typical?
 - a. What is typical for you...
 - b. What differences (if any) did you have these past few weeks

I am interested in the topics of physical activity/fitness and diet/nutrition.

2. In what way is the topic of fitness a part of your SNS use?
3. In what way is the topic of nutrition a part of your SNS use?

I am also interested in social support for personal health goals. At the beginning of this study, you listed at least one personal health goal.

4. Has your goal(s) changed in the past few weeks? If so, explain.
5. What kinds of support do you look for to help you reach these personal health goals?

I'd like to find out more about how SNSs provides this support.

6. How does social media use helps to support your diet and/or physical activity goal(s) if at all?

Prompts:

- a. Allows for sharing feelings, expressing concerns or for others to express approval/caring (emotional)
 - b. Provides info on resources, alternative course of action, advice about effectiveness (informational)
 - c. Provide finances, goods, transportation, assistance with cooking or child care, etc (instrumental/tangible)
 - d. Provide partner for sports, competitions, gym-time, cooking, meal prep. (companionship)
 - e. Provides consensus information and norms... figuring out what other people think/believe/do related to fitness and diet (validation)
7. Based on the responses about, who provides this support and does it differ between the topics (PA/Nut)? (peer, family, agency/group, co-worker, mentor)?

I have just two more wrap-up questions.

8. Beyond the SNS discussed in this research study, are you active in other web-based social media platforms because of your diet/physical activity goal?
 - a. What activities do you do on these social media sites?
 - b. How do they help support your goals?
9. Anything else you'd like me to know about your SNS use and its influence on your health/wellness goals?

This is the end of the interview. Thank you for your time today. The research study is complete at the end of the week, and I will send your gift card via web link by Saturday. If you have any questions or additional comments feel free to email me.

VITA

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- Best Presentation in Education (\$200), SIU Research Town Meeting, Carbondale, IL Spring 2012
- Graduate Oral Presentation Award at the Annual Celebration of Research and Creativity, Spring 2011
- Robert Jed Huff Memorial Scholarship Recipient, 2010-11
- Jean L. Foss & Norene A. Smith Organization for Campus Women (OCW) Scholarship, 2010-11
- Charles G. Richardson President's Scholarship for Academic Excellence and Outstanding College and Community Service, 2007
- The President's Volunteer Service Award, 2004

Dissertation Title:

#Socialsupport for Diet and Physical Activity via Web 2.0: A Qualitative Study of College Females

Major Professor: Roberta Ogletree

Publications:

- Kies, B. & Burtis, A. (2012). Current trends in the use of social media for health education and health promotion. *Eta Sigma Gamma Student Monograph*, 29(2), 38-44.
- Kies, B. & Burtis, A. (2013). Assessment of the Training and Continuing Education Needs of a Regional Community Health Education Workforce. *Online Journal of Workforce Education*, 6(2), 1-12.

- Co-author, case study; Gilmore, G. (2011). Monroe On the Go Coalition: The use of photovoice to assess perceived opportunities for physical activity and nutrition in Monroe County, WI in *Needs and Capacity Assessment Strategies*, pp. 261-267. Sudsbury, MA: Jones and Bartlett.
- Recruitment Video (producer), 'Is a Career in Public Health Right for Me?', UW-La Crosse Department of Health Education and Health Promotion, Spring, 2011
<https://youtu.be/XwgTfCRYD3s>