THESIS

EXPLORING FACEBOOK AS AN ONLINE SUPPORT GROUP FOR SMOKING

CESSATION

Submitted by

Stephanie Ashley

Department of Journalism and Technical Communication

In partial fulfillment of the requirements

For the Degree of Master of Science

Colorado State University

Fort Collins, Colorado

Spring 2012

Master's Committee:

    Advisor: Marilee Long

    Donna Rouner
    Kirsten Broadfoot

ABSTRACT

EXPLORING FACEBOOK AS AN ONLINE SUPPORT GROUP FOR SMOKING

CESSATION

This paper employed a quantitative content analysis of the messages posted to a public Facebook page about smoking cessation. The study's population consisted of posts from October and November of 2010, from which a two-week constructed sample was drawn. The sample yielded 118 threads made up of 344 individual posts for analysis. Within the sample, 98 individuals (35 men, 54 women, 9 unidentifiable) served as the unit of analysis. This research explored the types of messages posted on Facebook to see if participants acted in line with gender norms for communicating online and about health. The types of support explored through the posts were informational, esteem and emotional. Results showed that men and women acted differently on the page than traditional gender norms would predict. Specifically, men and women posted to the page at similar rates and both groups used informational support more often than esteem support or emotional support. Smoking status was related to page use; the most active individuals posting to the page were recent quitters and they had a tendency to use informational and esteem support more often than emotional support. Participants also used Facebook's "like" function more often than posting messages containing overt support.

Keywords: Facebook, social support, emotional support, informational support, esteem support, support group, gender communication, smoking cessation

TABLE OF CONTENTS

Introduction

Long from the traditional doctor visits of yore, health information is now at the fingertips of any person with access to the World Wide Web. Many health practices are morphing to adapt to a society that demands information quickly and conveniently. The practice of seeking support for illness and addiction is no exception. From using social media as a support network for weight loss (Christian, 2009) to logging online to help control drinking problems (Cunningham, Mierlo, & Fournier, 2008), people use the Internet as a tool to address their respective health issues and negative behaviors. Among the many risk-inducing health behaviors performed by Americans daily, smoking is one of the most distressing.

According to the Centers for Disease Control and Prevention (CDC), approximately 46 million American adults smoke cigarettes despite the fact that smoking is "the single most preventable cause of disease, disability, and death in the United States" (Centers for Disease Control and Prevention, 2010, par. 1). These numbers break down into 23.1 percent of men and 18.3 percent of women in the United States that continue to partake in this deadly habit that vastly elevates risks to cardiovascular health (American Heart Association, 2010). Perhaps even more frightening is the statistic that almost 450,000 deaths per year from health problems, such as heart disease, cancers, and stroke, can be blamed on tobacco use. Fiscally, tobacco use in the United States translates to around $96 billion in health-related expenses and $97 billion in lost productivity (Centers for Disease Control and Prevention, 2010).

Many programs have been developed nationwide to help lower the impact of tobacco on Americans. In addition to advocating for federal and state regulations and access to resources, the CDC has partnered with many organizations to help make quitting more attainable through worksite-based programs and quitlines (Centers for Disease Control and Prevention, 2010).

1

These programs have the fundamental building block of a support system for the smoker to help increase likelihood of successful cessation. Literature points to social support as a positive influence in smoking cessation programs, showing that individuals with a strong support system have more success than those who do not (Carlson, Goodey, Bennett, Taenzer, & Koopmans, 2002).

The CDC is a major player in the nationwide effort to reduce tobacco use and save lives. Despite a steady decline in tobacco use among adults in the past 20 years, research findings have started to plateau, (Center for Disease Control and Prevention, 2010) thus new and innovative ways of studying this issue should be considered.

Research indicates that time spent on social networking sites (SNS) is growing in all age groups (Lenhart, Purcell, Smith, & Zickuhr, 2010; Madden, 2010). Nearly half of adults ages 50 to 64 are using Facebook and LinkedIn, two popular Social Networking Sites (SNS) (Madden, 2010). The ever-growing popularity of SNS suggests they may be a logical avenue for reaching people of all ages about a variety of health topics.

Although there has been research devoted to studying the role of web-based smoking cessation programs (Barrera, Perez-Stable, Delucchi, & Munoz, 2009), there is a lack of research describing the extent to which Facebook, specifically, may be a natural place for social support to occur. The current study provides useful insight into the extent to which Facebook can mimic traditional offline and online support groups to suggest how public health professionals can harness the popularity of this SNS to create and sustain healthy behaviors and change negative ones.

Literature Review

Social Support

Research abounds giving credence to the idea that social support has a measurable effect on physical and mental health states (e.g., Cohen & Willis, 1985; Drageset, Eide, Nygaard, Bondevik, Nortredk, & Natvig, 2009; Uchino, 2006). An individual's vitality improves with a stronger sense of worth, competence, and self-esteem, all of which are enforced through strong social ties (Drageset et al., 2009). The support of others may also influence an individual's inclination to engage in healthy behaviors such as smoking cessation, diet, and physical activity (Uchino, 2006). In addition, social support has been linked to physiological processes that determine overall health, showing evidence that support systems may have a direct effect on biological functioning (Uchino, 2006). Specifically, social support has been shown to influence cardiovascular health, neuroendocrine function, and immune system processes (Uchino, 2006).

Several theoretical perspectives serve to explain the link between social support and health, drawing from differing disciplines (Berkman, Glass, Brissette, & Seeman, 2000). From sociology comes theory describing social integration, showing a link between the strength of group affiliation and likelihood of committing suicide (Berkman et al., 2000). This research focused on the impact that society can have on the mental and physical health states of its members, as opposed to other research that blamed an individual's psychological state directly for causing physical stress (Berkman et al., 2000). The underlying theory guiding this idea can be applied in different contexts, showing a connection between an individual's overall health state and his/her placement in a social network (Berkman et al., 2000).

The psychiatric field offers the attachment theory, which describes the importance of people forming close bonds at an early age to serve as a foundation and example for later

3

development of social ties (Berkman et al., 2000). Anthropologists have developed social network theory, which posits that the broader social structure places positive and negative pressures on individuals, thus influencing behavior (Berkman et al., 2000).

Although there is likely a general relationship between social support and inclination to smoke, tobacco use presents a more specific physical and emotional link. While many people perceive smoking as a stress reliever, it has been proven to increase likelihood of panic and anxiety disorders (Breslau & Klein, 1999; Parrott, 1999). Given the perceived and proven link between smoking tobacco and feelings of stress which will be explored in more detail later, this research is using the stress-buffering framework of social support as a guide to determine whether support is being given on the Quit Smoking! Facebook page.

Stress-Buffering Framework of Social Support

Two theoretical perspectives seek to explain the specifics of how social support affects health: the main effect hypothesis and the stress-buffering hypothesis (Cohen & Wills, 1985). Under the main effect hypothesis, a social network can add positive and rewarding experiences to an individual's life whether he/she is under stress or not (Cohen & Wills, 1985). By helping to provide positive experiences and increase an individual's self-confidence, social networks impact the overall physical and mental health states of individuals (Cohen & Wills, 1985). Likewise, social networks may help individuals avoid bad experiences by assisting with legal problems, financial issues, or providing guidance for healthy behaviors (Cohen & Wills, 1985).

The stress-buffering hypothesis adds an additional variable to the social support literature by describing the ways in which social networks can act as an intermediary between individuals and stressful events (Cohen & Wills, 1985). Studies show that stress is linked not only to

physiological symptoms that affect overall health, such as immune system functioning (Uchino, 2006), but also to the inclination to engage in unhealthy behaviors, such as alcohol abuse, poor diet, and smoking (Cohen & Wills, 1985).

This theoretical perspective states that social support can mediate stress at two separate points between the individual and negative health effects (Cohen & Wills, 1985). At the first point, social support may affect how an individual appraises a situation as either stressful or not (Cohen & Wills, 1985). If the individual believes his/her support system may provide resources or guidance, then he/she may not evaluate the situation as stressful (Cohen & Wills, 1985). If an individual views a situation as stressful, social support can intervene at a second point and provide resolutions to the problem and subsequently "buffer" the harmful physical and psychological effects that can result from stressful life events (Cohen & Wills, 1985).

The stress-buffering hypothesis describes several types of support that serve as buffers in high-stress situations (Cohen & Wills, 1985). These categories will be discussed at greater length in the methods section. Emotional support serves to increase an individual's self-esteem and worth by validating he/she for who he/she is (Cohen & Wills, 1985). Informational support, or advice, provides guidance to individuals in stressful situations when they may lack the ability to cope with issues in a healthy manner (Cohen & Wills, 1985). Social companionship is another type of support that occurs when a support network engages individuals in relaxation and contentment, producing activities that may lead to lowered stress (Cohen & Wills, 1985). Lastly, instrumental, or material, support may help alleviate stress caused by a lack of financial, emotional, or temporal resources (Cohen & Wills, 1985).

This hypothesis has been supported in literature examining the full physiological reaction that occurs when people are faced with stress. Studies show that social support can intervene

during stressful situations and help to prevent increases in blood pressure and heart rate that might lead to cardiovascular problems (Gerin, Pieper, Levy, & Pickering, 1992).

One study used the stress-buffering hypothesis to explore the link between social support and stress levels of divorced fathers (DeGarmo, Patras & Eap, 2008). Results supported the hypothesis, indicating that social networks helped to mitigate effects of stress caused by divorce (DeGarmo et al., 2008). Furthermore, lower levels of support over extended periods of time resulted in less effective parenting behavior due to unrelieved stress (DeGarmo et al., 2008).

Birmingham, Uchino, Smith, Light, and Sanbonmatsu (2009) further explored the effects of stress buffering by investigating how the quality of relationships from which social support is attained influences overall stress. In the experiment, as cardiovascular readings were being obtained, participants were given three minutes to prepare and three minutes to perform a speech task. The participants were randomly assigned to either a positivity or negativity condition. In the positivity condition, a confederate would provide supportive comments before the speech task. In contrast, the confederate in the negativity condition would not provide supportive comments before the speech task. Following the speech, participants were asked to rate the experimenters on how helpful or upsetting they found the experimenters to be. Together with the cardiovascular reactivity of the participants, this feedback allowed the authors to determine whether the experimenter had an effect on their overall stress levels.

Results showed a main effect for gender with regards to the perceived threat of the task in that women were more stressed by the speech assignment than men (Birmingham et al., 2009). Overall, however, the tenets of the stress-buffering hypothesis were upheld, showing that positive network ties can buffer the effects of stress on cardiovascular functioning (Birmingham et al., 2009). The authors added the caveat to this relationship that it appeared even strangers

could produce similar buffering effects because the participants had no prior relationship with the experimenters (Birmingham et al., 2009). There was also evidence that support networks were useful in buffering stress regardless of whether they were positive or negative, but only in men who showed a lower cardiovascular reactivity even when highly negative experimenters were acting as their buffer (Birmingham et al., 2009).

Lepore (1995) supports this finding that social support can buffer stress and lead to lower cardiovascular reactivity. However, in an experiment, the author found that cynicism may weaken the positive effect that social support can have on stressful situations (Lepore, 1995). When participants were given the task to perform an unrehearsed lecture with only two minutes to prepare, those who had a confederate in the room who gave them supportive comments and gestures, had lower stress levels. However, those who self-reported as more cynical showed less of an effect from the presence of a supportive confederate, indicating that the personality trait of cynicism may lessen the positive stress-buffering effects of social support (Lepore, 1995).

The stress-buffering hypothesis is guiding the current project, which seeks to uncover the types of support found on Facebook for individuals seeking to quit smoking. Smoking cessation can impose internal and external stressors on an individual, thus increasing their need to seek support. Facebook may provide the necessary context for support-seeking and support-giving to occur.

Smoking Cessation, Stress, and Support

The relationship between smoking and stress has been documented in the health literature. Researchers have found that although smokers tend to argue that smoking eases stress, in fact, smoking can lead to an increased level of overall stress (Parrott, 1999). Ironically, studies

have shown smoking to be associated with a higher likelihood of having panic and anxiety disorders (Breslau & Klein, 1999) and smoking cessation to be correlated with decreased anxiety levels (West & Hajek, 1997). Likewise, studies comparing quitters with continuous or relapsing smokers show quitters have lowered overall stress levels than smokers who never quit or quit and relapse (Cohen & Lichtenstein, 1990; Hajek, Taylor, & McRobbie, 2010). This effect is due to the addictive nature of nicotine, which brings with it distinct physical and mental withdrawal symptoms that can only be quelled by smoking, thus leading individuals to believe smoking decreases stress levels (Parrott, 1999). While going through smoking cessation, people need to alleviate stress without nicotine.

A competing view describes smoking as a reaction to stress rather than a cause, positing that individuals use smoking as coping mechanism for stress (Kassel, 2000). In studies of personality traits that increase the likelihood of smoking, neuroticism is cited as one trait likely to be associated with smoking, most often due to the need to relieve negative affective states, such as stress (Gilbert & Gilbert, 1995). Throughout the quitting process, research has shown people have greater success when their perceived stress levels are lower (Carey, Kalra, Carey, Halperin, & Richards, 1993) indicating the need for individuals to have stress buffers.

Research focused on the role of support systems for individuals trying to quit smoking (Koshy, Mackenzie, Tappin & Bauld, 2010). Koshy et al. (2010) found that family and friends played a big role in quit attempts among pregnant women; however, support systems can simultaneously assist and undermine the process of smoking cessation (Koshy et al., 2010). While a support system can be helpful in aiding cessation by providing encouragement and accountability, it can also be a deterrent because "…there are group pressures for smoking,

and/or social interaction provides a stimulus for smoking as a social behavior" (Caplan, Cobb, & French, 1975, p. 217).

In addition to family and friends acting as support networks, groups can also serve the same function.

Support Groups

For the past few decades, research has resoundingly demonstrated that social support can have a strong positive impact on overall health outcomes (Drageset et al., 2009). More specifically, research has shown the importance of support groups in bringing together individuals on the basis of illness to allow for support systems to naturally emerge (e.g., Adamsen, 2002; Carlsson & Strang, 1998). Online support groups have formed to connect individuals across distances and provide anonymity to reduce anxiety that can be induced from face-to-face communication regarding a sensitive topic (Davison, Pennebaker, & Dickerson, 2000). Individuals with stigmatizing diseases, such as AIDS and some cancers, are more likely to engage in health-related online support groups than face-to-face groups, due to the anonymous nature of the online groups (Davison et al., 2000). Health-related online support groups have been successful because they allow individuals to benefit from group cohesiveness, information exchange, universality (being surrounded by others with similar health issues), the instillation of hope, catharsis, and altruism (Vilhauer, 2009).

From the most basic of functions, such as providing education on health topics (Carlsson & Strang, 1998) to improving life expectancy (Adamsen, 2002), support groups are a major factor in improving overall health. By surrounding individuals with like others experiencing similar health problems, support groups can improve the perspectives and self-perceptions of

members (Adamsen, 2002; Cella, Sarafian, Snider, Yellen, & Winicour, 1993). Even among

groups not traditionally predisposed to giving and receiving health support, such as adult males,

results show support groups can engage participants and produce constructive outcomes (Gray,

Fitch, Davis, & Phillips, 1997; Oliffe, Ogrodniczuk, Bottorff, Hislop & Halpin, 2009).

In recent years, disease-specific groups have emerged in online forums such as groups for

persons with HIV (Coursaris & Liu, 2009; Peterson, 2009), cancer, and other stigmatizing

diseases (van Uden-Kraan, Drossaert, Taal, Seydel & van de Laar, 2010). One such group was

explored by Coursaris and Liu (2009). The authors studied the types of social support evident

within an online self-help group for persons with HIV/AIDS (Coursaris & Liu, 2009). Drawing

from the work of Cutrona and Suhr (1992), the authors categorized social support messages into

five groups: information support, emotional support, esteem support, network support, and

tangible support. The authors found that almost half of the posts were offering support, rather

than seeking support (Coursaris & Liu, 2009). The type of support most frequently observed

through the posts for the online self-help group was informational support, followed closely by

emotional support and network support (Coursaris & Liu, 2009). In addition, the authors

observed that the majority of messages contained only one type of support (Coursaris & Liu,

2009). The typology used by Coursaris and Liu (2009) will be adapted and applied to the current

project exploring the posts to a public Facebook page.

Social networks can also serve as effective support systems in helping individuals

overcome addictive behaviors (Cunningham, Mierlo, & Fournier, 2008). Many public online

support groups are emerging for individuals with addictions because they offer easy access, are

always available, and can maintain anonymity (Cunningham et al., 2008). Further, participation

in these groups may not feel as calculated as traditional, face-to-face support groups because

participants can peruse the comments of other participants without registering as an official member or having to respond (Cunningham et al., 2008). This phenomenon is known as lurking and can be discontinued at any time in these "open-access support groups" (Cunningham et al., 2008, p. 194).

While some lurk in these online groups, others are more interactive. In a study exploring the messages exchanged in an online support group for problem drinkers (Cunningham et al., 2008), the authors found that many of the comments revolved around seeking and giving information about the logistics of the group, as well as sharing information about reasons behind joining. The authors posit that an online social support network may serve the utility of influencing individuals to seek treatment for their addiction.

The relative status of a person's addiction may also influence his/her likelihood to turn to supportive networks for assistance. With regard to nicotine addiction, some research shows that recent quitters of tobacco may be more likely to engage in social support than long-time quitters or current smokers (Etter, 2009). However, other research shows an equal representation of recent quitters and long-term quitters (Cobb, Graham & Abrams, 2010). The current study posits that the relative smoking status of an individual will influence the types of support given and received through an online support network.

Gender

Much research has focused on gender differences in support group participation. Studies have explored gender-based differences in communication and in reactions to internal or external stressors. Research has found that men typically focus on independence and gaining control through information-seeking, whereas women have a tendency toward emotional support

11

(Reddin & Sonn, n.d.; Seal, 2006). With regard to computer-mediated communication, studies have shown men gravitating toward sarcasm and self-advancing comments, while women tend to provide comments that enhance the feeling of community such as support and suggestions (Herring, 1993).

Researchers have also found gender differences in studies of caring for health. Consistently, research has found that men seek help for health issues less frequently than do women, across all types of health problems including sickness, addiction, and psychiatric issues (Addis & Mahalik, 2003). In fact, men are generally less healthy than women, and studies have suggested gender norms may be the ultimate culprit (Burke, Maton, Mankowski, & Anderson, 2010). To address the issue of stereotypical male gender norms leading to health problems, Burke et al. (2010) created a male support group with the goal of addressing male health concerns and saw considerable improvements in psychological health, which was thought to be the result of increased social support.

Due to the prevalence of cancer, much research focuses on gender differences in dealing with this disease (e.g. Ginossar, 2008; Klemm, Hurst, Dearholt, & Trone, 1999; Mo, Malik, & Coulson, 2009). Studies show women are much more likely to attend support group meetings than men (Krizek, Roberts, Ragan, Ferrara, & Lord, 1999). Likewise, with regard to online support groups, Klemm et al. (1999) found distinct differences in the types of computer-mediated communication displayed on Internet cancer support groups across genders. Across the four categories of communication studied, (information giving/seeking, encouragement/support, personal opinion, and personal experience), men were more likely to convey messages providing information and women were more likely to convey messages displaying support (Klemm et al., 1999).

In groups that are made up mostly of people with the same gender, as well as groups that are evenly mixed, men have been found to provide information three times more often than women, while women provide more than twice as many encouragement messages than men (Klemm et al., 1999). Likewise, men appear to provide support that is more focused on tasks than emotion, while women provide emotional support more often than they give informational support (Burleson, 2002).

Gooden and Winefield (2007) explored the communication processes of men and women through online discussion boards for breast and prostate cancer. In line with other research, the authors found that men tend toward sharing research findings more than women do in online support groups with regard to the progression of their own disease and others'. Women focused more on offering clear expressions of emotion and support of others. However, the authors found that both men and women posted messages to an online discussion board that were predominately informational (Gooden & Winefield, 2007). While women were still found to display emotional support more often than men, they also posted more informational messages, total, than supportive or emotional ones. Men also used humor as a mechanism to communicate about disease in these support groups more frequently than did women and tended to only imply emotions versus overtly expressing them.

While much research shows that individuals uphold gender stereotypes in the types of messages portrayed in online support groups, there's also evidence to the contrary. The anonymous nature of computer-mediated communication may lead individuals to act opposite from stereotypes (Mo, Malik, & Coulson, 2008). Through a review of studies examining the differences evident in communication across genders in online support groups, Mo et al. (2008) found that the topic of the online support group greatly influenced whether participants would

13

communicate in stereotypical ways. For example, men interacting online about infertility were

found to utilize the support group in ways contrary to male stereotypes by engaging in emotional

catharsis and opening up to others about their experiences (Malik & Coulson, 2008). Women

may use the Internet to defy stereotypical communication patterns, as well, (Pitts, 2004).

Not only does the topic of the group influence how genders act, but also the gender make

up of the group as a whole. Mo et al. (2008) found the collective genders of the members to play

a part in the types of messages exchanged whereas group members posted different types of

messages in groups made up of mostly women compared with groups made up of mostly men.

Similar to online support groups, gender norms are also evident through usage of

Facebook. Strano (2008) found specific differences in norms of self-presentation between

genders and ages. Specifically, women tended to change their site more often than men. These

norms should be considered when examining Facebook as a possible online space for the

connection of strangers on the basis of health issues because individuals with different genders

will likely use the medium in different ways for different purposes, similar to findings of gender

differences in use of online support groups.

Social Networking Sites (SNS)

Boulos & Wheelert (2007) discussed the utility that Web 2.0, a term used to describe

social media sites and other user-generated content, can provide health organizations to assist

them in serving their constituents. With unemployment rising and many individuals having to

conserve financial, temporal, and tangible resources, social networking sites (SNS) and other

Web 2.0 technologies, such as Facebook and Twitter, may be an obvious way to seek support.

From the comfort of home, individuals have open access to finding similar others and asking for

14

tips and general advice. Although this resource exists with bountiful opportunities, research is

scarce exploring the extent to which health organizations are formally using these technologies

in place of face-to-face meetings.

Although not yet fully embraced by health organizations, SNS have become popular

forums to connect individuals who are interested in changing their health behaviors. For

example, Christian (2009) began "Project Swelly Belly" to help himself and others lose weight

by holding themselves accountable to others for weight loss (or gain) through communication on

Facebook. Currie (2009) explored the idea of using SNS to convey health messages to the public

because of the ease with which messages can be conveyed to large numbers of people on such

issues as disease outbreaks, weather emergencies, or food and drug recalls. In addition,

Medicine 2.0 is a budding health practice that espouses the use of web-based communication

technologies, such as Twitter, Facebook, and email, to aid patient-doctor interaction (Hawn,

2009). Although SNS may be an additional avenue to help individuals build and maintain

healthier habits, it should be noted that users have the potential of being misinformed through

these channels. The juxtaposition of SNS and health communication is fairly new; research is

needed to explore whether this is a useful way to reach people.

Facebook

Facebook is a SNS that was originally created for college students but has expanded to

welcome people of all ages and occupations (Tech Terms Dictionary, 2010). In addition to the

users, the site itself is always changing and updating with new technologies. At the time of this

study, the site allowed members (those who sign up for an account) to create a profile full of

personal information, photographs, and videos to share with other members. Facebook members

indicated who their friends and acquaintances are by adding them as a Facebook "friend" (Tech Terms Dictionary, 2010). Each account can be set differently to determine what information is available for friends or the public to see.

Additionally, the Facebook "wall" is an important feature that allows information to be shared between friends by posting comments on each others' walls. Webopedia defines a post as "a message published in an online forum or newsgroup" (Webopedia, 2010). Again, people can determine the level of disclosure that others can see on their profiles, including their "walls" through their privacy settings.

Facebook has become a powerhouse SNS, with nearly 800 million active users worldwide, 50 percent of which log on to the site every day (Facebook, 2011). Facebook.com estimates that people spend a great deal of their time on Facebook, to the tune of more than 500 billion minutes per month. Facebook's reach goes well beyond the walls of the United States, with approximately 75 percent of users from other countries, enabled by more than 70 language translators available on the site (Statistics, 2011).

Within the structure of this massive medium, many sets of social norms emerge. With regard to perceptions of self-disclosure and privacy, studies have shown that people tend to share much and worry little on Facebook (Acquisti & Gross, 2006). Dwyer, Hiltz, and Passerini (2007) found that individuals have a higher level of trust in Facebook than other SNS, but that may be because Facebook is most often used as a way to keep in touch with offline friends rather than meet new ones (Lampe, Ellison, & Steinfield, 2008). People are also more willing to share information based on who they perceive their audience to be. Lampe et al. (2008) support this idea and found that the dominant thought regarding Facebook "audiences" is that they are comprised mostly of close friends and acquaintances, rather than strangers.

Another idiosyncrasy of this SNS is the way the interconnectedness between individuals can influence perspectives of users. Walther, Van Der Heide, Kim, Westerman, and Tong (2008) explored how perceptions of individuals can vary based on profiles and, specifically, comments and photographs of Facebook friends on profiles. With regard to attractiveness, profile owners were found more attractive when their Facebook friends' photographs and profile pictures were rated as attractive. Likewise, when positively valenced comments were posted to a profile, others perceived the profile owner in a more positive light.

Joinson (2008) sought to describe in detail who was using Facebook and why. Using open-ended questions, the author had users describe why they used Facebook and then he grouped them into relevant categories. Joinson found that users had more than 100 Facebook friends, on average, and most of them visited the SNS at least once per day averaging around an hour per visit. Most users described that they used the site primarily for searching for others and browsing the material their Facebook friends added to the site and to their profiles. Additionally, most users indicated that they used the site to continue current friendships or reconnect with old acquaintances.

Facebook allows for many of the same processes as support groups. For example, a quick review of a Facebook profile or "news feed" will likely uncover various emotional messages, from individuals expressing frustration with the weather to couples excitedly announcing their engagement on their Facebook walls. Similar to support groups, individuals form Facebook groups based on commonalities, such as interest in certain topics or membership in the same classes or schools. Individuals can share personal information with other Facebook members through their profiles and pictures and can also communicate with other users publicly or privately through the site. One way to communicate through Facebook is with the "like"

17

function. This may serve the same purpose as a head nod or nonverbal response in a traditional support group. By "liking" a comment or picture, an individual is providing acknowledgement of some sort without actually making a comment in response.

While Facebook may at first seem like a much more public space than traditional online support groups, it may be more of a hybrid. Individuals can enter and leave at any point without registering, which points to the public nature of the site; however, members can quickly learn much more personal information about other members simply by clicking on their hyperlinked names, which will direct them to others' personal Facebook profiles.

There are three ways to have a presence on Facebook. One way is to create a Facebook profile, which represents an individual and is updated by him/her. Another way is to create a Facebook event and/or group. This can be created by anyone on any given topic. Lastly, a Facebook page differs from a profile, event, or group, because it represents official organizations or businesses and allows the public to choose to connect to it.

Only official representatives from an organization can create a Facebook page. Presumably, the same individual who monitors the Wikipedia page is also responsible for creating the Facebook page. The page's creator must have a personal Facebook account to get started; however, individuals who connect with the page through the "like" function (akin to adding a person as a Facebook friend) cannot see who the administrator of the page is. In the past few years, Facebook changed this functionality so administrator rights could be transferred and old administrators deleted so that a company can remain in control of the Facebook page at all times. The profile that was used with the company email address can also be deleted so the only link to the page is the email account. This avoids the problem of employees of a company moving on and taking the official Facebook page with them because it is linked to their profile.

The email account linked to the page can be kept from public view through privacy settings. This makes it virtually impossible to locate the administrators that have completed this process. The administrator of the Quit Smoking! page is not evident to the public or other Facebook users.

Although their administrator rights are not visible to other Facebook users, administrators of a page can monitor the content that is added to the public wall. The administrator can indicate keywords on a "moderation blacklist" causing posts including those words to be automatically put in the spam filter and removed from public view. Administrators can then review posts that were spammed and unmark them if they choose. Additionally, administrators can suggest their Facebook friends "like" the page by clicking the "suggest to friends" button. Individuals who have liked the page can also suggest the page to their friends through the "share" button, which posts a link to the page on their personal Facebook wall. Similar to a personal Facebook profile, a page has tabs including the wall, info, photos, and boxes. However, a Facebook page does not have the functionality of the personal message inbox that Facebook profiles have.

Quit Smoking! Facebook page

The organization linked to the Quit Smoking! Facebook page is Wikipedia, specifically the page that describes smoking and tobacco use in further detail. This Wikipedia page includes information on the history of smoking, the health effects, and the social perception of the habit. The page appears to be well-developed and is updated regularly. The information provided cites scholarly works and health reports and thus appears to be a legitimate source for information on tobacco and smoking cessation.

The Quit Smoking! page was chosen as the focus of this research because it hosts 17,511 members who have "liked" the page and averages 25 to 30 posts on its wall per day. When a person uses the search function on Facebook to look for "smoking" or "quit smoking," the Quit Smoking! page is the first to come up with the most current "likes." This suggests it is the most popular Facebook page focused on smoking cessation.

The Quit Smoking! Facebook wall is public to all individuals with an active Facebook profile. They can post freely to the Facebook wall without first registering as a member of the page or "liking" the page. All posts are time stamped and allow other members to "like" comments, respond to comments in a thread, or post a new comment to the page. Viewers of the wall can "filter" the posts so that only specific posts appear. Options are to filter so only posts by the operator of the page appear, so only posts by people other than the operator appear, or to show all posts, including posts by the administrator of the page as well as other Facebook members. The Quit Smoking! page also includes a tab for photographs, which are mostly of products and services used in smoking cessation, such as electronic cigarettes.

Because of the inability to identify the administrator of the Quit Smoking! page, it suggests the site is being used primarily as a host site for social support to take place, rather than as an avenue for an individual to contribute in the support process. In a further attempt to identify the administrator, all individuals who posted to the page during the time period of the sample were recorded and comments were counted to determine if any one individual was a dominant contributor during the two months. No single individual commented a larger portion of the content than the others, further suggesting that there is no active administrator of the page. However, individuals who have recently "liked" the site tended to comment more than those who

had been engaged with the site for a longer period of time. However, the proposed sampling method will ensure the newer commenters are distributed and do not skew the results.

Based on the literature on social support, the stress-buffering hypothesis, stress, support groups, gender, and social networking sites, the following hypotheses are posed:

H1: Women will post more comments to the Quit Smoking Facebook page than men.

Consistently, research has found that women seek help with regards to health issues more frequently than do men, across a variety of health problems including sickness, addiction, and psychiatric issues (Addis & Mahalik, 2003). Studies also show women are much more likely to attend support group meetings than men (Krizek, Roberts, Ragan, Ferrara, & Lord, 1999).

H2: Posts by men on the Quit Smoking Facebook page will contain more informational support than emotional support.

H3: Posts by women on the Quit Smoking Facebook page will contain more emotional support than informational support.

Research has found that men typically focus on independence and gaining control through information-seeking, whereas women have a tendency toward emotional support (Reddin & Sonn, n.d.; Seale, 2006).

H4: Men and women will differ in the types of support posted to the Quit Smoking Facebook page.

Across the four categories of communication studied, (information giving/seeking, encouragement/support, personal opinion, and personal experience), men were more likely to convey messages providing information and women were more likely to convey messages displaying support (Klemm et al., 1999).

Klemm et al. (1999) also found differences in personal experience messages and personal opinion messages across genders. Specifically, groups mostly comprised of men showed less messages containing personal experiences but more messages containing personal opinion than those from the groups mostly made up of women (Klemm, et al., 1999).

H5: There will be more recent quitters posting on the Quit Smoking Facebook page than current smokers or long-term quitters.

With regards to nicotine addiction, some research shows that recent quitters of tobacco may be more likely to engage in social support than long-time quitters or current smokers (Etter, 2009).

DiClemente, Prochaska, and Givertini (1985) found that self-efficacy grew and temptation lessened the longer a person abstained from tobacco. This relationship suggests that the need for support may lessen the longer an individual abstains from smoking which may also lessen the likelihood of those individuals engaging in support groups.

RQ1: Do most original posts receive response posts containing support?

The rationale behind this question is that the very essence of support is the connection and response from others. Answering this question will help determine the extent to which support is occurring through the Facebook page, suggesting whether this would be a useful place for individuals to turn to for support in smoking cessation.

RQ2: What type of support do recent quitters use most often?

It will be interesting to note what type of support recent quitters are most frequently giving through posts. The research question is drawing from the research that shows recent quitters are more likely to engage in support groups than smokers or long-term quitters (Etter, 2009). By

exploring the types of support used by the group of individuals that are likely to engage often,

this study helped to paint a clearer picture of the phenomenon occurring on this page.

Method

A quantitative content analysis was employed to explore the characteristics of messages posted to the Quit Smoking! Facebook page.

Sample

Facebook members' posts to the Quit Smoking Facebook page's wall during the months of October and November of 2010 was the study's population. A two-week constructed sample was drawn from this population. The constructed sample was chosen to obtain an accurate representation of the entire site from the two-month period. As described by Lacy, Riffe, Stoddard, Martin, and Chang (2001), "a constructed week sample involves identifying all the Mondays, and randomly selecting one Monday, then identifying all Tuesdays, and randomly selecting one Tuesday, etc., to "construct" a week to ensure that…each day of the week is represented equally" (Lacy et al., 2001, p. 837). This will represent the variability that will occur on a daily basis (Riffe & Aust, 1993). There is a nationwide push for smoking cessation during November for the Great American Smokeout, therefore two months were used from which to draw the sample to decrease the likelihood of the event skewing the messages included in the sample. The sample yielded 118 threads made up of 344 individual posts for analysis. The unit of observation in this study was the Facebook thread and the unit of analysis was the individual.

The coding scheme used by Coursaris and Liu (2009) was adapted for the study of the posts on the Quit Smoking Facebook page. The major concepts included in this study are described below.

Major Concepts

Social Support

      Social support is described in the literature in many ways. According to Cohen (2004), "Social support refers to a social network's provision of psychological and material resources intended to benefit an individual's ability to cope with stress" (pg. 676). Dimensions of social support as described by the stress-buffering hypothesis are esteem, or emotional support, informational support, social companionship, and instrumental support (Cohen & Wills, 1985). For the purposes of this study, the dimensions described by Coursaris and Liu (2009) are used to explore the Quit Smoking! Facebook page.

Emotional support

      In Gooden and Winefield's (2007) study of online cancer discussion boards, emotional support was described as messages showing "coping philosophy, offering wisdoms, humor, nurturing and expressing, sharing the distress, encouragement and valuing, challenging the group" (p. 107). Indicators of this type of support in the present study may consist of messages exhibiting recognition of feelings of stress, anger, frustration, or related emotions. Klemm et al. (1999) provide the examples of phrases such as "keep up the good work," "wishing you all the best," "glad you're back," and "don't feel stupid" as indicators of encouragement and support in messages (p. 69). Coursaris and Liu (2009) describe emotional support as comments that "express empathy, support the emotional expression of the recipient, or reciprocate emotion, or communicate love or caring" (M. Liu, personal communication, Oct. 26, 2010).

Esteem support

Esteem support gives individuals on the receiving end validation and higher self-worth (Cohen & Wills, 1985). This type of support "validates recipient's self-concept, importance, competence, and rights as a person (communicates respect and confidence in abilities)" (M. Liu, personal communication, Oct. 26, 2010).

Network support

According to Coursaris and Liu (2009), network support consists of "messages that appear to broaden the recipient's social network by connecting him or her to others with similar experiences" (M. Liu, personal communication, Oct. 26, 2010). An example of this support is if participants reference that there are others, like themselves, going through a similar problem or situation.

Informational support

Informational support provides advice and guidance through stressful situations (Cohen & Wills, 1985). Informational posts fall into this category and include comments that focus on suggestions for quitting, including websites to visit for further information (Klemm et al., 1999). Gooden and Winefield (2007) describe informational support with regard to cancer as comments that include the following: "facts about the disease,…providing own knowledge, quoting own experience, quoting literature, evidence-based practice, alternatives, promoting choice, dealing with effects of disease, my progress, disease site-related concerns" (p. 107).

Instrumental support/Tangible assistance

Lastly, instrumental support, or tangible assistance is defined as providing material support in the form of money, resources, or time that may help another individual endure stressful situations (Cohen & Wills, 1985). In this study, indicators of instrumental support were communicating that one is able to provide material resources to another participant.

Gender

Gender can be defined as "sexual identity, especially in relation to society or culture" (Dictionary, 2010). Gender was identified based on the name, profile picture, and posts of the Facebook members. If the name and/or profile picture of the participant was gender-neutral, cues such as reference to being a mother, daughter, niece, brother, etc. were used to determine gender.

Smoking Status

Status was coded into six categories: current smoker, nonsmoker status not evident, recent quitter, long-term quitter, cannot determine, and multiple statuses (Cobb, Graham, & Abrams, 2010). If the participant indicated a quit date that fell at any point after the post, they were coded as a current smoker (Cobb et al., 2010). Additionally, if the participant referenced wanting to quit or feelings of dread at the thought of quitting in the future, he/she was coded as a smoker. A participant's status was coded as recent quitter if a quit date was provided by the participant that fell within a month or 30 days before the post (Cobb et al., 2010). This was also evident through the participant describing that they have not smoked in a specified time period. If this time period was before the post but it could not be determined how long the individual

was abstinent, the participant was coded as nonsmoker, status not evident. Smoking status was coded as long-term quitter if the quit date was more than a month or 30 days before the post. Any posts in which smoking status was unclear were coded as cannot determine. If the participant's status changed throughout the study, they were coded as multiple statuses. For example, if a recent quitter relapsed, they would be coded recent quitter at one point and then current smoker at another. Therefore, when summing results to the individual level, that participant would be coded as 'multiple statuses.'

<u>"Like"</u>

According to Facebook (2011), ""Like" is a way to give positive feedback or to connect with things you care about on Facebook. You can like content that your friends post to give them feedback or like a Page that you want to connect with on Facebook" (Basics, 2011). For each post in the sample, it was noted whether it was liked at all and how many likes it received to represent feedback or nonverbal support of the preceding post.

<u>Post Type</u>

If the post was the first post in a thread, it was coded as an original post. If there was only a single post and no responding posts to build a thread, it was also coded as an original post. If the post coded was not the first post in a thread, it was coded as a response post. Such posts were indented and the text was smaller than that of an original post.

Coding Scheme Development

The coding scheme was adapted from that of Coursaris and Liu (2009) that was based on the stress-buffering hypothesis. Five categories of social support were described in their scheme (Coursaris & Liu, 2009). In addition to these five dimensions of social support, the variables of gender, smoking status, evidence of "like," the number of "likes," and post type are variables included in the coding scheme (see Appendix A).

Coder Training and Intercoder Reliability

Once the scheme was developed, the process of coder training began. The first training consisted of the two coders reading over the coding scheme. Examples of each variable were provided. The next step in the training process consisted of a review of the coding scheme and major concepts and a practice run on threads that were not included in the sample. Once both coders felt comfortable with the coding scheme and the process, the coders worked independently to code 15% of the sample that was randomly selected. The coders analyzed each post in the subsample to determine whether it contained informational, emotional, or esteem support. The subsample consisted of 18 threads containing 60 posts, which is a large enough subsample to be representative according to previous literature. Neuendorf (2002) states, "the reliability subsample should probably never be smaller than 50 and should rarely need to be larger than about 300" (p.159). Three reliability runs took place before intercoder reliability was obtained on all variables. After each reliability run, variables for which reliability was not reached were refined and defined more clearly for the next run. Coders were re-trained on those variables and given practice threads before starting the next reliability run. After these reliability runs failed to return evidence of network support and tangible support, those two variables were

removed from the study. Cohen's Kappa of .80 or higher was obtained for all variables (See

Table 1). This coefficient is an appropriate test to determine reliability agreement beyond

chance between two coders when working with nominal-level data (Neuendorf, 2002).   Once

intercoder reliability was reached on the variables, one coder coded the rest of the sample.

Table 1. Reliability Analysis for All Variables

Variable	Reliability[a]
Gender	.82
Evidence of smoking status	.96
Post Type	1.00
Presence of 'Likes'	1.00
Number of 'Likes'	1.00
Smoking status	.91
Informational support	.90
Emotional support	1.00
Esteem support	.81

[a]Cohen's kappa was used to assess intercoder reliability. This statistic adjusts for chance agreement.

Results

Descriptive Analysis

The data consisted of 118 threads that contained 344 individual posts. Ninety-eight unique individuals posted to the page, of which 35 were men and 54 were women. The gender of nine individuals was unidentifiable. The data showed that, for both gender groups, individuals tended to post only once throughout the sample. Fifty-eight percent of men posted only once, and 52% of women posted only once. Of all participants, 11% were smokers, 36% were recent quitters and 12% were long-term quitters. In addition to these groups, 15% were labeled as nonsmokers, but the length of cessation was not evident so they were not classified as recent or long-term quitters, 23% had unidentifiable smoking status, and 4% changed smoking status over the length of the sample (See Table 2). Of the 118 threads, 57 (48%) response posts contained informational, esteem and/or emotional support. Specifically, 19.5% of response posts contained informational support, 2.5% contained emotional support, and 37.3% contained esteem support. Although the majority of response posts did not contain support, the majority of original posts were liked (72.9%).

To follow are examples of posts to the Quit Smoking! Facebook page. Most original posts described the length of cessation, such as "I just reached my 7th month of no smoking two days ago.. Good luck to everyone! [*sic*]" or "22 hours since my last cig. I can do it! [*sic*]" Posts of this nature would be used to identify smoking status; however, these posts were not coded as informational support, emotional support, or esteem support because they did not fit into any of the categories. This is why a large percentage of posts were not coded as containing any of the types of support. While the excerpt, "…I can do it!" might appear to be esteem support, this category was clearly defined as the recognition of ability in *another* participant and this comment

describes the participant's own ability to quit smoking. Often, the responses to posts of this nature were congratulatory, such as "congrats ☺ [*sic*]" (no code) or "Yes you can!" (esteem support). In other instances, responses were asking for advice such as "Hi Weng do you still have cravings? I am having a few strong cravings the last few nights, would love to know when this will stop" to which there may or may not have been a response from the original poster.

Other original posts provided guidance, tips and information, such as "drink a lot of water and juice, keep a lot of chewing gum to keep ur mouth busy, I kept a lot of movies with me to pass my time if I don't have anything to do [*sic*]." Posts of this nature were coded as informational support. As mentioned above, posts that convey belief in another participant's abilities were described as esteem support, such as "Good luck! You can do this for sure!" Although less evident in the data, posts containing emotional support consisted of the recognition of feelings or emotions of another participant, such as "I am sorry you had anxiety attacks and started back…"

Table 2: Distribution of Smoking Status (N = 98)

Smoking Status	Percentage
Smoker	10.9
Nonsmoker, status not evident	14.9
Recent quitter	35.6
Long-term quitter	11.9
Cannot determine	22.8
Multiple status throughout sample	4.0

Hypothesis Testing

The distribution of the average number of posts was analyzed to determine if it was normal, and results showed there was an outlier (skew = 5.51, kurtosis = 37.53). One man posted in 42 threads and posted 56 times throughout the sample. Because the sample size was 118 threads, this skewed the data significantly for hypotheses that tested gender and frequency of participation so tests were run both with outlier included and with outlier removed. Furthermore, when testing the variables of support, data was also not normally distributed. Therefore, nonparametric statistics were used when appropriate.

To analyze H1, which posited that women would post more comments to the page than men, the nonparametric Mann-Whitney U was used. Results when the outlier was in the data do not support H1. Women (n = 54, M = 3.59, SD = 4.85) did not post more than men (n = 35, M = 4.03, SD = 9.40), Mann-Whitney U = 886.00, p = .59. With the outlier removed the data still do not support H1. The relationship was found to be in the direction predicted, showing women (n = 54, M = 3.59, SD = 4.85) posted more than men (n = 34, M = 2.5, SD = 2.60) but results were not significant, Mann-Whitney U = 832.00, p = .42.

H2 posited that posts by men would contain more informational support than emotional support. Because the data for emotional support and informational support was not normally distributed, the Wilcoxon signed ranks test was used. This hypothesis was supported. The results showed that the mean percent for informational support (M = .33, SD = .42) was larger than the mean percent for emotional support (M = .0005, SD = .003), Wilcoxon = 3.59, p < .05.

H3 predicted that posts by women would contain more emotional support than informational support. Again, the data for emotional support and informational support was not normally distributed; therefore, the Wilcoxon signed ranks test was used. The results showed

there was a significant difference between the number of emotional posts (M = .02, SD = .076) and informational posts (M = .16, SD = .30), Wilcoxon = 3.19, p < .05, but it was in the opposite direction than predicted indicating that women actually posted more messages containing informational support than emotional support.

       H4 predicted that men and women would differ in the types of support posted to the page. Once again, the Mann-Whitney U was used to test this hypothesis because the data was not normally distributed; the analysis was run both with the outlier and without the outlier. With the outlier included in the data set, the results indicate there were no significant differences between the types of support in posts by men and posts by women (See Table 3). With the outlier excluded from the data, results are similar (See Table 4).

Table 3: Analysis of Gender Differences in Types of Support Used, Outlier Included

Support Type	Men	Women	Mann-Whitney U	Significance Level
Informational	M = .33, SD = .42	M = .16, SD = .30	761.50	.08
Emotional	M = .0005, SD = .003	M = .02, SD = .08	900.00	.34
Esteem	M = .32, SD = .40	M = .26, SD = .36	867.50	.47

Table 4: Analysis of Gender Differences in Types of Support Used, Outlier Excluded

Support Type	Men	Women	Man-Whitney U	Significance Level
Informational	M = 33, SD = .42	M = .16, SD = .30	748.50	.09
Emotional	M = .00, SD = .00	M = .02, SD = .08	850.00	.11
Esteem	M = .31, SD = .41	M = .26, SD = .36	855.50	.56

H5 was analyzed to determine if there were more recent quitters posting to the page than current smokers or long-term quitters. Results showed there were 36 recent quitters, 12 long-term quitters and 11 current smokers. This was a significant difference between the number of recent quitters and long-term quitters, x^2 (1, n = 48) = 12.00, p < .05, and a significant difference between the number of recent quitters and current smokers, x^2 (1, n = 47) = 13.30, p < .05.

RQ1 was analyzed to determine if original posts elicited a response post that contained support of some kind. Because there are two ways to respond to a post – either by posting a response or by "liking" the post – the data was analyzed in two ways. Of the 118 original posts, 48% received a post containing emotional, informational or esteem support and 52% did not, this difference was not significant, x^2 (1, n = 118) = .14, p = .71. Of those same original posts, 73% were liked and 27% were not. This was a significant difference, x^2 (1, n = 118) = 24.712, p < .05.

RQ2 explored what type of support was used most often by recent quitters. The Wilcoxon signed ranks test was run because the data was not normally distributed, and a Bonferroni alpha-conserving approach was used, as well. Because the outlier in the data was

coded as a recent quitter, the analysis was run twice, once including the outlier and once

excluding the outlier. The descriptive data for this research question is provided in Tables 5 and

6. Results when the outlier was included showed that recent quitters were equally likely to use

either informational support or esteem support (Wilcoxon = 1.07, p = .28), but they were more

likely to use informational support than emotional support (Wilcoxon = 2.99, p < .05) and to use

esteem support more than emotional support (Wilcoxon = 3.31, p < .05).

When the outlier was excluded from the analysis, a similar patter was found. Recent

quitters were equally likely to use either informational support or esteem support (Wilcoxon =

.97, p = .33), but they were more likely to use informational support than emotional support

(Wilcoxon = 2.85, p < .05) and to use esteem support more than emotional support (Wilcoxon =

3.20, p < .05).

Table 5: Percent Means for Types of Support Used By Recent Quitters, Outlier Included (n =

36)

Type of Support	Percent Mean	Standard Deviation
Informational support	.18	.30
Emotional support	.03	.09
Esteem support	.26	.38

Table 6: Percent Means for Types of Support Used By Recent Quitters, Outlier Excluded (n = 35)

Type of Support	Percent Mean	Standard Deviation
Informational support	.18	.31
Emotional support	.03	.09
Esteem support	.25	.38

Discussion

The results of the study with regard to gender were different than predictions, showing that men and women used the page in similar ways. They posted at similar frequencies and their posts contained similar types of support. The examination of smoking status showed that recent quitters posted to the Facebook page at a higher frequency than current smokers or long-term quitters and they tended to provide informational and esteem support more often than emotional support. Lastly, the results showed only about half of original posts received a response post that contained one of the types of support being explored in this study, but the majority of original posts received a "like."

Although previous research suggested men seek help with regard to health less frequently than women (Addis & Mahalik, 2003), this study showed that both groups posted at similar frequencies to the Quit Smoking! page and both groups posted informational support to a greater degree than the other types of support. There are many factors that might be contributing to this finding. In this study, Facebook served as the virtual meeting place for these individuals. This may have had a greater influence on how they acted than the topic of the page. Although not specific to Facebook, previous research has found that gender stereotypes tend to be less evident in online forums (Dubrovsky, Kiesler, & Sethna, 1991). Dubrovsky et al. (1991) developed the equalization hypothesis, which states that the anonymity afforded by online communication may allow individuals to act in ways contrary to stereotypes assigned to groups based on race, gender, age, or other personal attributes. Postmes and Spears (2002) also assert that "on the information superhighway, we are told, intergroup divides of gender, and also of race, nationality, or class, become less relevant," but this phenomenon is context-dependent, whereas the topic of the forum may have an influence on whether individuals act in ways stereotypical to their gender (p. 1073).

In Postmes and Spears' (2002) study on communication through an online forum, the authors found individuals to act more stereotypically of their gender groups when these stereotypes were "activated" by asking participants to communicate about a topic that was stereotypical of one gender or the other (p. 1080). While the topic of health is one that may be discussed more by women, the topic of smoking cessation may be one that men feel more comfortable discussing and this could be one of the factors closing the gap between gender differences in this study. According to the CDC (2010), smoking is more common among men than women, evidenced by the fact that 23.5% of smokers are men compared with 17.9% of smokers are women. Because the majority of smokers are men, this also suggests that there would be a higher percentage of men trying to quit than women.

Because there is a gender difference in smoking habits and related cessation habits, this may also contribute to the finding that men were posting more often to the site. With men posting to the page more, the culture of the site may have transitioned gradually into one that is more masculine than feminine. Women may have started to act in ways contrary to stereotypes while using the site to fit in with the existing culture of the page by posting more informational messages than emotional messages.

Additionally, Facebook allows for many conversations to occur at once, whereas individuals might comment on a previous post, "like" another, and post a new comment, all within a matter of seconds while visiting the page. This may have been another factor contributing to the similarity found between the frequency of posts between men and women. On Facebook, there is no turn taking, but rather individuals can post as little or as much as they like.

Deaux and Major (1987) supported the idea that gender differences depend on the context within which the communication is taking place. The authors found that both men and women tended to act differently depending on whether others could observe his/her behavior, with both genders acting more in line with stereotypes when there was the likelihood of an audience (Deaux & Major, 1987). It may be that while the users of the Quit Smoking! Facebook page likely understand that the other users of the page can see their comments, they may not know the page is completely public to anyone with an Internet connection. Research shows that many users of Facebook tend to think their audience is comprised of close friends and acquaintances, rather than strangers (Lampe et al., 2008), but in this case, the Quit Smoking! page did not require admittance to see the posts of users. Users may have perceived the page to be private, therefore acting contrarily to gender norms.

Mo et al. (2008) also found that the topic of the page contributes to the likelihood of whether men and women will act in line with existing gender stereotypes. The topic of smoking cessation may be a contributing factor to women posting more informational posts than emotional posts. While studies on gender differences in participation in online support groups for smoking cessation are scarce, other studies show that informational messages in general, and messages containing informational support in particular, are noted frequently in online support groups for health topics, including addiction (Coursaris & Liu, 2009; Cunningham et al., 2008). A study exploring an online support group for individuals with HIV/AIDS found informational support messages to be the most-used, overall (Coursaris & Liu, 2009).

Similarly, in a study on problem drinkers' use of online support groups, the authors found that the majority of messages focused on giving and receiving information (Cunningham et al., 2008) so it may be the case that the factor of addiction contributes to the type of messages posted

40

and it is more common to give and receive advice and information when communicating about addiction. A comparison of several different online support groups that focus on different topics might shed more light on why informational support was used most across the board in the current study. Additionally, further research on how men and women communicate about smoking cessation can contribute to this topic by providing a basis on which online communication around this topic can be compared.

In addition to the type of support used, results showed that men and women posted to the page at similar frequencies. Again, this could be due to the fact that the individuals were interacting online, rather than in a face-to-face meeting. Men may be more comfortable communicating through Facebook than in person and therefore had a stronger showing on the page than anticipated. Traditional gender stereotypes suggest that women would be interacting on a health-related page more frequently than men; however, Facebook is still a relatively new and ever-changing technology. Research shows men tend to be more familiar with new technologies than women (Seganti, 2008). In a study of an online discussion forum for immigrants, Seganti (2008) found men were more comfortable interacting on the site than were women. Women were not only skeptical of communicating online with strangers, but were also found to be less adept with online communication than were men (Seganti, 2008). Gefen and Straub (1997) support this finding, showing that men and women perceive technology differently, and although they might use it the same amount, men are generally more at ease using newer technologies than are women. Seganti (2008) suggests this comes from a male-dominated industry in which men develop new technologies aimed primarily at the needs and wants of men.

It should also be noted that although, as previously mentioned, research shows men seek out support less frequently than women with regard to health topics in general (Addis & Mahalik, 2003), this project focused on the *giving* of support through the messages. Had the focus been on how many men asked for support, rather than how often they provided it, the findings may have aligned more closely with previous findings.

Looking at the data in different ways might provide different findings, as well. Rather than looking only at the frequency of posts by men and women, future research could focus on the length of posts by men and women to see if there was a difference in the ways they used the page. For example, men might have posted as frequently to the page as women, but it might be the case that their messages were shorter in length than those by women. This could provide more descriptive findings about the users of the page.

Previous literature has also shown that men and women use the Internet the same amount, but for different reasons (Jackson, Ervin, Gardner, & Schmitt, 2001); that may also be the case here. Perhaps men and women originally went to the page for different reasons, but once on the page, began to interact with others in ways that mimicked the general routine already occurring on the page. For example, participants might be discouraged from posting highly emotional messages to the page if they do not see that others are doing the same. It might be the case that, historically, individuals have used the Facebook page to give and receive tips and guidance with regard to smoking cessation; therefore emotional and esteem messages, while evident, are less so than informational posts. There is some research on computer-mediated communication that shows a similar pattern, finding that men and women both posted informational messages more often than any other types through an online cancer support group (Gooden & Winefield, 2007).

The concept of weak ties is another that should be explored when considering the findings of this study. Kavanaugh, Reese, Carrol, and Rosson (2005) describe the nature of weak ties in an online environment. The authors discuss the pattern that weak ties in computer-mediated communication tend to provide more information than other types of support (Kavanaugh et al., 2005). Likewise, weak ties are more likely to consist of individuals with which a connection is made based on a commonality, such as employment or common interests (Kavanaugh et al., 2005). Users of the Quit Smoking! Facebook page might be relating to one another based on the similarity in their smoking habit and a shared desire to quit, which suggests that there are weak ties between the users. Future research should investigate the effectiveness of weak ties in providing useful support to people who are trying to adopt healthy behaviors. In addition to utilizing the mediated weak tie afforded by the users of the Facebook page, individuals might use the page as a surveillance tool. Without interacting directly with other users on the page, individuals might interpret the act of gleaning information from others as a type of support.

As predicted, recent quitters were the most active posters on the page. This may be due to the fact that once an individual has reached long-term cessation, he/she may no longer need to turn to his/her peers for support as often. Current smokers may not be posting to the Facebook page because by its very nature it is a page for individuals who have either quit smoking or are close to quitting. Research shows that individuals who have recently quit smoking "…report more self- and social reinforcement for their changes and rely more on helping relationships for support and understanding" (Prochaska & DiClemente, 1983, p. 394). A comparison of several online support groups for smoking cessation would help determine whether it is the nature of the

page or an intrinsic need for support that explains why more recent quitters are interacting on the page than long-term quitters or smokers.

With regard to the finding that only around half of original posts received a response that contained support while the majority received a "like," this might be another way in which Facebook itself caused differing results than previous literature suggested. With the absence of nonverbal communication on Facebook, a "like" might very well be interpreted as a virtual 'head nod' or other nonverbal reaction. Further research should focus on the interpretation by individuals of the different functions of the site and should seek to answer questions such as, "What does it mean to you when someone 'likes' a post?" With regard to social support on health topics, this could be the only acknowledgement needed for individuals to feel they have received what they need from the other individuals interacting on the page. In contrast, the act of "liking" a post rather than commenting might be interpreted as rude or distant and may have deterred individuals from continuing to comment on the page. If this is the case, it may be linked to the finding that most individuals posted only once to the page.

Another interesting finding was that there was an outlier in the data. A participant that was classified as a man posted 56 times in 42 threads throughout the sample. It might be the case that he did not have any type of support network beyond this Facebook page and therefore turned to it frequently to interact with other people. He might also spend a great deal of time on Facebook generally and began to use the Facebook page because he was already familiar with the tool. It would be interesting to explore how he was perceived by others using the page – whether they see him as a support system, as someone to whom others are providing support or if he becomes easily ignored by participants because of the frequency of his participation in comments and posts.

The implications of this study for the stress-buffering framework of social support are related to the dimension of informational support. This study found that this type of support was used most often and therefore might be the most helpful with regard to seeking help for smoking cessation online. While research shows that stress increases the likelihood of individuals to engage in unhealthy behaviors such as smoking, it also shows that the ability of social support systems to provide guidance and resolution can buffer the effects of stress (Cohen & Wills, 1985). Perhaps this is the phenomenon occurring through the Quit Smoking! Facebook page. Individuals may turn to other users for information to decrease their perceived level of stress, which may influence their likelihood of successful cessation. Further research should explore user perceptions to determine the strength of this link between interacting on the Facebook page and stress reduction.

This study replicated much of the research by Coursaris and Liu (2009) who studied the types of support messages used in an online support group for HIV/AIDS patients. The fact that the researchers' conceptualizations of support were applicable to a study of support messages for a different health issue affords some convergent validity to their work.

Limitations

This study explored only the types of support *messages* posted on the Quit Smoking! Facebook page. There was no collection of data to determine the *interpretations* of individuals posting to the page. In short, the study can only describe the types of messages, not the motivations of those posting them or the reactions of those reading the posts. Since personal motivation is such a large part of smoking cessation, there is necessarily a large part of this phenomenon left unexplained because of the limited scope of this project. To the same degree,

this study does not explore the cessation rates of the members of this Facebook group.

Therefore, this research cannot make statements about the utility of this group in helping

smokers quit or helping quitters maintain abstinence. Additionally, this study explored only the

specific types of support described in the literature around online support groups and within the

stress-buffering hypothesis of social support. Since many of the comments did not include any

of those types of support, there is likely something else occurring on the page that was

unexplored. As mentioned above, comments declaring quit date or length of cessation were not

coded into one of the categories. However, it might be the case that posting comments of that

nature make the poster feel accountable to the other participants viewing the page. Future

research should explore whether this accountability factor is perceived as a type of support that

aids the participant in reaching successful cessation.

Although the sample was drawn over a two-month period, this might not be enough time

to retrieve an accurate picture of the interactions occurring on the page.   A long-term study that

further explores the same variables would provide a clearer idea of the trends occurring on the

page. Also, this study only examined one Facebook page, rather than comparing several and

seeing if patterns exist across them. A study of several different Facebook pages may have

provided a stronger understanding of whether using Facebook as the virtual meeting space for

the group was contributing to the difference in findings from previous research and findings from

this study.

Additionally, Facebook is an open-access SNS, allowing people that differ in age, race,

gender, culture, socioeconomic status and even language to communicate through the same

medium. This variety creates an added hardship in coding posts into categories because at times

it was difficult to ascertain meaning from the posts. Without the ability to glean further

information from the participant, categorizations of posts were based solely on the degree to which they fit into one of the types of support being explored; therefore, some posts were coded as being devoid of any of the types of support when the user's intention may have been to provide support of some kind.

This study explored only the posts that provided overt support to original posts, as defined by the coding scheme. It did not study the original posts, and whether those posts asked for support, were statements about the status of a participant's cessation efforts, etc. Future research should explore not only the messages that give support to others, but also the messages that ask for support.

Conclusion

This project sought to examine the posts by individuals on the Quit Smoking! Facebook page to see who was utilizing it and what types of comments were being posted. Results showed that while men and women interact much differently in traditional support groups and online support groups, they were interacting to a large degree in similar ways on this page. Men and women were both posting informational messages more often than the other types, rather than women focusing their messages on emotional support. However, original predictions were based on existing research on support groups, health and gender differences. This study examined a different way of combining these variables by analyzing Facebook and found evidence that using this medium to communicate about health may lessen gender differences. This finding contributes to this area and has implications for health education and communication, as well as gender research.

Similar to other smoking cessation support groups, recent quitters were more likely to post than long-term quitters or current smokers and were more likely to use informational support in their posts. This finding should also be useful for health professionals by suggesting an additional avenue to communicate information about smoking cessation.

The most surprising finding of this study was the rate at which a post received a response with support. If this page exists to serve as a virtual meeting space for social support to occur, one would presume that most messages would receive response posts that contained one of the types of support. Related to this finding is the discovery that most posts received a "like," which suggests that individuals did not feel the need to articulate a response as much as they felt the need to acknowledge a post at all. This conclusion suggests the functions of SNS, Facebook in particular, may allow individuals to give and receive support in low-pressure, informal ways,

which may be perceived as a positive attribute by users. Health professionals can further explore

these perceptions to determine if using SNS would help people receive the support they need for

other health issues and addictions.

References

Acquisti, A. & Gross, R. (2006). Imagined communities: Awareness, information sharing, and

    privacy on the Facebook. *In 6th Workshop on Privacy Enhancing Technologies,*

    Robinson College, Cambridge University, UK.

Adamsen, L. (2002). From victim to agent: The clinical and social significance of self-help

    group participation for people with life-threatening diseases. *Journal of Caring Sciences,*

    16(3), 224-231.

Addis, M.E. & Mahalik, J.R. (2003). Men, masculinity, and the contexts of help seeking.

    American Psychologist, 58(1), 5-14.

American Heart Association. (2010). *Cigarette Smoking Statistics*. Retrieved November 26, 2010

    from http://www.americanheart.org/presenter.jhtml?identifier=4559.

Barrera, A. Z., Pérez-Stable, E. J., Delucchi, K. L., and Muñoz, R. (2009). Global reach of an

    Internet smoking cessation intervention among Spanish- and English-speaking smokers

    from 157 countries. *International Journal of Environmental Research and Public Health,*

    6(3), 927-940.

Berkman, L. F., Glass, T., Brissette, I., & Seeman, T. E. (2000). From social integration to

    health: Durkheim in the new millennium. *Social Science & Medicine, 51*, 843-857.

Birmingham, W., Uchino, B. N., Smith, T. W., Light, K. C., & Sanbonmatsu, D. M. (2009).

    Social ties and cardiovascular function: An examination of relationship positivity and

    negativity during stress. *International Journal of Psychophysiology, 74*(2), 114-119. doi:

    10.1016/j.ijpsycho.2009.08.002.

Breslau, N. & Klein, D. F. (1999). Smoking and panic attacks: An epidemiologic investigation.

    Archives of General Psychiatry, 56, 1141-1147.

Burke, C.K., Maton, K.I., Mankowski, E.S. & Anderson, C. (2010). Healing men and

    community: Predictors of outcome in a men's initiatory and support organization.

    American Journal of Community Psychology, 45(1)(2), 186-200.

Burleson, B.R. (2002). Introduction to the special issue: Psychological mediators of sex

    difference in emotional support. *Communication Reports, 15*, 1-4.

Caplan, R.D., Cobb, S. & French, J.R. (1975). Relationships of cessation of smoking with job

    stress, personality, and social support. *Journal of Applied Psychology, 60*(2), 211-219.

Carey, M. P., Kalra, D. L., Carey, K. B., Halperin, S., & Richards, C. S. (1993). Stress and

    unaided smoking cessation: A prospective investigation. *Journal of Consulting and*

    Clinical Psychology, 61(5), 831-838.

Carlson, L. E., Goodey, E., Bennett, M. H., Taenzer, P., & Koopmans, J. (2002). The addition of

    social support to community-based large-group behavioral smoking cessation

    intervention: Improved cessation rates and gender differences. *Addictive Behaviors, 27*,

    542-559.

Carlsson, M. E., & Strang, P. M. (1998). Educational support programme for gynaecological

    cancer patients and their families. *Acta Oncology*, 37, 269-275.

Cella, D. F., Sarafian, B., Snider, P. A., Yellen, S. B., & Winicour, P. (1993). Evaluation of a

    community-based cancer support group. *Psycho-oncology*, 123-132.

Centers for Disease Control and Prevention. (2010). *Tobacco Use*. Retrieved November 26, 2010

    from http://www.cdc.gov/chronicdisease/resources/publications/AAG/osh.htm.

Christian, M. A. (2009). Project swelly belly. *Ebony, 65*(1), 96.

Cobb, N. K., Graham, A. L., & Abrams, D. B. (2010). Social network structure of a large online community for smoking cessation. *American Journal of Public Health, 100*(7), 1282-1289. doi: 10.2105/ajph.2009.165449.

Cohen, S. (2004). Social relationships and health. *American Psychology, 59*, 676-684.

Cohen, S., & Lichtenstein, E. (1990). Perceived stress, quitting smoking and smoking relapse. *Health Psychology, 9*(4), 466-478.

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98,* 310-357.

Coursaris, C. K., & Liu, M. (2009). An analysis of social support exchanges in online HIV/AIDS self-help groups. *Computers in Human Behavior, 25*(4), 911-918. doi: 10.1016/j.chb.2009.03.006.

Cunningham, J. A., van Mierlo, T., & Fournier, R. (2008). An online support group for problem drinkers: AlcoholHelpCenter.net. *Patient Education and Counseling, 70*(2), 193-198. doi: 10.1016/j.pec.2007.10.003.

Currie, D. (2009). Public health leaders using social media to convey emergencies. *Nation's Health, 39*(6), 1-30.

Cutrona, C. E., & Suhr, J. A. (1992). Controllability of stressful events and satisfaction with spouse support behaviors. *Communication Research, 19*(2), 154-174.

Davison, K. P., Pennebaker, J. W., & Dickerson, A. S. (2000). Who talks? The social psychology of illness support groups. *American Psychologist, 55*(2), 205-217.

Deaux, K. & Major, B. (1987). Putting gender into context: An interactive model of gender-related behavior. *Psychological Review, 94*, 369-389.

DeGarmo, D. S., Patras, J., & Eap, S. (2008). Social support for divorced fathers' parenting: Testing a stress-buffering model. *Family Relations, 57*(1), 35-48.

Dictionary. (2010). *Gender*. Retrieved on December 5, 2010 from http://dictionary.reference.com/browse/gender.

Drageset, J., Eide, G. E., Nygaard, H. A., Bondevik, M., Nortvedt, M. W., & Natvig, G. K. (2009). The impact of social support and sense of coherence on health-related quality of life among nursing home residents,ÄîA questionnaire survey in Bergen, Norway. *International Journal of Nursing Studies, 46*(1), 65-75. doi: 10.1016/j.ijnurstu.2008.07.005

Dubrovsky, V. J., Kiesler, S., & Sethna, B. N. (1991). The equalization phenomenon: Status effects in computer-mediated and face to face decision-making groups. *Human Computer Interaction, 6*, 119-146.

Dwyer, C., Hiltz, S.R. and Passerini, K., (2007). Trust and privacy concern within social networking sites: A comparison of Facebook and MySpace. *In Proc AMCIS 2007*.

Etter, J.F. (2009). Comparing computer-tailored, Internet-based smoking cessation counseling reports with generic, untailored reports: A randomized trial. *Journal of Health Communication, 14*, 646-657.

Facebook: Press room. (2011). *Statistics*. Retrieved October 22, 2011 from http://www.facebook.com/press/info.php?statistics.

Facebook: Basics. (2011). *Glossary of Terms*. Retrieved October 22, 2011 from http://www.facebook.com/help/glossary.

Gefen, D. & Straub, D. (1997). Gender differences in the perception and use of email: An extension to the Technology Acceptance Model. *MIS Quarterly, 21*(4), 389-400.

Gerin, W., Pieper, C., Levy, R., & Pickering, T. G. (1992). Social support in social interaction: A moderator of cardiovascular reactivity. *Psychosomatic Medicine, 54*(3), 324-336.

Gilbert, D. G., & Gilbert, B. O. (1995). Personality, psychopathology, and nicotine response as mediators of the genetics of smoking. *Behavior Genetics, 25*, 133-147.

Ginossar, T. (2008). Online participation: A content analysis of differences in utilization of two online cancer communities by men and women, patients and family members. *Health Communication, 23*, 1-12.

Gooden, R.J. & Winefield, H.R. (2007). Breast and prostate cancer online discussion boards: A thematic analysis of gender differences and similarities. *Journal of Health Psychology, 12*(1), 103-114.

Gray, R. E., Fitch, M., Davis, C., & Phillips, C. (1997). Interviews with men with prostate cancer about their self-help group experience. *Journal of Palliative Care, 13*, 15-21.

Hajek, P., Taylor, T., & McRobbie, H. (2010). The effect of stopping smoking on perceived stress levels. *Addiction, 105*(8), 1466-1471. doi: 10.1111/j.1360-0443.2010.02979.x

Hawn, C. (2009). Take two aspirin and tweet me in the morning: How Twitter, Facebook, and other social media are reshaping health care. *Health Affairs, 28*(2), 361-368. doi: 10.1377/hlthaff.28.2.361.

Herring, S. (1993). Gender and democracy in computer-mediated communication. *Electronic Journal of Communication, 3*(2).

Jackson, L. A., Ervin, K. S., Gardner, P. D., & Schmitt, N. (2001). Gender and the Internet: Women communicating and men searching. *Sex Roles, 44*, 363-379.

Kassel, J. D. (2000). Smoking and stress: Correlation, causation, and context. *American Psychologist, 55*(10), 1155-1156.

Klemm, P., Hurst, M., Dearholt, S.L., & Trone, S.R. (1999). Cyber solace: Gender differences on Internet cancer support groups. *Computers in Nursing, 17*(2), 65-72.

Koshy, P., Mackenzie, M., Tappin, D., & Bauld, L. (2010). Smoking cessation during pregnancy: the influence of partners, family and friends on quitters and non-quitters. *Health & Social Care in the Community, 18*(5), 500-510. doi: 10.1111/j.1365-2524.2010.00926.x

Krizek, C., Roberts, C., Ragan, R., Ferrara, J.J., & Lord, B. (1999). Gender and cancer support group participation. *Cancer Practice, 7*(2), 86-92.

Lacy, S., Riffe, D., Stoddard, S., Martin, H., & Chang, K. (2001). Sample size for newspaper content analysis in multi-year studies. *Journalism & Mass Communication Quarterly, 78*(4), 836-845.

Lampe, C., Ellison, N., & Steinfield, C., (2008). Changes in use and perception of Facebook. *In Proc CSCW 2008*, 721– 730.

Lenhart, A., Purcell, K., Smith, A., and Zickuhr, K. (2010). Social media and young adults. *Pew Internet & American Life Project*. Retrieved November 26, 2010 from http://www.pewinternet.org/Reports/2010/Social-Media-and-Young-Adults/Part-3.aspx?view=all.

Lepore, S. J. (1995). Cynicism, social support, and cardiovascular reactivity. *Health Psychology, 14*(2), 210-216.

Madden, M. (2010). Older adults and social media. *Pew Internet & American Life Project.* Retrieved November 26, 2010 from http://pewresearch.org/pubs/1711/older-adults-social-networking-facebook-twitter.

Malik, S.H. & Coulson, N.S. (2008). The male experience of infertility: A thematic analysis of an online infertility support group bulletin board. *Journal of Reproductive and Infant Psychology, 1*, 18-30.

Mo, P. K. H., & Coulson, N. S. (2010). Living with HIV/AIDS and Use of Online Support Groups. *Journal of Health Psychology, 15*(3), 339-350. doi: 10.1177/1359105309348808

Mo, P. K. H., Malik, S.H., & Coulson, N.S. (2009). Gender differences in computer-mediated communication: A systematic literature review of online health-related support groups. *Patient Education and Counseling, 75*, 16-24.

Neuendorf, K. (2002). *The content analysis guidebook*. Thousand Oaks, CA: Sage Publications, Inc.

Oliffe, J.L., Ogrodniczuk, J., Bottorff, J.L., Hislop, T.G. & Halpin, M. (2009). Connecting humor, health, and masculinities at prostate cancer support groups. *Psycho-Oncology, 18*(9), 916-926.

Parrott, A. C. (1999). Does cigarette smoking cause stress? *American Psychologist, 54*(10), 817-820.

Peterson, J. L. (2009). You have to be positive: Social support processes of an online support group for men living with HIV. *Communication Studies, 60*(5), 526-541. doi: 10.1080/10510970903260368.

Pitts, V. (2004). Illness and Internet empowerment: Writing and reading breast cancer in cyberspace. *Health: An Interdisciplinary Journal for the Social Study of Health, Illness, and Medicine, 8*(1), 33-59.

Postmes, T. and Spears, R. (2002). Behavior online: Does anonymous computer-mediated

communication reduce gender inequalities? *Personality & Social Psychology Bulletin,*

28, 1073-1083.

Prochaska, J. & DiClemente, C. (1983). Stages and processes of self-change of smoking:

Toward an integrative model of change. *Journal of Consulting & Clinical Psychology,*

51(3), 390-395.

Reddin, J.A. & Sonn, C.C. (n.d.) Masculinity, social support and sense of community: The men's

group experience in western Australia *(Unpublished doctoral dissertation or master's*

thesis). Edith Cowan University, Perth, Western Australia.

Riffe, D. & Aust, C. (1993). The effectiveness of random, consecutive day and constructed

week sampling in newspaper content analysis. *Journalism Quarterly, 70*(1), 133-139.

Seale, C. (2006). Gender accommodation in online cancer support groups. *Health: An*

Interdisciplinary Journal for the Social Study of Health, Illness and Medicine, 10(3),

345-360.

Seganti, F. R. (2008). Gender differences in Italian immigrants' online interactions. *Antrocom,*

4(2), 111-117.

Strano, M. M. (2008). User descriptions and interpretations of self-presentation through

Facebook profile images. *Cyberpsychology: Journal of Psychosocial Research on*

Cyberspace, 2(2), article 1.

Swallowe, J. (2003). A critical review of research into differences between men and women in

the use of media for interpersonal communication. Retrieved on February 6, 2012 from

www.aber.ac.uk/media/Students/jos0102.doc.

Tech Terms: The Tech Terms Computer Dictionary. (2008). *Facebook.* Retrieved November 26,

    2010 from http://www.techterms.com/definition/facebook.

Uchino, B. N. (2006). Social support and health: A review of physiological processes potentially

    underlying links to disease outcomes. *Journal of Behavioral Medicine, 29*(4), 377-387.

    doi: 10.1007/s10865-006-9056-5

van Uden-Kraan, C. F., Drossaert, C. H. C., Taal, E., Seydel, E. R., & van de Laar, M. A. F. J.

    (2010). Patient-initiated online support groups: Motives for initiation, extent of success

    and success factors. *Journal of Telemedicine & Telecare, 16*(1), 30-34. doi:

    10.1258/jtt.2009.001009

Vilhauer, R. P. (2009). Perceived benefits of online support groups for women with metastatic

    breast cancer. *Women & Health, 49*(5), 381-404. doi: 10.1080/0363024090323871.

Webopedia. (2010). *Post*. Retrieved November 26, 2010 from

    http://www.webopedia.com/search/post.

West, R. & Hajek, P. (1997). What happens to anxiety levels on giving up smoking? *American*

    Journal of Psychiatry, 154, 1589-1592.

White, M. & Dorman, S. (2001). Receiving social support online: Implications for health

    education. *Health Education Research, 16*(6), 693-707.

Classifications of Social Support & Examples
Type of Social Support   Examples
*** Posts may contain more than one type of support ***

A. Information support: conveys instructions and appears to <u>reduce uncertainty or help make life more predictable for the message recipient.</u> This may consist of individuals describing what worked best for them, how they successfully quit, or what was difficult for them in the quitting process, etc. Anything that will give the recipient a clearer idea of what cessation will be like. (Ex. "What worked best for me was avoiding social situations…")

      Informational support also provides advice and guidance. Giving information will fall into this category and will include comments that focus on suggestions for quitting, including websites to visit for further information.

Jeffro Mullin tips ... if you have friends that smoke and friends that don't smoke then hang out with the non smokers for a while ... I found the hardest thing to overcome was buying ciggie's when I did my shoppin

Phil Antony quitting is 95% physcological ,<u>l found reading as much info as possible about quitting/smoking helped</u> , understand your enemy and it is easier to defeat them, <u>this website is a good start</u>
http://www.facebook.com/l.php?u=http%3A%2F%2Fwhyquit.com%2F&h=c7c0b

B. Emotional support: Expresses empathy, <u>supports the emotional expression of the recipient,</u> <u>communicates love or caring</u>; Indicators of this type of support may also consist of recognition of feelings of happiness, stress, anger, frustration, or related <u>emotions of the recipient</u>. To code this type of support, the post MUST CONTAIN reference to an emotion.

Joanne Ruff Day 9 for me!!! sorry about your mother in law, <u>you must be very upset</u>. Good luck!! keep strong

C. Esteem support: Validates recipient's <u>self-concept, importance, competence, and rights as a person</u> (communicating respect and confidence in abilities); recognizes self-efficacy of another and their ability to quit smoking or continue without smoking.
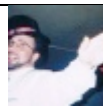
Tom Sharo Thanks Jeffro, Ive read a few of your posts .. <u>yer doing great!</u> Keep it up man!
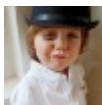
Raelene Doran <u>wise words there Jeffro</u> , how long did you smoke for? how long since your last?
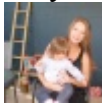
Louise Cowan Don't worry Diane, <u>you CAN do it</u>.

D. Network support: messages that appear to broaden the recipient's social network by connecting him or her to others with similar experiences or situations. This is specific to connecting an individual with other PEOPLE that might be helpful, such as encouraging him/her to continue posting on the Facebook page or to join another support group.

Harry Haller Traci, keep posting here and <u>you will get lots of advise and support.</u> that's what we are all here for right!? :)

E. Tangible assistance: sender offers to provide tangible resources, services, or assistance in support of the recipient. This can be by providing or offering to provide material support in the form of money, information, or time that may help another individual. This does NOT include suggestions, tips or directing the person to a website.

American Cancer Society Our quitline is a free service! Call 1-800-ACS-2345 to be set up with a quit coach today.

Classifications of Gender and Smoking Status
Gender

F. Gender: Based on the person's name and profile picture, indicated before each post, determine whether the person is male, female, or cannot be determined. In cases where you cannot determine the gender based on the name and photo, other cues can be used such as reference to being a mother, father, daughter, nephew, etc.
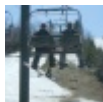
Examples

Andrea Hamilton Green

Sam Jones its time to quit! <u>im a mother of 3</u> kids and desperately want to quit for them!

Smoking Status

G. Smoker: If the participant indicates a quit date that falls at any point after the post or that they are planning to quit but haven't yet, they should be coded as a smoker.

Examples

Traci Mason-yates i have been smoking for 22 years and i often feel like i am going to die from it but cant seem to stop. WANT TO VERY BADLY but feel afraid. is this normal?

H. Recent quitter: A participant's status can be coded as a recent quitter if a quit date is provided by the participant that falls on or within a month or 30 days before the post. This may also be evident through the participant describing that they have not smoked in a specified time period. If a time period is specified, the participant can be coded as recent quitter even in the absence of the mention of the specific quit date. If a person self-categorizes him/herself by saying he/she is a "recent quitter" or "smoker" or "long time nonsmoker" etc, this information is irrelevant and coding should be determined ONLY by quit date or mention of days smoke-free, etc.

H. Nonsmoker status not evident: When a person indicates that they are a nonsmoker but there is no timeline or cues to identify if they are a recent quitter or long-term quitter, they should be coded as nonsmoker status not evident.

I. Long-term quitter: Smoking status should be coded as long-term quitter if the quit date falls further than a month or 30 days before the post. This can be specified by the individual announcing that they are more than 30 days smoke free. If a person self-categorizes him/herself by saying he/she is a "recent quitter" or "smoker" or "long time nonsmoker" etc, this information is irrelevant and coding should be determined ONLY by quit date or mention of days smoke-free, etc.

K. Multiple Statuses: If an individual is coded more than once in the sample with different smoking status, they should be coded as multiple statuses.

Mary Bradley congrats Raelene! I'm on day 13.

Alan Epps absolutely, have started playing piano again & this really helps because it keeps my fingers occupied!!! – didn't realize how much I miss playing till I stopped smoking –

Will Proctor Approaching week 10. :)
September 15, 2010 at 12:36pm · Like · Comment
Robin Whalen, Tony Vandiver and Joanie Sloezen like this.

Tom Five days smoke free!
Tom I just had a relapse yesterday and had a cig. I need to kick this thing!

Classifications of Posts and 'Likes'

Post Type	Examples

L. Original Post: If the post you are coding is the first post in a thread, code it as Original Post. Note: if there is only a single post and no responding posts to build a thread, code as Original Post.

M. Response: If the post you are coding is not the first post in a thread, code it as Response. These posts will be indented and text will be smaller.

N. Date of Original Post:
Indicate the date the thread begins. For single posts, this would be the date of the post.

Mandee Ellen McGahan 25 days without smoking cigs – still going strong
September 14, 2010 at 7:44pm · Like · Comment
Robin Whalen, Tony Vandiver, Joanie Sloezen and 3 others like this.

Robin Whalen One week!!!! WooHoo Go Me!!!!!! I must say I am very proud of myself! I really never thought I could do it...if I can do it anyone can!! I called myself a "dedicated smoker".....I smoked for 32 years!! I am FREE!!!!
September 14, 2010 at 8:21am · Like · Comment
Sheila Huysamen, Joanie Sloezen, Will Proctor and 3 others like this.

Robin Whalen My aunt has copd, scary! That keeps me going too, I don't want to not be able to breath! I haven't started actually saving the money I would have spent, good idea though. How long have you been quit?
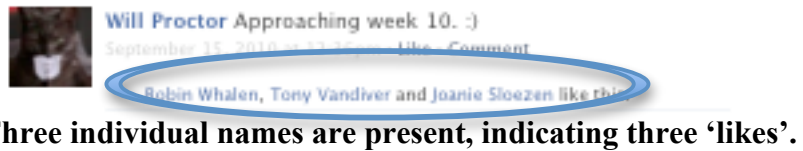September 14, 2010 at 8:50am · Flag

O. 'Like': If there is a line under a post that says other individuals 'liked' the comment, code the comment as liked.

Will Proctor Approaching week 10. :)
September 15, 2010 · Like · Comment
Robin Whalen, Tony Vandiver and Joanie Sloezen like this.
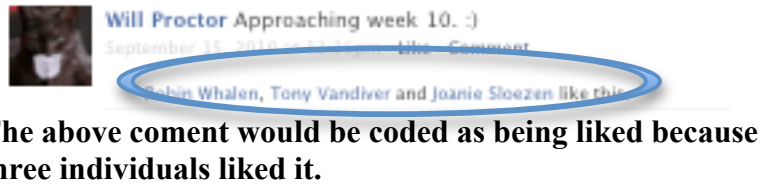
The above coment would be coded as being liked because three individuals liked it.

P. Number of Likes:
Indicate the number of people that liked the comment. If it says a name, followed by "and ____ others liked this," count all the names and put that number.

Will Proctor Approaching week 10. :)
September 15, 2010 · Like · Comment
Robin Whalen, Tony Vandiver and Joanie Sloezen like this.

Three individual names are present, indicating three 'likes'.