

**Disclosure of Psychological Distress by University Students on an  
Anonymous Social Media Application: An Online Ethnographic Study**

By

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## **Abstract**

This research examines the disclosure of psychological distress by post-secondary students on an anonymous mobile application called Yik Yak. This application allows users to communicate anonymously with other local individuals, thus creating small virtual communities. The University of Manitoba is one such community within the application. Using online ethnography and qualitative analysis methods, I examine what the narratives presented by users of Yik Yak reveal about the mental health concerns of university students and the role that this virtual community plays for students managing mental health concerns. The findings show that exam anxiety and academic stress, depression, suicidality and thoughts of death, anxiety, sleep disturbance, excessive stress, loneliness and social isolation, sadness, and loss of motivation, were major mental health concerns and significant sources of psychological distress for students, especially during final exam periods. As well, thematic analysis of posts indicated that emotion-sharing on the app fosters social support through individuals exchanging emotional and information support. Having their subjective experiences validated by like-minded individuals helps build community identity and a sense of belongingness. Individuals on the app are also able to disclose repressed selves and counter stigmatizing beliefs. By assessing how mental health disclosure is expressed, perceived and constructed by individuals using this anonymous medium, it may be possible to develop better interventions to help improve mental health programming for post-secondary students.

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**Dedicated to my late grandfather, and to those who cannot give voice to their suffering.**

***“Out of suffering have emerged the strongest souls; the most massive characters are seared  
with scars.” – Kahlil Gibran***

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## **Chapter 1**

### **Introduction and Background**

On October 12, 2015, a promising student at the University of Alberta named Evan Tran died by suicide, bringing the issue of mental health on Canadian university campuses into focus once more (University of Alberta 2015; Warnica 2015). Earlier, in 2011, University Wellness Services at the University of Alberta found that over half of the 1600 students surveyed reported feeling overwhelming anxiety and that “things were hopeless” (University Wellness Services 2012). There are no recent statistics on the mental health status of students at the University of Manitoba (UM); however, data from a 2013 survey of more than 30,000 students from over 30 Canadian institutions found that 53.8 percent of students surveyed had “felt things were hopeless,” 63.9 percent had “felt very lonely,” and 37.5 percent had “felt so depressed that it was difficult to function” (American College Health Association 2013).

According to Statistics Canada (2002), the same proportion of Canadians suffer from mental illness as other leading chronic conditions such as heart disease and diabetes. In fact, young people from the ages of 15-24 are more likely to suffer from mental disorders such as major depression, mania, and eating disorders than other stages of the lifecourse; and, the onset of most mental illnesses occurs during this life stage. The rate of suicide is highest among this age group, which is also when most individuals begin post-secondary studies. While universities across Canada continue to develop programming with a focus on mental health (Lunau 2012), it is important to consider the ways in which university students are interpreting and managing their mental health concerns in order to provide better, targeted interventions for this population.

Despite ongoing national efforts to promote mental wellness (Government of Canada 2002), many people are not being treated for mental illness. One reason for this is mental illness

stigma; public stigma and self-stigma are major barriers to help-seeking for mental health concerns (Goffman 1963; Link and Phelan 2006). Stigmatizing beliefs about mental that individuals with mental illnesses are a danger to themselves or others, incompetent, criminal, and deserving of shame, blame and punishment (Parcesepe and Cabassa 2012). Thus, people may feel forced to hide their illnesses, instead of seeking help. Paradoxically, disclosure of emotional information related to one's stigmatized identity has been found to alleviate distress (Greene, Derlega, and Mathews 2006). The online environment has become a preferred avenue for disclosure, and seeking help and information regarding mental illness, due to the anonymity and relative privacy afforded by various online social spaces (Townsend, Gearing and Polyanskaya 2014).

When Horgan and Sweeney (2009) sought to examine young people's access to information regarding mental health, they found that 68 percent of their respondents indicated that they would use the Internet for mental health support and information. In an increasingly electronically-mediated society, the Internet has become a major source of information on general mental health as well as chronic mental disorders (Guada and Venable 2011; Horgan and Sweeney 2009). While help-seeking on the Internet takes many forms, according to Wikgren (2001), lay health consumers prefer to get information from online support communities. Online support resources enable users to connect, build networks and share information regarding chronic disorders such as HIV/AIDS, cancer, and eating disorders, and it is often the first point-of-reference for users attempting to understand emerging symptoms of illness (Manderson 2011, 1).

Beneito-Montagut (2011) argues that, as the Internet continues to become a part of our daily lives, the boundaries between online and offline communication and

interaction are blurred, and the two spaces also transform each other (Garcia et al. 2009, 53). So, we shape this medium and it, in turn, shapes us. Due to its dynamic nature and sociocultural influence, the Internet and social media have garnered attention from anthropologists owing to their vast potential as fields of study (Boellstorff 2012; Hine 2000; Kozinets 2010; Miller and Slater 2000; Wilson and Peterson 2002).

### Yik Yak

As Internet and smartphone usage continues to increase, social media applications have become commonplace modes of entertainment, information and communication. According to a Pew Research Centre (2013) study, 90 percent of adults who use the Internet also use social media. Instant messaging apps, in particular, have become extremely popular. In 2014, approximately 50 billion instant messages were sent per day (Piwek and Joinson 2016). This real time exchange of text messages, emoticons, voice messages, images, moving images and videos are so popular that this service has also been included in other social media applications including Twitter, Facebook, LinkedIn and Google+. In fact, new social media apps which employ messaging are released every day.

Yik Yak is one such application. Launched in 2013, the app quickly rose in popularity on college campuses (Pullen 2015). It is different from other apps because it is geographically bounded to the area around the user's location; typically, these areas are limited to university campuses and other zones. Thus, specific communities have emerged out of this feature, and are known as "herds". The University of Manitoba constitutes a herd and users within this area and herd can post anonymous messages that become available to the rest of the herd. The CEO of Yik Yak described the app as, "a virtual bulletin board of sorts for community engagement

within a specific location” (Yahoo.com 2014). While an apt description, it has also been compared to “[notes] scrawled on a bathroom wall” (Pullen 2015, par. 7).

On this virtual bulletin board, users have the ability to upvote and downvote posts and therefore play a role in ranking popular posts and threads. As a result, users participate in shaping the medium itself. If a post receives a vote count of -5, it is automatically deleted from the list of posts. So, users within the herd are able to regulate content with their votes, though users are restricted to upvoting or downvoting each post only once, allowing for community policing of the feed. Users can also reply to posts and to each other within threads; however, users could not, during the study period, communicate with another anonymous user outside of a particular thread.

All messages on Yik Yak are limited to 200 characters, resembling the microblogging service Twitter. There are also no user profiles associated with the application so no identifying information is available. The posts expire with time, usually within 10-12 hours depending on their popularity; so, the feed changes throughout the day as some posts expire and new posts are added. The posts are not archived or retained in the feed, so the application allows for messaging that is also time-limited. Figure 1 provides a screen capture of a typical feed consisting of posts in the University of Manitoba herd; it is a snapshot of the most popular posts of the day with many more available to be viewed by scrolling on the app’s screen.

**Figure 1 Yik Yak screen capture from University of Manitoba herd taken on iOS based iPhone**



After the app became one of the most popular for the student demographic, it quickly came under fire due to its anonymity feature which can be used for engaging in cyberbullying (Pullen 2015). Media coverage painted Yik Yak as a danger to youth, with one headline announcing: “Psychiatrist’s View: Yik Yak Is Most Dangerous App I’ve Ever Seen” (FoxNews.com 2016).

In 2014, a petition was started to remove and shut down the app, collecting over 75,000 signatures (Pullen 2015). A specific complaint noted in the petition was the use of the app by high school students to post negative comments about fellow students, administrators and teachers. In response to the growing media scrutiny and the petition, Yik Yak instituted a geofencing feature in its software which blocks the app from being used in or near primary, middle and high schools, using GPS technology (Pullen 2015).

Despite this, I observed that the app was extremely popular with university students at UM. Due to the aforementioned features, it also appeared to be a rich source of data. While Yik Yak is not explicitly a mental health forum, I observed that there were, on average, a minimum of 1-2 posts related to mental health on the application per day in the University of Manitoba herd. This led to the conceptualization of a project to study this unique environment.

### Research Objectives

Drawing on theories of stigma (Goffman 1963; Link and Phelan 2006), self-disclosure (Rime 2016), and the social sharing of emotion (Rime 2009), along with the Foucauldian conceptualizations of confession and care of the self (Foucault 1978, 1988), I suggest that the Internet and virtual communities, as they are now a part of the local, social and cultural context, exert a significant influence on shaping individual subjectivity, and vice versa. Due to the stigmatized and, thus, secretive nature of many topics pertaining to mental illness, it is important to understand how virtual communities are used in the process of coping with mental health concerns. Therefore, this project examined the mental health concerns of post-secondary students at the University of Manitoba through online ethnographic study and qualitative analysis of posts on Yik Yak. The research questions which framed and guided this project were:

- RQ1. What do online narratives presented by users of Yik Yak tell us about the mental health concerns of current post-secondary students at the University of Manitoba?
- RQ2. What role does the virtual community of Yik Yak play for individuals coping with emotional distress and mental health concerns?

### Definition of Terms

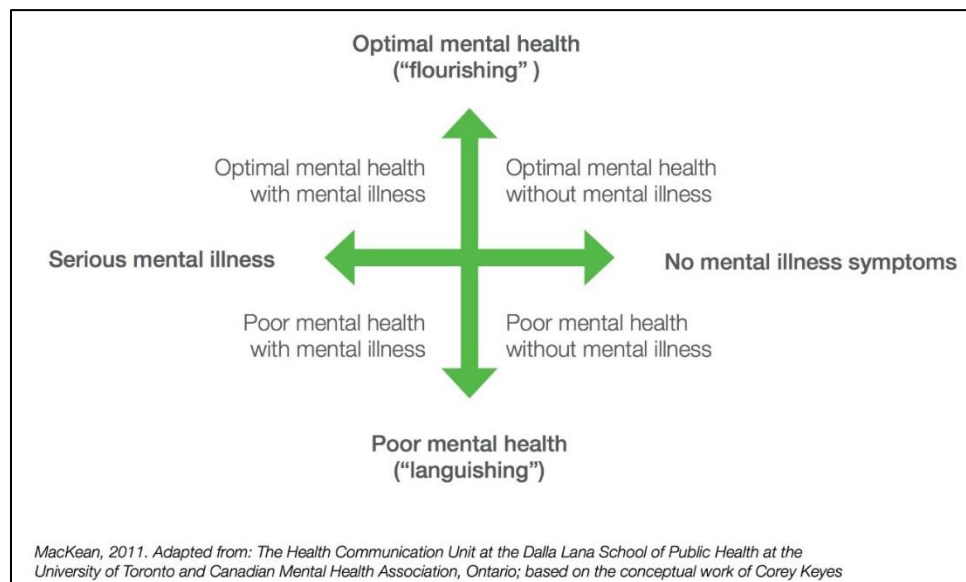
#### *Mental Health*

The concept of mental health is defined by the Government of Canada (2006) as:

The capacities of each and all of us to feel, think, and act in ways that enhance our ability to enjoy life and deal with the challenges we face. It is a positive sense of emotional and spiritual well-being that respects the importance of culture, equity, social justice, interconnections, and personal dignity.

The present study will also draw on the following conceptualization of mental illness and health from the collaborative initiative of the Canadian Association of College and University Student Services (CACUSS) and the Canadian Mental Health Association (CMHA) based on the work of Corey Keyes (2002) which defines health and illness as “separate continuums wherein a student with mental illness may flourish and conversely, someone without mental illness may languish with less than optimal health” (Figure 2).

**Figure 2. Dual Continuum Model of Mental Health and Mental Illness (Canadian Association of College & University Student Services and Canadian Mental Health Association 2013)**



Following Keyes (2002), mental health typically includes both positive (i.e., psychological wellbeing) and negative (i.e., psychological distress, stress and burnout) indicators (Goyal et al.'s 2014). Commonly, studies seeking to measure these negative indicators, or distress, use depression questionnaires administered to patients; however, these measures are not

context specific (Newton, Thombs, and Groleau 2012). Instead, to avoid isolating distress as a symptom of depression only, the more general terms of psychological distress, psychosocial distress or mental health are used (Newton, Thombs, and Groleau 2012). This study does not seek to diagnose individuals or classify symptoms. Rather, it focuses on the indicators of negative or suboptimal mental health, as characterized by expressions of emotional or psychological distress. Textual expressions of psychological distress were used to identify data which were then thematically analyzed to derive meaning from those expressions. Textual expressions of psychological and emotional distress, mood disturbances, diagnosed psychiatric disorders, information seeking for possible mental illness, and other questions related to ill mental health, comprised the data collected for this study and are thus grouped under the umbrella term “mental health concerns”.

### *Psychological Distress*

In a concept analysis based on previous studies of psychological distress, Ridner (2004, 539) defines psychological distress as “the unique discomforting, emotional state experienced by an individual in response to a specific stressor or demand that results in harm, either temporary or permanent, to the person.” The author also provides signs which can be used by clinicians to assess psychological distress, which include: irritability, loneliness, sadness, depression, anxiety, anger, hopelessness, insomnia, helplessness, suicidal gesture, and social withdrawal. Massé et al. (1998) developed a scale founded upon an anthropological understanding of signs and idioms of distress based on a French-Canadian sample in Quebec, which Ridner (2004) used to define the concept of psychological distress. Said to be high in validity and consistency (Massé et al. 1998; Massé 2000; Ridner 2004), Massé’s (2000) scale defines psychological distress through four

factors: devalorization, irritability/aggressiveness, anxiety/depression, and demotivation (Table 1).

**Table 1. Massé's (2000) Four Characteristics of Psychological Distress**

- |   |
|---|
| <ol style="list-style-type: none"><li>1. 'Devalorization' or self-depreciation, which refers to a loss of self-confidence, a feeling of uselessness, low self-esteem, and a tendency to isolate oneself (e.g., I lack self-confidence; I had the impression that no one loved me).</li><li>2. 'Irritability/aggressiveness' tinged with arrogance and conflicts with others (e.g., I was arrogant and even rude toward others; I was aggressive about every little thing).</li><li>3. 'Anxiety/depression' mixed with stress (e.g., I felt depressed or down in the dumps; I felt preoccupied and uneasy).</li><li>4. 'Demotivation,' which refers to a social disengagement and a generalized disinterest toward life (e.g., I was less receptive to the ideas and opinions of others; I did not feel like doing anything). (Massé 2000, 414-15)</li></ol> |
|---|

Both Ridner's (2004) and Massé's (2000) definitions were used to guide the framework and data collection for this study, which will be discussed in more detail in Chapter 3. Following Ridner (2004) and Massé's (1998, 2000) use of these terms, psychological distress, psychosocial distress and emotional distress are used interchangeably.

#### *Online Social Group (OSG)*

An online social group, also known as an online forum or message board, involves text based interactions on a shared interest or subject. Participants of forums compose and post messages which may include combinations of texts, graphics, photographs, and/or hyperlinks to other pages. Other users may reply to these posts, which, over time, forms an "asynchronous, conversational 'thread'" (Kozinets 2010, 85). Yik Yak follows a similar format wherein replies to a post constitute a thread, and the list of posts is often referred to as the "feed" (Figure 1). An individual who uses and participates in an online social group is known as a "user". Users of Yik

Yak are also known as *yakkers* in the context of the app. The terms “poster” and “member” are also synonymous with user. A *yak* is a text and/or image posted by a yakker on the application.

### Methodology

Based on the interpretivist paradigm, which frames this project, a qualitative analysis is used for developing a greater understanding of this study’s research focus. Specifically, an ethnography in the online environment, referred to as online ethnography or netnography, was conducted. Online ethnography is the application of conventional ethnographic methodology to the online environment (Kozinets 2010). The fieldsite for online ethnographies may be message boards or forums, chat rooms, newsgroups, blogs, social networks, websites and other online “sites”. Due to its relatively recent inception and its differences from traditional ethnography, online ethnographies present unique opportunities and challenges which will be discussed in Chapter 3.

Data was collected over a period of five months (November 21<sup>st</sup> 2015 to May 8<sup>th</sup>, 2016) and was analysed using content analysis for RQ1 and thematic analysis for RQ2. Through a qualitative approach employing virtual ethnography and thematic analysis of threads, I examined the use of Yik Yak by students. As well, particular attention was also paid to the specific characteristics and culture of this virtual environment that foster dialogue on stigmatized or taboo subjects, including mental health, using ethnographic description. Thus, virtual ethnography was particularly well-suited for the study of interactions found within Yik Yak.

This study contributes to the growing literature on mobile virtual environments, online social groups, and mobile mental health (Powell, McCarthy and Eysenbach 2003; DeAndrea and Anthony 2013; Wetterlin et al. 2014; Townsend, Gearing and Polyanskaya 2014; Clarke,

Kuosmanen and Barry 2015; Black, Mezzina, and Thompson 2016) along with supporting existing literature on the mental health concerns of university students (Campbell, Svenson, and Jarvis 1992; Trockel et al. 2000; Adlaf et al. 2001; Kitzrow 2003; Eisenberg et al. 2007; Eisenberg et al. 2009; Zivin et al. 2009; Hunt and Eisenberg 2010; Ibrahim et al. 2013; American College Health Association 2013) and potential areas for improvement in decreasing stigma and promoting help-seeking for mental health concerns.

### Thesis Outline

Chapter 2 introduces the theoretical framework for this study which is built on the concepts of stigma, writing the emotional or distressed self, and self-disclosure. I first explore theories of stigma, self-labeling and self-stigma. This is followed by examining theories regarding the social sharing of emotion, and confession and care of the self. Online self-disclosure, anonymity, and disinhibition are presented next to help provide an understanding of why people share and disclose stigmatized information online. This chapter also presents a review of the literature on the mental health concerns of university students, online social groups for mental health, and online ethnographies.

In Chapter 3, I discuss the research paradigm for this study along with its methodology and design. The process of data collection and ethnographic observation are presented, along with the content and thematic analysis procedures. I also discuss issues of validation for qualitative studies and ethical considerations for conducting studies in the online environment, especially for sensitive subjects like mental health.

Chapter 4 provides a detailed overview of Yik Yak, its geography and features which are relevant to this study. Ethnographic description of this fieldsite is provided to help contextualize the findings of this study. I describe the layout of the application and the population of the herd.

As well, relevant characteristics of the app and the changes introduced in the application, and their impact on users, are also considered.

Chapter 5 presents the findings and discussion of this study which are divided by responses to the research questions. First, I discuss the findings for RQ1 and the major mental health concerns found through content analysis of posts. Then, I examine the thematic findings for RQ2 regarding the role of the virtual community for individuals coping with mental health concerns.

In Chapter 6, I summarize the project and findings in view of the research objectives and discuss the limitations of the study. I conclude the thesis by providing policy recommendations and directions for future research.

## Chapter 2

### Literature Review

This chapter presents an overview of the theoretical concepts and studies which undergird this research. In order to understand why individuals use anonymous social media platforms for expressing distress, I will first examine theories regarding stigma (Goffman 1963, Link and Phelan 2006) and the associated concepts of self-labeling (Karp 1992; Hayne 2003; Moses 2009) and self-stigma (Chaudoir and Fisher, 2010; Corrigan and Rao 2012; Lawlor, Aideen and Kirakowski 2014), as they relate to mental health. This is followed by an exploration of the Foucauldian theories of care of the self and confession (Foucault 1978, 1988) which provide a cultural-historical perspective on self-writing, identity and community. Similarly, Rime's (2009) theory of the "social sharing of emotion" provides an understanding of the functions of emotion-sharing for both the individual and for society. Online communication has been referred to as being "hyperpersonal" due to the unique characteristics afforded by the medium which promote self-disclosure (Walther 1996). An examination of self-disclosure and the online disinhibition effect help to explain this phenomenon of emotion-sharing in the online environment for stigmatized identities. Finally, I will conclude with a review of recent research on the mental health concerns of university students, mental health support online, and relevant online ethnographic studies.

#### Theoretical Framework

##### *Stigma*

Stigma, derived from the Greek word *stigmata*, is defined as "a mark of disgrace associated with a particular circumstance, quality, or person" (Oxford Dictionaries, n.d.). Mental

illness stigma is a significant issue in Canada. A 2008 Ipsos Reid poll of 2204 Canadians found that almost half (46%) said they believed that mental illness is an excuse for bad behaviour, more than half (55%) would not marry someone who is mentally ill, and a majority would not see a family doctor (61%) or hire a lawyer (58%) with a mental illness (Spurgeon 2008). Stigma is also a significant barrier to seeking treatment for mental illness. Stigma has been studied extensively in the social sciences and provides a starting point for understanding the motivations for online help-seeking behaviour.

### Theories of stigma

Sociologist Erving Goffman's (1963) theory of social stigma defines stigma as an attribute or trait which socially discredits an individual in the eyes of society. Thus, stigmatized people who are disfavoured by society are no longer perceived as "normal". Goffman coined the term "spoiled collective identity" to describe a stigmatized individual whose entire identity is brought into question, reducing and tainting the individual in society's view, because of the perceived discrepancy between an individual's "virtual social identity" (normative character attributes expected by society) and "actual social identity" (attributes the individual actually possesses) (Goffman 1963).

The stigmatized individual's perceived inability to live up to a socially defined ideal identity is also dependent on a number of other factors. Link and Phelan (2006) expanded upon Goffman's theory and conceptualize stigmatization as a process shaped by social, political, and economic power, resulting in structural discrimination, social limitations, and status loss. In their conceptualization, five related components combine to produce stigma. In the first component, people distinguish and label human differences. Second, cultural beliefs link the labelled person to negative stereotypes. Third, labelled persons are categorized so as to create a separation from

“us” and “them” (the stigmatized group). In the fourth component, labelled persons experience status loss and discrimination resulting in unequal outcomes. Finally, Link and Phelan (2006) assert that stigma is entirely dependent on the exercise of social, cultural, political and economic power.

Importantly, they also state that labelling may have both positive and negative consequences (Link and Phelan 2006, 2013). While the labelling theory of mental illnesses, as originally put forth by Scheff (1966), strongly emphasized the negative consequences of labelling, including reifying mental illness, later research (Rosenfield 1997) has shown that labelling also has benefits such as receipt of treatment, drug therapies and associated services (Link and Phelan 2013). Thus, Link and Phelan (2013, 575) conclude that the negative and positive effects of labelling exist as a “package deal”.

### Self-labeling

While it is well-established that fear of being labelled and stigmatized are barriers to seeking treatment (Corrigan and Rao 2012; Lawlor and Kirakowski 2014), it is also important to examine how individuals perceive and interpret their conditions and/or diagnoses to better understand how perceptions of labelling and stigma impact identity and well-being. Moses (2009) used a mixed-methods approach to understand the extent to which adolescents use psychiatric terms to describe their problems (self-labeling), and the relationship between self-labeling and indicators of psychological well-being, such as self-esteem, mastery, depression and self-stigma. He found that most of the adolescents (aged 12-18) used non-pathological terms to define their problems, and those who self-labeled scored higher for self-stigma and depression, adding support to the hypothesis that self-labeling results in poor psychological well-being.

However, a phenomenological study by Hayne (2003) into the life-worlds of persons diagnosed with mental illness found that the participants experienced both negative and positive emotions with regard to being labeled. In particular, participants stated that diagnosis “[made] visible the invisible” as it made their illness evident, thus allowing for healing to begin (Hayne 2003, 725). As well, diagnosis also provided knowledge and affirmed participants’ feelings, helping them to reinterpret their selfhood and make illness more manageable. Similarly, Karp (1992), in his ethnographic study of a self-help group for depression disorders, discovered that most individuals in the group were thankful for being able to name their experiences. As the author notes, “the creation of an illness reality was...a first and critical step in the effort to make sense of things,” because, through diagnosis, the affliction is now bound by a concrete definition, is tangible, and can be treated (Karp 1992, 149). Other members of the group avoided certain words such as “mental” to describe their conditions, preferring to describe them as “emotional” illnesses instead because of the stigmatization of psychiatric diagnoses (Karp 1992, 151).

So, psychiatric labels and descriptors for psychological distress carry benefits, such as explanatory power, affirmation and access to treatment; however, they can also stigmatize and, thus, worsen the psychological well-being of an individual due to imbalances in the exercise of social, political and economic power resulting from stigma (Link and Phalen 2006).

### Self-stigma

When stigma is internalized, it results in reduced self-esteem, empowerment, hope and quality of life (Corrigan and Rao 2012). The internalization of stigma is known as self-stigma, which is defined as “the self-legitimization of perceived public stigma to the extent that a person not only believes negative attitudes and stereotypes to be true, but that they actually apply to them” (Lawlor, Aileen and Kirakowski 2014, 152). Self-stigma diminishes self-efficacy and

self-esteem resulting in the “why try” effect which is characterized by feelings of being less worthy of opportunities and thus hindering achievement of life goals (Corrigan and Rao 2012). Corrigan and Rao (2012) argue that the first step in countering self-stigma is being open about one’s condition. However, because public stigma can lead to negative consequences of disclosing mental illness, selective disclosure with trusted peers and groups may be an alternative to broadcasting one’s experience.

People who suspect that they have a mental illness or who have been diagnosed with a mental illness are said to bear a “concealable stigmatized identity” (Chaudoir and Fisher, 2010). Stigma acts as a barrier to individuals disclosing their condition because disclosing the socially devalued information of one’s stigmatized identity may result in rejection and discrimination (Chaudoir and Fisher, 2010). However, the literature on self-disclosure (Hayne 2003; Rime 2009; Corrigan and Rao 2012; Liu et al. 2016; Rime 2016) shows that disclosure can provide many benefits for an individual’s sense of self, identity, and personal relationships. Thus, disclosure of stigmatized identity can be both beneficial and harmful. It is suggested that the reaction of the confidant to whom the individual discloses will determine whether disclosure is beneficial or not (Chaudoir and Fisher 2010). When reactions are neutral or negative, disclosure is not beneficial (Rodriguez & Kelly, 2006). Therefore, it is possible that the anonymity afforded by some online social groups helps alleviate the social pressure of the confidant’s reaction, making online self-disclosure of stigmatized identity an attractive option for some.

Online social groups (OSGs) for mental health have been reported as being an important catalyst in seeking formal help (Powell, McCarthy and Eysenbach 2003). McKenna and Bargh (1998) found that participation in OSGs for stigmatised identity helped to increase affiliation with the stigmatized group, increased self-acceptance, decreased feelings of isolation, and

increased the probability of disclosing one's stigmatized identity to others. In order to better understand why individuals may want to disclose online, I will now provide an overview of theories regarding emotional self-expression and written disclosure, as well as how emotional self-disclosure is fostered in the online environment.

### *Writing the Emotional or Distressed Self*

Parr (2008, 160) suggests that online social spaces for mental health are better conceived of as “intense spaces for transitional selves that are nonetheless providing sustainable geographies of communality for some.” These virtual communities provide a space for individuals to feel a sense of belonging by having their emotions and subjective mental experiences validated by other, often like-minded individuals. Parr (2008) also states that individuals feel like they are insiders of these discursive communities in contrast to the “outside world”, where some users feel excluded. This is because computer-mediated communication (CMC) can provide some anonymity in comparison to face-to-face communication (F2F); this “allows a person to discuss fears, ask factual questions and discuss common experience to reduce isolation,” while “[helping] each other cope with shared problems” through writing (McKenna et al. 2002). It is suggested that online social spaces may be even richer and more intimate than offline social worlds as asynchronous communication allows participants to take the time to carefully consider how they want to represent themselves and what aspects they will choose to highlight (Walther 1996; Suler 2004; Parr 2008). Thus, according to Parr (2008, 45), the online textual medium is particularly useful for “writing the distressed or ill self” and is a promising resource for the study of mental health.

## Foucault's Care of the Self

Textual communication as found in online communities can be particularly beneficial as writing down thoughts, feelings, and experiences has been shown to be emotionally cathartic and empowering (Boniel-Nissim and Barak 2013; Suler 2010). In considering the exercise of writing about the self, Michel Foucault (1978) argues, based on the philosophies of self and identity from Greek and Roman cultures, that writing the self is important in the culture of the care of the self. In his writings on power and subjectivity, Foucault (1988) proposed that the art of living involves practicing care of the self which can help maintain a stable sense of self crucial for individual freedom, positive relationships, and ethical participation in politics. Care and cultivation of the self constitutes practical activities and continuous introspection and awareness of one's external surroundings. Batters (2011, 6) states that Foucault suggested meditation and self-writing as practices that can help externalize an individual's thoughts bringing them "momentarily outside of one's relationship with the world". The construction of narratives of the self through writing in virtual spaces speaks to Foucault's (1988, 18) "technologies of the self", which allow the individual to "transform themselves in order to attain a certain state of happiness, purity, wisdom."

Foucault's (1988) proposed techniques of the self, such as meditation and journal-writing, then, have therapeutic potential to help an individual construct and negotiate their identity while also being helpful in times of stress and trauma (Batters 2011). Randall and Monroe (2010) add that care of the self in Hellenistic culture was not only an individual activity but also a communal exercise requiring supportive relationships with family, friends, and peers, adding that:

[The] help of an advisor could provide valuable support in this relationship, but such support and advice was not understood as having any scientific authority in the sense that we would understand it today. In contrast, this advice was taken as the informed opinion of an equal or a friend, rather than the prescription of an expert authority. (Randall and Monroe 2010, 1496)

Thus, Foucault's (1978, 1988) ideas relate to the current study as online textual mediums are being used to not only write and construct the self, but also to seek out and interact with peers.

### Foucault and confession

In his genealogical studies of power and knowledge production, Foucault (1978) explains that, with the rise of Christianity, care of the self became less about writing, self-reflection, and self-mastery, and instead became a rite requiring people to acknowledge faults and temptations in order to produce truth about the self. In this way, acts of confession under the authority of priests shaped discourses on sexuality. Foucault (1978, 59) makes the claim that:

The confession became one of the West's most highly valued techniques for producing truth. We have since become a singularly confessing society. The confession has spread its effects far and wide. It plays a part in justice, medicine, education, family relationships, and love relations, in the most ordinary affairs of everyday life, and in the most solemn rites; one confesses one's crimes, one's sins, one's thoughts and desires, one's illnesses and troubles; one goes about telling, with the greatest precision, whatever is most difficult to tell. One confesses in public and in private, to one's parents, one's educators, one's doctor, to those one loves; one admits to oneself, in pleasure and in pain, things it would be impossible to tell to anyone else, the things people write books about.

It can be argued that self-disclosure of personal, sensitive information in the online environment is a form of confession of which Foucault writes. Kantrowitz-Gordon (2013, 876) explains how "the advent of social media...has contributed to the rapid expansion of the confessional society where a confession is available to a potentially enormous audience and the authority figure has been removed as the sole listener." Using Foucauldian discourse analysis, Kantrowitz-Gordon

(2013) examined Internet confessions for post-partum depression and found that women used confessional language (such as “admit,” “confess,” “share,” and “tell”) while initially resisting confessing their depression, but that their despair compelled them to disclose their experience. This author reasons that, “Once performed, the confessional act transformed their distressed thoughts into a reality that could be shared with family, peers, or health professionals (Kantrowitz-Gordon 2013, 876). Moreover, the mothers’ needs to confess also helped them overcome the stigma and shame of not meeting the ideals of the “good mother” discourse. Kantrowitz-Gordon (2013) concludes that writing about the pressures of motherhood and depression on the Internet may allow for emotional release and the online environment can provide safe social support for mothers with post-partum depression.

Confession is also a prominent theme on some social media sites and apps (Birnholtz, Merola and Paul 2015). Yik Yak is not the only anonymous social sharing application; others, like Secret and Whisper, are also rising in popularity, along with first generation social networking sites. In fact, a trend has also emerged on Facebook for anonymous information sharing on public confessionals which are targeted at a specific offline community, often a university or high school. These pages are commonly known as, and titled, “confession boards”. A moderator (usually the creator of the page) accepts anonymous questions, opinions, and messages via a third-party survey website and posts them to the community page for others to respond. A study conducted by Birnholtz, Merola and Paul (2015) looked at 90 universities and colleges which had Facebook confession boards. They analyzed a sample of 2803 postings from some of these confession boards and found that taboo topics were found in most of the posts, with sex being the most frequently occurring theme (30.3% of posts) and mental health featuring in 5 percent of the posts. These authors concluded that the confession boards were largely useful

for anonymous students productively engaging with local others and asking about stigmatized and taboo topics, with minimal cyberbullying or negativity.

The University of Manitoba has had two popular Facebook confession boards though they are now inactive, and their decline in activity coincides with the growing popularity of Yik Yak on the University of Manitoba campuses. It is possible that an entirely anonymous and mobile application is perceived by users as being more attractive for the purposes of exchanging information, inquiring about taboo subjects, and for emotional expression and confession. So, the question arises: what are the potential benefits and disadvantages of emotional expression through this medium?

### Social sharing of emotion

According to Rime's (2009) concept of the social sharing of emotion, the use of language in writing the self and expressing emotion can aid in cognitive articulation, which helps to capture, label, and organize a diffuse emotional experience. When confronted with an ambiguous emotional episode, individuals may also look for information from their environment for the purposes of social comparison. Rime (2009, 2016) argues that emotion sharing following an emotional episode or event has many functions, including: venting, gaining social attention and interest from targets, arousing empathy, stimulating bonding, and strengthening social ties. Along with these, the expectation from sharing a negative emotional experience with targets include: help and support, comfort and consolation, legitimization and validation, and advice and solutions.

Indeed, a study by Preece (1998) on an online medical support group found that empathy was a major theme in the participants' discussions. Members of the message board requested support and other members responded by providing caring messages of support and mutual

understanding. Rime (2009) states that the social sharing of emotion can also help in the production of meaning and narrative construction to help make sense of exceptional circumstances and emotional events. Preece's (1998) study corroborates this as participants also posted messages containing stories or personal accounts, which provided information that can be useful to others, and invited empathy. Another study, by Rodgers and Chen (2005), on an online discussion board for women with breast cancer, found similar results with a number of psychosocial benefits, including: receiving and giving information and support, improved mood, decreased psychological distress, increased ability to cope with disease, and strategies to manage stress. This study also found a positive correlation between the amount of participation on the forum and psychosocial well-being over time (Rodgers and Chen 2005).

On the whole, the social sharing of emotion across a community results in a beneficial collective process which contributes to the construction and dissemination of social knowledge. Thus, Rime (2009) concludes that the social sharing of emotion is not solely for the purposes of individual adaptation but also for other members of a community. This theory points to both the benefits of sharing emotion on a social media platform for the individual, as well as the benefits for other members of the community. While Rime's (2009, 2016) concepts were originally meant for F2F communication, the basic principles of the social sharing of emotion can be found in studies of online interaction (Preece 1998, Rodgers and Chen 2005). In order to better understand what drives individuals to disclose stigmatized information online and use the medium for emotional expression, it is important to examine self-disclosure online more closely.

### *Self-Disclosure*

The social sharing of emotion is directly related to self-disclosure which is defined as “an interaction between at least two individuals where one intends to deliberately divulge something

to another” (Greene, Derlega, and Mathews 2006; Rime 2016). While some definitions describe self-disclosure as verbal communication (Chaudoir and Fisher, 2010), Rime (2016) states that self-disclosure does not need to be verbal but that it also takes place in written and, particularly, in web communication. Important functions of self-disclosure include: obtaining social validation from others, receiving feedback about one’s thoughts and feelings, social support, and help with problems in life (Greene, Derlega, and Mathews 2006).

Self-disclosure is necessarily an interactive rather than individual phenomenon. Farber (2003) states that the benefits of self-disclosure may also include gaining greater insight into oneself, achieving a more cohesive sense of self, expanding one’s identity, a greater sense of authenticity, and the alleviation of physiological and/or psychological pressure from emotional experiences. It is unclear whether this remains true of online self-disclosure, however Rime (2016, 68) suggests that the “anonymity and absence of social sanction in Internet communication might favor the disclosure of negative or taboo aspects of one's person with no negative counterpart.” In fact, compared to F2F interaction, it has been found that people disclose more personal information and are better able to represent their true selves and have it be accepted by others in online environments (Rime 2016). Suler (2004) defines this willingness to disclose more personal information online than offline as “the online disinhibition effect”, which helps facilitate self-disclosure.

### Disinhibition

It has been observed by laypersons and clinicians alike that individuals online tend to “loosen up, feel less restrained, and express themselves more openly” (Suler 2004, 321). Suler (2004) describes disinhibition characterized by sharing of personal information, emotions, feelings, and unusual expressions of kindness, helpfulness, and generosity as “benign

disinhibition”, which the author contrasts with “toxic disinhibition”. The latter is typified by behaviours such as using abusive language, harsh criticism, hatred, and threats against others that one would not normally act out in the real world; this behaviour will be discussed in more detail later. According to Suler (2004), disinhibition online results from a number of factors including the alteration of self-boundaries due to the lack of facial cues in online text communication, and because individuals may feel that the imaginary characters they create online (“dissociative imagination”) are located in a separate space free of norms and rules governing daily life. Also, philosophically, the Internet has been traditionally perceived by most as a place for sharing ideas with peers without traditional authority figures; this promotes a willingness to disclose and misbehave (Suler 2004).

Invisibility also amplifies the disinhibition affect (Suler 2004). People online may feel disinhibited because they do not have to be concerned about their appearance, how they sound, their body language or the body language and facial cues of others who may respond to them. This physical ambiguity allows individuals to express themselves more freely without fear of judgement from others, which would be perceived from the physical reactions of others. Importantly, Suler (2004) adds that the minimization of status and authority due to the lack of relevant cues such as dress, body language, and social environment, also contributes to disinhibition. Anonymous online communication, then, in some respects, “levels the playing field”, leading to the perception of others online as peers rather than authority figures. This harkens back to the aforementioned Foucauldian ideas of the care of the self with the support of community members and peers of equal authority. Thus, invisibility, dissociative imagination, and minimization of authority all contribute to disinhibition (Suler 2004). However, the

anonymity and asynchronicity available in many online spaces are, arguably, the most significant factors contributing to disinhibition.

### Anonymity

A major feature of OSGs is anonymity or pseudonymity. Because many shades of anonymity are possible online, the complexities of online anonymity are often referred to as an “anonymity continuum” (van der Nagel and Frith 2015). Some websites such as the controversial message board 4chan do not have a registration system so most users are designated the name “Anonymous” which ultimately led to the birth of the Anonymous hacktivist organization (Heston and Birnholtz 2016). Other websites allow users to designate a username or handle, and conventions of use vary widely. However, complete anonymity is often not possible as gatekeepers, such as Internet service providers and logs, exist to track and record identifying information (Joinson and Paine 2012).

Members of online communities often have the choice to remain anonymous and primarily interact with strangers. Thus, even if identifying or biographical information is disclosed, it is unlikely that one will meet fellow OSG members in the offline world. This allows for a greater sense of privacy, safety, and protection, while promoting disclosure due to reduced levels of risk (Attrill and Fullwood 2016). A study by Fullwood and Wootton (2009) found that anonymous members of an epilepsy support forum spent more time discussing sensitive and emotional experiences than members who identified themselves. Fullwood (2016) suggests that this may be due to overcoming “the self-presentation dilemma” which individuals face when discussing personal information face-to-face. Furthermore, communication with strangers online may be perceived as being more honest and objective than communication with friends and family members due to the latter’s emotional investment and personal relationship (Fullwood

2016). Anonymity also has other positive effects. It allows the discussion to focus on the subject rather than the author. People also feel safer in expressing opinions that may otherwise be deemed politically incorrect, so anonymous online conversations tend to be more diverse (Berg 2016; Scott 2004).

***The downsides of anonymity and disinhibition.*** Despite its advantages, there is much debate on the Internet regarding anonymity on social networking platforms. Facebook, for example, requires real names, or “authentic identities” as the website puts it, and users must submit legal identification if their account is flagged for being fake (“Community Standards” 2016.). Facebook claims that this controversial policy “creates a safer environment”, though many media critics, activists, and journalists disagree (“Community Standards” 2016; van der Nagel and Frith 2013; York 2014). Facebook may be in the right as anonymity can increase the likelihood to engage in “flaming”. Flaming generally refers to comments that are acrimonious, antisocial, hostile in nature, and usually contain profanity and personal attacks. However, studies have shown that flaming has less to do with anonymity and more to do with individual attributes (Aiken and Waller 2000; Douglas and McGarty 2001).

Another type of online behaviour that is fostered by anonymity is trolling. Trolling is somewhat different from flaming in that it is broader and can include online actions for the purposes of entertainment, humour, distraction, disruption, and frustration (van der Nagel and Frith, Binns 2012). Trolling behaviour is meant to incite a reaction in the reader. Trolls are defined as people who may want to be part of the group but intend to cause disruption and negatively affect the group or forum for their own amusement (Binns 2012). Trolling has also been known to cause significant legal problems for some websites and personal attacks against individual content creators (Binns 2012).

Both flaming and trolling are explained by Suler's (2004) idea of toxic disinhibition, which the author defines as "rude language, harsh criticisms, anger, hatred, even threats". Reicher, Spears and Postmes's (1995) Social Identity Model of Deindividuation Effects (SIDE) also helps to explain trolling behaviour. It contends that anonymous members with salient ties to the group will experience a heightened sense of social identity, relying on group-based discriminators, stereotypes, and norms. This means that anonymous members of the group are more likely to protect group identity by disparaging those who disagree with their beliefs. SIDE theory also suggests that the ratio of anonymous to identifiable individuals in an online community will strongly influence members' choice of participation activity. In a mixed group, anonymous members will likely use the group to meet their own needs (ask for help or information) and are less likely to support others, which may have implications for group cohesion (Attrill and Fullwood 2016).

***Beyond anonymity.*** While Suler (2004) and Rime (2009) point to the causes of disinhibition, Joinson and Paine (2012) argue that, due to the growing spectre of Internet surveillance and online privacy risk, a reliance on anonymity to explain the phenomenon of disinhibition online is not enough. Joinson and Paine (2012) instead propose that trust, costs and benefits, and control help to explain the motivations and psychological processes that underpin the disinhibition effect. They suggest that privacy online is an illusion of sorts as personal, biographical, and location information is stored with gatekeepers (Internet providers, registration processes, caches and logs), and privacy may also be eroded due to data mining, digital footprints, and cookies. Thus, access to be disinhibited in an online environment is "purchased" by adopting pseudonymity through the use of aliases, nicknames and avatars and leaving private information with gatekeepers (Joinson and Paine 2012).

Secondly, disinhibition online carries risks which may be costly in real life. For example, participation in online activity deemed inappropriate by real world social norms, such as using offensive language online or accessing pornography, may cause shame, embarrassment, and significant detriment in real life (Joinson and Paine 2012). As well, self-disclosure of socially inappropriate and/or stigmatized behaviour or experiences may also be cause for harm, shame or embarrassment in real life. The cost of such activities and behaviours is, therefore, reduced or offset by the Internet as “disclosing secrets is easier if the recipient doesn’t know who you are,” and, due to the asynchronous nature of much online interaction, the discloser has an increased sense of control over the information they choose to disclose (Joinson 2007, 89 ). So, these features of the online environment make it an ideal space for fostering self-disclosure.

### Asynchronicity

Yik Yak is an asynchronous social network. During synchronous communication, individuals are present and communicate with each other at the same time; their communication is synchronized, as it is during telephone conversations, a F2F meeting, a webcam chat, and instant messaging (Derks et al. 2008). With asynchronous communication, all parties involved do not need to be present at the same time. Examples include blogs, message boards, and text messaging. This means that on Yik Yak people do not interact with each other in real time as respondents can take seconds, minutes, hours, days, even weeks in some cases, to respond to others' posts. Suler (2004) posits that disinhibition in this case is a result of not having to cope with immediate reactions.

Fullwood (2016) states that asynchronous OSGs also propagate better self-presentation because the individual has time to consider the content of a message before posting it. In this way, CMC greatly differs from F2F communication as people can take time to view and respond

to a post when they choose, and only if they are willing and able to do so. For some, this means that the fear of others' reactions to self-disclosure is significantly reduced (Fullwood 2016). As well, in contrast to F2F communication, an individual can choose not to respond at all for any number of reasons, including if a response is too personal, abusive, hostile, or emotional. Thus, in terms of posting a personal or emotional message, Suler (2004, 323) aptly states that "It feels safe putting it 'out there' where it can be left behind."

### Summary

The present study is built on a theoretical framework combining theories on stigma, emotional expression, and self-disclosure. The stigma of mental illness, as originally conceptualized by Goffman (1963), and later elaborated by Link and Phelan (2006), creates a significant barrier for individuals seeking support and information about their psychological/emotional state. However, disclosure of emotional information helps alleviate psychological distress associated with a stigmatized identity. Written disclosure is said to have therapeutic benefits and the Foucauldian idea of the care of the self, self-writing and confession help provide a cultural-historical foundation of emotional expression and disclosure. Together, these theories offer an understanding of the psychosocial behaviour and sociocultural processes underlying the use of an anonymous social application for sharing negative emotions, disclosing psychological distress, and seeking information about mental health. I will now provide an overview of recent literature on the mental health of university students, mental health online, and the use of the Internet for mental health help-seeking and sharing by university students.

## Review of the Literature

A literature search was conducted on the University of Manitoba Libraries database and Google Scholar. Search terms included various combinations of the following keywords: “mental health”, “mental illness”, “online”, “Internet”, “virtual”, “forum”, “social media”, “app”, “application”, “ethnography”, “students”, and “university”. Much psychological and psychiatric literature exists on the mental health of university students and online mental health forums, however, there are very few qualitative studies on the use of online mental health forums by university students (Robinson 2010, Dolev-Cohen and Barak 2013, Delahunty 2012, Horgan et al. 2013), and no ethnographic studies exist on this specific topic or field. However, much can be gleaned from existing literature on online mental health forums and general online forum ethnographies which guide the present study.

### *Mental Health Concerns of University Students*

A review by Kitzrow (2003) states that the mental health needs of university students have shifted, resulting in increased use of university counselling centers for severe psychological problems. These problems influence various aspects of campus life on the individual level, such as academic performance and interpersonal functioning, and also at the institutional level as budget considerations and staffing must take mental health needs into account (Kitzrow 2003). While students seem to be seeking help for psychological distress at higher numbers, there remains a high prevalence of untreated mental disorders in student populations (Hunt and Eisenberg 2010).

A report published by the Canadian Association of College and University Services (CACUSS) summarized the results of the 2008 American College Health Association-National College Health Assessment (ACHA-NCHA) survey of more than 30,000 students from over 30

Canadian institutions (American College Health Association 2013). The CACUSS report indicated that anxiety (12.3%), depression (10%), and panic attacks (5.8%), were most prevalent in this sample (American College Health Association 2013). Students were also asked about suicidal ideation and results showed that 9.5 percent of students had considered suicide anytime within the last 12 months before the survey, and 1.3 percent had attempted suicide within this time. Furthermore, acts of self-injury (intentionally cutting, burning, bruising, or otherwise injuring oneself) were reported in 6.6 percent of individuals in the last 12 months. Over 68 percent of students had felt “very sad” within the last 12 months and, as mentioned earlier, 37.5 percent has felt “so depressed it was difficult to function.” Additionally, over half of all students surveyed had felt overwhelming anxiety (56.5%). A majority of students also reported feelings of hopelessness (53.8%) and exhaustion (not from physical activity) (86.9%), and feeling overwhelmed (89.3%) and very lonely (63.9%), anytime within the last 12 months (American College Health Association 2013). Due to their prevalence and representativeness of the sample, it was expected that many of these feelings will also be reported by users of Yik Yak.

Depression disorders are particularly prevalent in university populations. A systematic review of studies published between 1990 and 2010 on depression prevalence in university students concluded that “experience rates of depression are substantially higher than those found in the general population” (Ibrahim et al. 2013, 391). Demographic differences also exist in the prevalence of depression and related psychological distress. A literature review on the mental health problems of college students reported that male students are at higher risk for suicide while major depression and anxiety disorders are more prevalent among female students (Hunt and Eisenberg 2010).

Depression, anxiety, and stress are also reported to have a significant impact on academic performance (Trockel et al. 2000; Kitzrow 2003; Eisenberg et al 2009). A study by Trockel et al. (2000) examined the effect of exercise, eating, spiritual/religious habits, employment, and sleep habits on academic performance. They found that irregular sleep habits had the greatest effect on the variance in grade point averages (GPA) of first year students. Specifically, later wake up times on weekdays and weekends were associated with decreases in GPA; each hour of delay in wake-up time was associated with a decrease of 0.132 and 0.115 GPA points (on a 4.0 point scale) for week-day and weekend wake-up times, respectively.

Another study by Adlaf et al. (2001) measured levels of psychological distress in a national probability sample of 7,800 students from 16 Canadian universities using a 12-item General Health Questionnaire for mental health. Results showed that students most frequently reported feeling “constantly under strain”, “unhappy or depressed”, and “lost sleep over worry”. This study concluded that not only are levels of distress elevated among the college student population, but they are significantly higher when compared to the general population (Adlaf et al. 2001). Campbell, Svenson, and Jarvis (1992), also conducted a study on the perceived levels of stress in a sample of 457 undergraduate students in Edmonton, Canada; students reported experiencing too much stress while lack of time and self-discipline were cited as factors preventing students in the sample from reducing their stress.

Mental health problems have also been found to frequently co-occur and persist over the long-term. In a study by Zivin et al. (2009), web-based surveys were administered to students at a university to collect longitudinal data to measure symptoms of mental disorders and conditions such as anxiety, depression, eating disorders, self-injury, and suicidal ideation. This study found that one-third of the student population had a mental health problem. This study also found that

60 percent of students who indicated they had a mental health problem in the baseline survey also had a mental health problem two years later, as indicated in the follow-up survey.

Despite this widespread prevalence of mental illness, most people do not receive adequate mental health care (Kitzrow 2003). Self-stigma is a major factor contributing to a lack of help seeking among adolescents and adults (Corrigan and Rao 2012). A study by Eisenberg et al. (2009) on the levels of perceived public stigma and personal stigma surveyed 5,555 college students from 13 universities in the US and found that personal stigma is a more prominent barrier to help seeking than perceived public stigma. The authors conclude by recommending that Internet-based approaches to reduce personal stigma may be promising, based on the findings of a study by O’Kearney et al. (2006), which provides evidence for the efficacy of an online cognitive-behavioural therapy program for reducing stigma in adolescent men.

Eisenberg et al. (2007) also found that help-seeking was more infrequent in students of lower socioeconomic backgrounds and in international students. The University of Manitoba has a population of approximately 30,000 students and 13 percent, or nearly 3900, are international students (“About the University of Manitoba” 2016). This population continues to grow every year, and, according to Eisenberg et al. (2007), should be a target of campus mental health programming.

### *Online Mental Health Support*

A recent study by Wetterlin et al. (2014) surveyed youths aged 17 to 24 on their preferences for web-based mental health resources. Tellingly, the study found that, of the 521 participants, 61 percent indicated they had used the Internet in order to clarify the feelings they were experiencing. And, 82.9 percent indicated that they were “somewhat likely” or “very likely” to visit a health information website for help-seeking for mental health if they were going

through a difficult time. However, 56.6 percent of respondents were “unlikely” to use discussion boards, support groups, or chat rooms. Despite this, an overwhelming majority indicated that human contact in the form of peer support was an important preferred feature of mental health websites. The authors suggest that these findings are indicative of “an underlying desire to seek human interaction as part of an online community without interfering with daily life or compromising privacy” (Wetterlin 2014:5).

In assessing *why* individuals choose Internet support over formal mental health services, Townsend, Gearing, and Polyanskaya (2014) used data collected from 2,532 U.S. participants, through the 2008 National Survey on Drug Use and Health, to examine relationships among treatment beliefs, time, affordability, stigma, and use of Internet support groups. The results showed that fear of being hospitalized, or taking medication, and inadequate insurance coverage were significant predictors of Internet support group use. Furthermore, the authors assert that cost of traditional mental health services and lack of insurance coverage supports the existing literature on barriers to treatment. For the student population in this study, lack of finances and access may also be barriers to receiving traditional mental health services and a motivation for seeking out information through social media, because stress due to tuition fees and financial hardships may also be a contributing factor to overall emotional distress.

A study on the adult use of online peer support was conducted using a total representative sample of 264,431 non-institutionalized adults in the U.S. from 2004-2010 (DeAndrea and Anthony 2013). Importantly, results indicated that those individuals suffering from depression and/or serious psychological distress were over-represented among online peer support help-seekers suggesting that those most deeply affected by mental health issues may access on-line support. Another study on the mental health status of users of Internet depression communities

found that major depression was highly prevalent among the respondents of a cross-sectional survey (Powell, McCarthy, and Eysenbach 2003). Furthermore, this study also found that 49 percent of the users with major depression were not receiving treatment. Thus, the authors recommend that users of Internet depression communities should be targeted for intervention. A more recent systematic review by Clarke, Kuosmanen, and Barry (2015) on the effectiveness of online mental health interventions for youth aged 12-25 found that, in implementing these interventions, participant support, either face-to-face or on the web, is an important factor in program completion and outcomes. While the review suffers due to a lack of high quality, rigorous studies, this finding is a promising indicator of the efficacy of peer support.

Mental health forums for peer-to-peer support have recently become a rich ground for qualitative analysis. “Pro-ana” communities—forums built around the promotion and glorification of anorexic and other eating-disordered behaviours—have been studied thoroughly by mental health professionals. Identity formation on the basis of medical diagnoses is an important aspect of pro-ana communities. These communities often position themselves against the mainstream biomedical healthcare model and health professionals as a counter-culture of sorts which, it has been argued, can be a source of social support (Giles and Newbold 2011). A study by Giles and Newbold (2011) looked at the communication regarding diagnoses in general mental health communities online. They found that shared-recognition of experience is an important factor that attracted users to the communities they studied. In contrast to pro-ana forums, these communities frequently saw users recommending professional help and a reverence for professional expertise. Thus, the perspective of the users on Yik Yak vis-à-vis health professionals and the language of diagnoses and biomedicine will also be an important

consideration to determine the general attitude of users towards mental health diagnoses, professional healthcare services and service providers.

Other notable studies of online peer support include Horgan, McCarthy, and Sweeney's (2013) evaluation of the effects of online peer support on depressive symptoms of university students. This study was unique in that the intervention was designed for the study. A website was created which could be accessed by the general public, and a forum was also created but could only be used by study participants. The researchers used the Centre for Epidemiological Studies Depression Scale (CES-D) with 118 participants from the University of Ireland. Seventeen students with depressive symptoms used the forum, and posts were analyzed using thematic analysis. The key finding of this study was that students tended to report loneliness associated with poor socialization skills. Descriptions of other features of depression, such as disturbances in appetite and mood, were also common. The authors also reported "a strong sense of hopelessness emerging from the posts" (Horgan et al. 2013:87). These results echo the results from the aforementioned Canadian statistics which showed that over half of the students surveyed expressed feelings of loneliness and hopelessness (American College Health Association, 2013). Therefore, these indicators of lack of wellbeing were expected in mental health related posts on Yik Yak as well.

In the literature, only one relevant study on Yik Yak was found which provides valuable data on the application. Black, Mezzina, and Thompson (2016, 17) studied Yik Yak to "gain an empirical understanding of the nature of communication on the application." Over a period of three days, they collected 4001 posts from college campuses across the US using emergent inductive content analysis. They found that 45 percent of the posts were about campus life and announcements or proclamations; 13.5 percent of posts included profanity or vulgarity; 10.1

percent asked rhetorical questions; and, 9.2 percent focused on sex, dating, and sexuality. They concluded that, despite its potential for misuse, the app should not be considered a significant threat to young adults (Black et al. 2016).

### *Negative Effects of the Online Environment and Internet Use*

In contrast to the aforementioned evidence which highlights positive aspects of online support groups, a quantitative study by Lawlor, Aideen and Kirakowski (2014) used structure equation modelling to show that online support groups can also be a form of social avoidance. Their study found that the frequency of visits to online support groups makes recovery from self-stigma worse. Rather than empowering users, they hypothesize that online groups may serve as a means of escaping the offline world for some. Therefore, rather than recovering from self-stigma through use of online groups, some users who use forums too frequently may experience the opposite effect.

Indeed, the Internet itself can negatively impact psychological well-being due to excessive use. Yellowlees and Marks (2007, 1448) state that there is some debate on what defines excessive internet use, which is variously described as “pathological internet use,” “problematic internet use,” and “Internet addiction.” Classification criteria also differ; the most recent DSM-5 manual lists “Internet Gaming Disorder” as a potential mental health issue requiring further empirical research (Attrill and Fullwood 2016). According to Attrill and Fullwood (2016), Internet addiction is characterized by: a preoccupation with using the Internet; using the Internet to feel better; increase in time and energy spent using the Internet; experiencing withdrawal from lack of use; conflict arising due to excessive internet use; and inability to disengage from using the Internet resulting in relapse. Excessive internet use has also

been linked with higher levels of loneliness, depression and anxiety (Kraut et al. 1998; Liang et al. 2016; Nalwa and Anand 2003; Whang, Lee, and Chang 2003).

Smartphones enable users to use the Internet at their convenience, allowing people to carry out many of the functions of a personal computer on a mobile device. A study by Samaha and Nawi (2016) investigated the link between smartphone addiction, stress, academic performance and satisfaction with life by surveying 300 university students. They found that university students with higher risk for smartphone addiction indicated higher levels of perceived stress. Perceived stress, in turn, was found to be negatively correlated with satisfaction with life. Furthermore, a negative relationship was also observed between smartphone addiction and academic performance. Therefore, while online social groups accessed online may have many benefits, excessive use has been shown to negatively affect psychological well-being. Thus, it is important to further study this online social environment through a variety of methodologies.

### *Online Ethnographies*

While little ethnographic literature on online mental health and support exists, there are three notable examples relevant to the present study. The first is an online illness ethnography by Keim-Malpass, Steeves, and Kennedy (2014), which explores illness blogs. The authors conducted an ethnographic study of 16 blogs written by women diagnosed with cancer. They concluded that the illness blogs provided a medium for women to express emotions, to exchange information, and provide and receive social support. Furthermore, the language and descriptions used in the narratives have clinical relevance as well because they allow for a greater understanding of the women's psychosocial and emotional needs with regard to cancer. This study also provided methodological recommendations especially in terms of researcher participation and ethics which will be discussed in the next chapter.

Second, a Scandinavian online ethnography by Eriksson and Salzman-Erikson (2013) on a forum for fathers seeking advice on caring for infants found that the data collected on communication and forum culture could be categorized into three themes: encouragement, confirmation, and advice. The authors collected over 1000 pages of data on the communication, which they argue lends to the trustworthiness of the study. The data were then operationalized and categorized. These authors recommend the virtual ethnographic method for understanding support activities in cyberspace because support received online can be complementary to formal support. Thus, they suggest that a virtual ethnography lens has clinical value, as well.

The third study by Westerlund (2013) examined online discussions about suicide on a Swedish chat forum frequented by young adults. The author used ethnographic methodology, including immersion and observation in the online environment of the forum, and thematic analysis of discussions, and found that participants primarily used the forum to share their experiences. The anonymity of the forum increased their willingness to disclose and reduced the risk of self-censorship. The study also reported that:

[A] comforting, supportive and understanding attitude can be found in many exchanges on SUIGUI CHAT. The opportunity to meet other people who have gone through similar experiences and who neither condemn nor lecture is perceived by many as positive; one shares the same unfortunate circumstances. (Westerlund 2013, 44)

This finding is in line with the previously discussed benefits of anonymous online discussions on sensitive subjects.

### Summary

Based on this literature review, it is clear that people are using online peer support resources for stigmatized topics, and particularly mental illness. However, there is a gap

in the literature regarding ethnographic studies of the use of online spaces by university students for emotional disclosure and mental health. The present study addresses this gap by using ethnographic methods to gain insight into the mental health concerns and help-seeking behaviour of students at the University of Manitoba. The next section will detail the qualitative ethnographic methodology, design, and analysis procedures of the study as guided by the methodological literature.

## **Chapter 3**

### **Research Methodology and Design**

This chapter details the research paradigm, methodology, and procedures for the collection and analysis of data in this study. To answer the research questions, ethnographic methodology guided by Kozinets' (2010) recommendations for conducting "netnography" were used in combination with content and inductive thematic analysis. Issues regarding validity for qualitative studies and ethical considerations will also be discussed.

#### **Research Paradigm**

This research is founded on a theorization of the concepts of stigma, self-disclosure and the social sharing of emotion, and aims to understand the mental health concerns of university students as expressed on an anonymous social media app using an interpretivist approach. Angen (2000, 385) states that interpretivist research is based on the assumption that "reality as we can know it is construed intrasubjectively and intersubjectively through the meanings and understandings garnered from our social world." Therefore, the goal of interpretivist research is not scientific explanation but an understanding of social phenomena (Schwandt 1994). Social agents, then, are considered autonomous, active, and goal-directed, and they are the experts on their own condition. Thus, following the interpretivist studies of depression and psychological distress disclosure by Kotliar (2015) and Karp (1996), this research does not seek to diagnose or confirm congruence between the user's depiction of their mental health concern and their actual psychological status.

More specifically, this study is grounded in an approach to interpretivism championed by Clifford Geertz (1973) known as interpretive anthropology (Schwandt 1994). Interpretive

anthropology is an interpretive theory of culture: “an interpretive science in search of meaning, not an experimental science in search of laws” (Geertz 1973, 5). For Geertz (1973), the way in which meanings are constituted in a culture must be read like a text by the ethnographer. To access the meaning of an event, the ethnographer must develop thick descriptions of the meanings of human action. Geertz (1973) popularized the use of thick description in anthropology. He famously wrote that “man is an animal suspended in webs of significance he himself has spun, I take culture to be those webs” (Geertz 1973, 5 *sic*). Thick description interrogates multiple layers of cultural meanings—webs of significance—and describing what one sees. It is a methodological tool that explains human behaviour or culture and, most importantly, the context of that behaviour.

Ethnography is derived from this anthropological tradition of documenting and interpreting aspects of human experience and cultural behaviour (Thorne 2000). Through immersion and engagement in the field, known as participant-observation, data is typically collected in the form of fieldnotes, documents, images, videos, public records and artefacts (Thorne 2000). The data is sorted, coded, categorized and interpreted to “generate conclusions about what is happening and why” (Thorne 2000, 69). Thus, to understand the mental health concerns of post-secondary students and role of the virtual community on Yik Yak, an online ethnographic approach was best suited for this study.

### Online Ethnography

Online ethnography is unique in that it is an ethnography in, of, and through the medium. Due to its popularity, ubiquity, and novelty, it is an important method to study in and of itself. Traditionally, ethnography is characterized by participant-observation in the field (Madden 2010). By virtue of the nature of my fieldsite—a mobile computer-mediated social landscape—

researcher participation in online communities is difficult to define. While some online ethnographies involve observation of the interaction of participants in online communities, others, such as Tom Boellstorff's ethnography of the virtual world of Second Life are described by Madden (2010, 176) as "full participation" because Boellstorff was a participant in the world rather than just an observer (Boellstorff 2008). However, Madden (2010, 178) contends that ethnography's defining feature is not in face-to-face contact but "a shared sense of participation", which is more methodologically important.

So, is observation in the online context enough? One can argue that in the online environment, observation *is* participation. On public online message boards and social networks, it is possible for participants to simply view and observe messages and interactions between other users allowing for unobtrusive observation. These participants are colloquially known as "lurkers" (Hine 2000). At the outset, lurking seems like an ideal mode of participation for ethnographers as it (seemingly) avoids issues of positionality of "the researcher" and "the object of study", and the intrusiveness of note-taking, tape-recording, and "awkward" interactions (Beaulieu 2007, 147). However, Beaulieu (2007) argues that active participation in online communities is important for a number of other reasons: it can provide access to phenomena only available to participants; it allows the ethnographer to learn through participation and an emic perspective; and, there may be greater added value in checking interpretations by being an active participant online. Keim-Malpass et al. (2014) identify three variations of online participation: (1) passive analysis, which involves observation only, without the researcher's participatory involvement, (2) active analysis wherein the researcher actively participates in online exchanges, and, (3) self-identified active analysis which involves active participation by a researcher who identifies themselves as such.

It is also sometimes claimed that online interactions cannot be considered authentic as identities cannot be confirmed and events cannot always be corroborated (Hine 2000).

Participants in online forums must be taken at their word. However, the question of identity and authenticity in online ethnography is moot, according to Hine (2000, 55), because it presupposes a singular idea of authenticity, identity and personhood. Instead, it is suggested that a person online, as in the offline world, is better thought of as “a set of identity performances,” and it is useful to consider how the virtual environment plays a role in altering the conditions of identity performance (Hine 2000, 55). Hine (2000) also states that it is not the ethnographer’s job to judge informants’ narratives as authentic or truthful, but to understand how the informants themselves understand authenticity and how they present themselves online. This was important to consider in the context of mental health research online as mental health symptomatology is often thought to be inauthentic or ignored in “the outside world” and is the reason why some users may turn to online forums for support in the first place (Alang and Fomotar 2015). Thus, again, online ethnography was an appropriate methodology for this study.

In terms of the observational aspect of ethnography, Madden (2010) writes at length about the ethnographic gaze, which the author defines loosely as a systematic way of seeing. In the online context, which primarily involves analysis of textual discourse, being ethnographic involves paying careful attention to as many aspects of textual expression as possible. Technical elements, semiotics, and linguistic principles played an important role, and it was also important to consider the cultural context in which the texts are produced and consumed because of their fluid and ever-changing meanings and interpretations (Hine 2000). As well, rules and order which dictate text and graphics were also observed and documented in fieldnotes and in the analysis.

While behaviours online take place asynchronously, they are still indicative of a particular time in history wherein certain social conventions and technologies dictate the use of specific language and graphics, such as slang words and memes, respectively. Furthermore, while textual data is archived on most online forums, there is a difference between observing the accumulation and density of responses, observing the speed, and interpreting the mood of an online group as they arrive, as opposed to reading them at a later time in a historical context (Marshall 2010). Marshall (2010, 14) provides an illustrative example: “Reading 40 messages which have arrived within quarter of an hour is a different experience to reading 40 messages which arrive over a couple of days.” This was particularly true for Yik Yak as messages expired quickly, and many disappeared rapidly due to negative ratings. Thus, it was important to hone and adapt my systematic way of visiting this online locale in order to access such phenomena; this was accomplished through prolonged immersion and familiarization which led to continuously monitoring active threads and cataloguing responses as they occurred.

### *Procedure*

#### Research focus and questions

Based on Kozinets’ (2010) methodology and procedure for netnographies, the first step for the researcher involves defining the research questions, social sites or topics of investigation.

The research questions for this project were:

- RQ1. What do online narratives presented by users of Yik Yak tell us about the mental health concerns of current post-secondary students at the University of Manitoba?
- RQ2. What role does the virtual community of Yik Yak play for individuals coping with emotional distress and mental health concerns?

These central research questions were derived from Kozinets' (2010) guidelines for formulating a research focus and question for a netnography, based on Creswell's (2009) guide to writing research questions for a qualitative study. Examples of research questions provided by Kozinets (2010) do not specify the fieldsite, as locating an appropriate field for study is the next step in the process. However, for this study, the anonymous social media platform of Yik Yak was central to the research question.

Creswell (2009) states that qualitative inquiry should explore factors surrounding a central phenomenon and the meaning held by participants experiencing this phenomenon. In the initial stages of conceptualizing a project and considering mental health help-seeking on the Internet, a number of online forums were considered for study, including the UM Facebook confession boards. However, due to inactivity, and lack of participation and data richness, these sites were not suitable for the study. Furthermore, the local popularity of Yik Yak coincided with the inactivity of the UM confession boards. This led to initial observations regarding the frequency of use, growth of the virtual community on Yik Yak, and the expression of psychological distress and emotional disclosure on the app by University of Manitoba students. Therefore, in this study, the use of this virtual community by University of Manitoba students for disclosure related to distress and mental health is the phenomenon under study; thus, the fieldsite is specified by the research questions as it is a significant aspect of the research focus.

Yik Yak fits the six inclusion criteria from Kozinets' (2010, 89) recommendations for an online ethnographic fieldsite: (1) it is highly relevant to the research question; (2) there is a flow of communication between participants within threads; (3) the participant group is heterogeneous; (4) it has an "energetic feel"; (5) it is data-rich; and, (6) it is an active forum, which is defined as "[having] recent and regular communication." As an anonymous social

media application, Yik Yak provides a convenient platform for students to express and disclose stigmatized information, and it is localized to the University of Manitoba, therefore it is a highly relevant fieldsite for understanding the mental health concerns of University of Manitoba students. The threads within Yik Yak are usually composed of multiple commenters which contributes to a steady flow of communication between users. The herd is dynamic and heterogenous as the participant group is continually changing, and, as discussed in the next chapter, it is considered by users to be one of the most active in Manitoba, relative to other areas, based on the frequency of posts and number of users. This lends to the “energetic feel” of the UM herd and a data-rich environment. These and other aspects of the app will be discussed in more detail in the next chapter.

### *Researcher Participation*

It was important to consider the level of participation that I would engage in, the totality and boundaries (or lack thereof) of the fieldsite, and the ethics of conducting research online, based on the particular research questions, which guided the research process. In conducting research on mental health narratives on Yik Yak, I employed a *passive analysis approach* by observing discourse on this public forum, while abiding by due ethical conduct with regard to threats of harm by users, and protecting the privacy and anonymity of all individuals (Keim-Malpass et al. 2014). Similar to online ethnographic research carried out by Keim-Malpass et al. (2014), on the illness narratives of women diagnosed with cancer, I felt that passive analysis permitted naturalistic inquiry online and avoided preconceived questions to direct responses from participants. In attempting to understand the lived experiences of individuals using Yik Yak for mental health concerns, and minimizing the stigma associated with mental illness, a passive

analysis approach allowed me to observe behaviour related to knowledge-seeking and disclosure online in its natural state.

Furthermore, as the data collection process began, I began familiarizing myself with the herd and it was apparent that users were highly suspicious of individuals deemed to be outsiders, such as students from the University of Winnipeg (considered a rival university by some yakkers in the UM herd), and non-university students in general. Adding to this, a privacy scare occurred in mid-February when some users posted a false rumour that Yik Yak would reveal identifying information about all users, such as their phone numbers and names, along with their posts. This lead to declarations from some yakkers that they would stop using the application altogether. Fears died down as yakkers realized that the rumour was a hoax, and normal activity resumed.

The general belief within the herd is that anonymity is sacred; however, there is also an awareness that this may be temporary and illusory. For example, one yakker posted, on March 15, 2016, “I’m really scared that one day I’ll post a stupid joke yak and then homeland security will come after me.” While the yak was intended as a joke, the underlying fear regarding the illusion of anonymity is apparent; this yak received at least 17 upvotes indicating its relative popularity. Thus, it is understood that gatekeepers and authority figures, such as Internet service providers, Yik Yak, legal entities and the University of Manitoba itself, have the power to disrupt this tenuous sense of anonymity. Therefore, I did not engage in self-identified active participation which requires the researcher to introduce themselves and their research. Firstly, this is not feasible as posts disappear quickly and the pool of users is constantly changing. Second, this level of participation would have disrupted the existing dynamic of the herd and potentially damage the utility and sense of community for individuals.

Because the app can be accessed almost anywhere where an Internet connection is available, Yik Yak is a moving fieldsite. The actors within this field are constantly changing, which carries with it a measure of uncertainty. Furthermore, the practicality, cost-effectiveness and convenience of the use of mobile apps as fieldsites is said to bring challenges as a researcher's fieldwork may "intermingle" with their day-to-day use of the Internet and social media for other means, necessitating "role switching" (Beaulieu 2007:144). Overall, the data-richness, activity, and convenience afforded by the application made it an ideal fieldsite for online ethnography.

## Data Collection

### *Timeline*

Ethnography on the Internet is characteristic of "step-in-step-out ethnography", which has the researcher enter and exit the field (Internet) setting as opposed to maintaining long-term residence in a physical location which is common among most traditional ethnographies (Madden 2010, 79). I began collecting data from the app on November 21<sup>st</sup>, 2015 and completed data collection on May 8<sup>th</sup>, 2016. This timeline spanned two final examination periods. Examinations can be a significant source of stress for students (Supe 1998; Sivoňová et al. 2004; Horgan, McCarthy, and Sweeney 2013), so it was important to observe and collect data during these times.

### *Collecting the Data*

The data collected in this study was composed of posts and discussion threads, as well as ethnographic fieldnotes. Purposive sampling was used to select posts which contributed to answering the research questions (Krippendorff 2004). Posts including specific keywords related

to mental health concerns, emotional distress, and psychological distress, as described in Chapter 1, were recorded using screen captures (screenshots). Due to the CACUSS study's large national sample, and the demonstrated reliability and validity of the NCHA, the mental health concerns reported in the study were used, in conjunction with other studies, to guide the collection and analytical coding process for this question ("About ACHA-NCHA" 2016), along with Ridner's (2004) and Massé's (2000) definitions of psychological distress. Specifically, the following keywords and their lexical variations, were used as guides for capturing relevant posts: irritability/aggressiveness, sadness, depression, anxiety, stress, anger, hopelessness, frustration, exhaustion, insomnia and lack of sleep, helplessness, suicidal ideation and death, loneliness and social withdrawal/isolation, demotivation, loss of self-confidence, and low self-esteem. Furthermore, any posts referring to other specific psychiatric disorders, help-seeking for psychological distress, and questions about treatments, were also included. Thus, a total of 554 screen captures were selectively collected between November 21, 2015 and May 5, 2016. These screen captures yielded 1889 posts (including both the original posts and replies to the post).

In online ethnographies, data collection and data analysis are intertwined in that the process of data collection requires constant decision making as initial patterns begin to emerge. For example, I observed that users frequently posted about sleep disturbances or complained about being awake, usually after midnight. The link between sleep disturbance and psychological distress is well established (Tsuno, Besset and Ritchie 2005; Moreno et al. 2011). Therefore, this observation was recorded in my fieldnotes. I also had to adapt the timings of my data collection, during peak posting times, usually during midterms and final exam periods, as posts would disappear quickly. Typically, the oldest post in the UM feed would be approximately eight to twelve hours old. On one of the busiest days and times in the UM feed, Tuesday, March 22<sup>nd</sup>,

2016, at 4:02 pm, I recorded that the oldest post in the feed had been posted only two hours earlier. So, I typically checked the app for new posts and collected data on an hourly basis. This involved searching the entire feed for relevant posts and to monitor and collect responses to existing posts. Still, due to the nature of the app, it is likely that a few posts that were posted and quickly deleted by yakkers, or quickly downvoted and automatically deleted by the app, were not captured. Regardless, the convenience of having the fieldsite in my pocket, so to speak, was immeasurable, as I was able to check in regularly throughout the day and night.

Ignacio (2012) recommends that textual data collected online must be carefully contextualized by the researcher and that this entails an additional layer of observation. For example, in observing conversations which are not conducted in real-time on online forums, time-stamps must be noted. As well, attention must be paid to occurrences in the “outside world”, which participants may be responding to in the online environment. Therefore, fieldnotes included notations of significant events occurring in the offline world, especially on campus. A notable example involves the student union election which resulted in hundreds of related yaks that dominated much of the feed during the election period (February 22<sup>nd</sup>, 2016 to March 4<sup>th</sup>, 2016).

All screenshots were captured on an Apple iPhone 6. Screenshots were saved and automatically uploaded to Apple’s iCloud system which stores content from Apple devices. These images were then downloaded from this cloud-based service and organized by date and time. The data pool of screenshots was then narrowed down by eliminating images that were not relevant to the research question. The remaining screenshots were then transferred to QSR NVivo 10, a qualitative analysis program. NVivo allows for the organization and analysis of

qualitative data by the researcher through notetaking and typifying into nodes – a term NVivo uses for codes.

After the final examination period in April 2016, I continued to collect data and observed that many posters began to express the feeling that the herd was not as active as it is during the regular school year. Because many students tend to leave the UM campus and the city for the summer after final exams, it was understood within the herd that normal activity would resume when the university reopens in September for the regular session. Data collection ended on May 8<sup>th</sup>, 2016, influenced by the finding of data saturation, which is straightforwardly defined as “no longer receiving information that has not previously been noted” (Glaser and Strauss 1967, 84).

## Data Analysis

### *Analytical Procedures*

In order to answer RQ1, posts were reviewed to record instances of references to specific mental health concerns as guided by the literature review and qualitative content analysis procedures (Elo et al. 2014). I coded and categorized extracts based on the salience and frequency of occurrence of concepts in the data, while also being careful to consistently ask questions of the data and look for new and varying information (Glaser and Strauss 1967). Factors associated with mental health concerns and others types of contextual information (such as mentions of family or relationships, unique terminology, time stamps, student status) were also recorded. Initially, only original posts were going to be included in this analysis to answer RQ1, however, upon reviewing discussion threads, it became clear that users other than the original poster of the yak would frequently reply to original posts by disclosing their own mental

health concerns, as well. Thus, all posts were used in the analysis of disclosure of psychological distress and specific mental health concerns.

For RQ2, posts were thematically analyzed to understand the role of the virtual community on Yik Yak for individuals coping with mental health concerns. Analysis of data was carried out using analytic coding and interpretation as recommended by Kozinets (2010) for netnographies. The specific procedures for analytic coding were guided by the inductive thematic analysis procedures outlined by Braun and Clarke (2006); guidelines from the constant comparative method developed by Glaser and Strauss (1967) were consulted for integrating and abstracting codes into higher order constructs. To begin with, posts were read several times for familiarization with the data. Using close reading, initial codes were developed and affixed to the data where applicable and data was collated by code (Braun and Clark 2006). Themes were developed based on these codes. I read through the data to identify patterns, relationships, similarities, and differences; this helps abstract the data into higher-order conceptual constructs, from specific to general (Glaser and Strauss 1967; Kozinets 2010; Sbaraini et al. 2011). According to Glaser and Strauss (1967), code refinement should not only involve determining conceptual similarity but also various dimensions of concept domains to more accurately reflect the range of experiences.

It is important to note here that, while extremely similar and often used interchangeably, content and thematic analysis differ in a few notable ways (Vaismoradi, Turunen, and Bondas 2013). The first difference is between category and theme: a category in content analysis captures the “descriptive level” of the content while a theme is more abstract and is an expression of the latent content (Vaismoradi, Turunen, and Bondas 2013, 402). For example, “depression” is a content category in the present study based on the manifest content of posts,

whereas “belongingness and community” emerged as a theme based on the interpretation and analysis of a variety of posts. Furthermore, unlike in thematic analysis, in content analysis the frequency of occurrence of a concept in text can be used to identify a category, and quantities can be determined. Content analysis was used to find answers for RQ1 because of the nature of the question, which seeks to describe the specific mental health concerns of students. Content analysis is particularly useful when extensive prior research exists regarding a phenomenon—in this case, the mental health concerns of university students—and literature can be used to guide initial coding (Hsieh and Shannon 2005); this technique was employed for initial coding for RQ1. In contrast, coding for RQ2 was inductive and themes were developed and abstracted from the data itself to go beyond the manifest content and discover and define the latent content (Vaismoradi, Turunen, and Bondas 2013, 402). Thus, the main difference between the two approaches was that the interpretation of data varied in terms of the depth and level of abstraction (Vaismoradi, Turunen, and Bondas 2013).

Ethnographic fieldnotes, which were collected during and immediately after participant-observation to provide a record of posting behaviours and observations on the culture of the fieldsite, were also transcribed into NVivo and organized into related categories or to provide context and notes for specific posts. The data was then revisited and categories were compared and refined further to detect and interpret thematic categorizations and generate conclusions, which helped define the mental health concerns of students at the University of Manitoba and the role of the virtual community on Yik Yak for individuals coping with mental health concerns (Thorne 2000).

## Validity

Good qualitative inquiry must demonstrate that it is credible through specific procedures (Angen 2000; Creswell and Miller 2000). However, there is much debate about the value and concept of validity in qualitative and, especially, interpretivist inquiries (Angen 2000). Creswell and Miller (2000) outline three techniques within the interpretive/constructionist paradigm, based on the specific lens or viewpoint used by the researcher, which help establish validity. These are: disconfirming evidence (lens of the researcher), prolonged engagement in the field (lens of study participants), and thick, rich description (lens of people external to the study, such as reviewers and readers) (Table 2).

**Table 2 Creswell and Miller's (2000) Criteria for Establishing Validity for Interpretivist Research**

<b>Lens</b>	<b>Procedure (Interpretive paradigm)</b>
Researcher	Disconfirming evidence
Participants	Prolonged engagement in the field
People external to study (Reviewers, readers)	Thick, rich description

Creswell and Miller (2000, 127) define “disconfirming the evidence” as “the process where investigators first establish the preliminary themes or categories in a study and then search through the data for evidence that is consistent with or disconfirms these themes.” Following data analysis, the posts were reviewed for disconfirming evidence and no significant disconfirming evidence or conflicting data was found.

Creswell and Miller (2000, 128) state that while prolonged engagement does not have a specific duration, typically, ethnographers “spend from 4 months to a year at a site”. The observation and data collection period for this study spanned 5 months and 2 weeks and resulted

in 1889 posts. This range of time covered two final exam periods and also allowed for an in-depth understanding of the field. Observations of the impact of drastic changes to the app's interface were recorded and only possible due to the extent of time spent in the field. Thus, I can conclude that this range of time satisfies Creswell and Miller's (2000) criteria for prolonged engagement in the field.

Finally, thick, rich description affects ethnographic writing by helping to make it more meaningful, especially for outsiders (Creswell and Miller 2000). Thick description provides "deep, dense, detailed accounts", contrasting with thin descriptions, which "lack detail and simply report facts" (Denzin 1989, 83). Based on Geertz's (1973) interpretive anthropology approach, the present study uses thick description to provide as much detail as possible in describing context, themes, and meanings.

As stated, the validity of qualitative and, especially, interpretivist research is a controversial issue. Interpretive research is often viewed as being too subjective, unscientific and lacking rigour, and quantitative approaches are comparatively considered by some as "better science and...more legitimate" (Angen 2000, 379). An ideal interpretive approach to social inquiry is meant to deepen our understanding of humanity at the risk of certainty. Angen (2000, 380) argues that "this loss [of certainty] is mitigated by what we stand to gain in moral and practical relevance." Furthermore, science as a form of knowing is itself socially constructed and dependent on the beliefs and values of scientists. Based on the interpretive paradigm, reality is socially constructed through intersubjective experiences and truth is negotiated through dialogue (Angen 2000). Thus, knowledge claims and ways of knowing are negotiable and constantly reinterpreted through social discourses. This has led to a rethinking of the concept of scientific

validity altogether, and to questioning the privileged status of positivist criteria as the means to truth (Angen 2000).

Angen (2000) provides two subsets of validation criteria for interpretivist studies: ethical validation and substantive validation. The author purposefully uses “validation” instead of validity to emphasize the processual nature of evaluating the trustworthiness of research in the interpretive perspective. Validation from this perspective is a moral question addressed by the researcher through the process of continuous methodological decision-making, from the beginning of the research process to completion. Specifically, Angen (2000) writes:

How carefully the research question is pondered and framed, how respectfully the inquiry is carried out, how persuasively the arguments are developed in the written account, and how widely the results are disseminated become much more important issues than any criteria-based process of accounting that occurs after the research is completed. (Angen 2000, 387)

Ethical validation is characterized by choosing methodological approaches that focus on the diversity of voices and allow us to remain connected to our shared humanity (Angen 2000). The online ethnographic approach used in this study seeks to do just that by documenting the range of understanding, experience, and expression presented on Yik Yak. Furthermore, ethical validation also requires the research to provide practical answers and have practical lifeworld value; however, the application of research to practice is largely dependent on how the research is taken up by the community of practitioners. In the same vein, interpretive research should have generative promise, contributing to the production of new interpretations and new questions (Angen 2000).

Angen (2000) proposes another form of validation: research should be transformative for the researcher by disrupting how the research is formulated, carried out, and disseminated, in

contrast to the authoritative stance of positivist research. This, in practice, can involve becoming an advocate for the research participants during the research process or applying a more cooperative approach between the researcher and the researched. The idea behind the current study was motivated by my role as a mental health advocate and former student counsellor at the University of Manitoba campus. This research is an attempt to understand the mental health needs of students and contribute to the knowledge on the mental health university students.

The second subset of validation criteria—substantive validation—prioritizes the substance of inquiry for evaluating research (Angen 2000). It requires accounting for biases, self-reflective understandings, and interpretations throughout the process. This way, the reader can judge the trustworthiness of the research based on the connections made by the researcher to reach their conclusions. The present study, in accordance with this principle, is reflexive. The constant comparative method requires reflecting on the data for abstraction (Glaser and Strauss 1967). As well, the ethnographic approach necessitates continuous, meticulous note-taking and reflection while in the field. Finally, for the current study, head notes (mental notes inscribed at a later time) and field notes were used to provide contextual clues for later interpretations of data (LeCompte and Schensul 1999).

### Ethical Considerations

The main ethical considerations in conducting an online ethnography are privacy, confidentiality, and informed consent. Because data was obtained from a public application with no copyright restrictions, and the researcher did not interact with the participants of the app actively, informed consent of participants was not required. The postings on Yik Yak are anonymous and there is, currently, no way to trace a posting to a specific person in real life

(IRL). Also, the application's interface does not retain messages, and they tend to disappear quickly. For example, on particularly active days, the feed retains posts created only during the preceding hour. As I discuss in the next chapter, recently, optional pseudonyms, or "handles" as they are known within the app, have been implemented. The majority of participants continue to post anonymously; however, to protect the identity of pseudonymous participants, pseudonyms were removed and redacted in the analysis and presentation of study results.

Because the present study is concerned with mental health information, the responsibility and obligations of the researcher must also be considered. In the event that a participant on Yik Yak threatens or indicates intent to harm themselves or others, there are no clear directions for what a researcher must do in this public, online environment. This is further complicated by the fact that Yik Yak does not allow the posting of phone numbers or website addresses so that resource information may be suggested to the individual. Suggestions can be provided to seek assistance from the University of Manitoba's Counselling Centre or to contact the local Klinik Suicide and Crisis Hotline. However, the question remains: is the researcher obligated to do so?

Carmack and Degroot (2014) argue that it is potentially dangerous for untrained scholars to provide suggestions on where to seek treatment. However, they also state that discussion on these issues is needed because of the ambiguity regarding the researcher's obligations. In another study by Sharkey et al. (2011, 753) of a self-harm discussion forum, the investigators applied an "ethics as process" approach. They describe the approach as being "relationally dynamic and revisited frequently over the course of a study" (Sharkey et al. 2011:753). This approach is especially useful for qualitative research as it prioritizes the importance of relationships between participants over time, and emphasizes good intentions, respect, and awareness of the participants' experience. This enables the researcher to understand the participants' relationships

to each other and the help they provide each other during crisis situations. During data familiarization, it became clear that Yik Yak participants are quick to offer support and resources to participants who post messages indicating distress, but this is not always the case.

In their book, *The Ethics of Internet Research*, McKee and Porter (2009) interviewed researchers to understand the process of ethical decision making when deciding whether to intervene. They interviewed Yukari Seko, a doctoral student at York, whose research involved studying blogs containing discussions of self-harm and suicide. Seko points out that the difficulty in assessing whether to intervene or not is caused by a number of issues including: judging the severity and urgency of the individual's intentions; uncertainty in providing help due to pseudonymity/anonymity; and, lack of accurate location information (McKee and Porter 2009). Furthermore, Seko indicates that the individual's need for self-expression and privacy must be respected, and that reporting an individual can prove more harmful to the individual (or community) in the long run if they believe they are under surveillance. Thus, Seko chose not to intervene and to "respect the [blogger's] privacy and agency" (McKee and Porter 2009, 104).

Based on a review of the literature on ethical decision making in online research by non-clinicians, no straightforward answers can be found on the appropriate conduct of a researcher in these cases. However, like Sharkey et al. (2011), McKee and Porter (2009) also recommend a processual approach to ethics which was deemed to be most appropriate for the current study. McKee and Porter state that ethics is an "ongoing process of reflection, analysis and action throughout a project." As such, they recommend a case-by-case approach to ethics that is reflexive and adaptable.

This processual approach suited the environment of Yik Yak because, as mentioned, participants were quick to intervene with messages of support and resources when a post

indicated distress or intent to self-harm. Thus, intervention by the researcher was not necessary in these cases so as to respect the relationships between the participants and the ethos of the community. However, when a post indicating intent to self-harm was found with no such responses, it was necessary for the researcher to intervene by providing a message containing information on resources, including the University of Manitoba Counselling Centre and the Klinik Suicide and Crisis Hotline. Intervention by the researcher occurred twice during the study period and is detailed in Chapter 6. According to Yik Yak's guidelines of use, in the event that intent to harm others is indicated, the post is to be reported using Yik Yak's internal system wherein posts, which "target others" can be flagged by users. However, no posts indicating harm against others were discovered during the data collection period.

While online research ethics continue to evolve, the most recent Tri-Council Policy Statement (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, Social Sciences and Humanities Research Council of Canada 2014) does not require ethical approval for research of this particular type as it is non-intrusive, uses publically available data and there are no issues of copyright with regard to the posts. I also received confirmation from the Joint-Faculty Research Ethics Board at the University of Manitoba that this study did not require ethics review and approval from the Board.

Yik Yak provides its own ethics and conducts of use. In the next chapter, I take a closer look at app itself, its various characteristics, and the moderation of the feed by users, along with the rules and codes of conduct which are intended to guide the use of the app.

## **Chapter 4**

### **Yik Yak: A Virtual Fieldsite**

This chapter will provide an in-depth look at the geography, user interface and features of Yik Yak relevant to the study. The design, layout, features, and regulations of the application became an important part of the study due to their impact on the users. The architecture of the application structures this social space and the interaction therein. So, in order to contextualize the findings of this research, it is important to establish and describe the setting and environment in which they took place. Later changes introduced in the application's design and software after data collection ended may have led to significant changes in user behaviour and are worth considering for future research.

#### **Layout**

A typical Yik Yak front page or Home feed is pictured in Figure 3. The feed usually contains approximately 100 posts. Yik Yak allows the user to select their preferred “herd”—a single designated area such as a university campus—to which the user belongs; membership in the herd is, therefore, like a club membership. A user may view the posts composed by others in the area “nearby”, or only those in their herd, by selecting the appropriate tab. So, if a user in the University of Manitoba herd was travelling to Toronto, Canada, they can still view and post in their herd, and also view, vote, and comment on the posts in their “nearby” area in Toronto. In contrast, if a user has not selected University of Manitoba as their herd, they can only view the posts in the University of Manitoba herd's feed, and they cannot reply to or vote on these posts. Viewing the feed of another herd is known as “peeking”. If, for instance, a user is from Toronto and they happen to be at the University of Manitoba campus, the University of Manitoba herd

would become their “nearby” feed and this would allow them to post Yaks and comments in that feed.

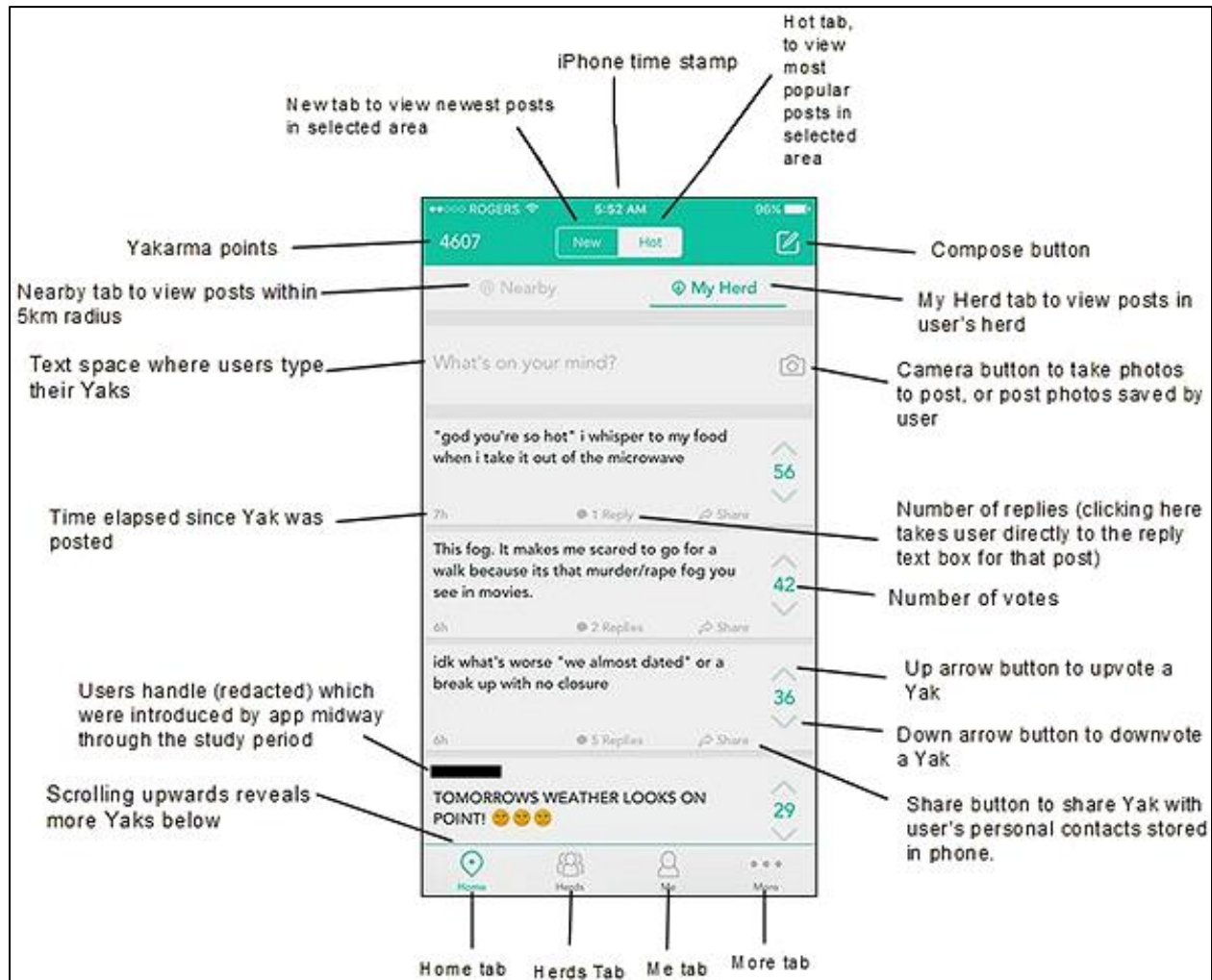
Users can also earn “yakarma points” which are points earned through participation in the app by posting, commenting or voting on a Yak; users can lose yakarma if other users downvote their posts (“Yik Yak FAQ” 2016). There are no real world repercussions to losing or gaining yakarma; however, Yik Yak states that users may be able to trade yakarma for Yik Yak merchandise if they visit the Yik Yak tour bus (“Yik Yak FAQ” 2016).

Within their nearby area or their herd, users can select to see the most recent yaks (New tab) or the most popular yaks (Hot tab). The more upvotes a post has, the higher it ranks under the Hot tab. Typically, the majority of posts receive less than 5 votes, therefore a post with double-digit upvotes signifies that a post and the message therein is agreeable or relatable. Posts disclosing mental health concerns varied in popularity, with most receiving 10 upvotes or less, however there were some notable exceptions to this which will be discussed in the next chapter. The majority of posts regarding mental concerns were not downvoted below zero and many posts related to student stress received a relatively high number of upvotes. In general, posts on any topic tend to remain in the feed unless they are considered highly unfavourable by the herd, and these are usually voted out of the feed (like racist, homophobic, or offensive content).

Users can also view when a yak was posted relative to the current time on their phone. Herds with more frequent yaks are considered to be more active and exciting than herds with much older yaks still visible in the Home feed. Yik Yak also creates topical feeds (approximately 5 each day) based around current events, popular culture, and humour which are open to all users of the app. These are known as “Global Herds” and users can post yaks in these feeds and

comment on yaks. Users can also save other locations they may want to “peek” at more frequently.

**Figure 3. Layout of Yik Yak’s Home Feed Page**



## The UM Herd

### *Locating the Herd*

The “Me” tab provides a live map of the user’s location and surrounding area. The radius of a user’s area varies depending on the population density of a particular area. Most popular websites mistakenly state that Yik Yak allows users to communicate with each other within a 5

or 10 km radius (Horton 2015, Fox News 2016, TechCrunch.com 2016). Yik Yak's website provides no information regarding how the area is calculated. A review of Yik Yak's patents provides a clearer picture ("Zone Based Anonymous Content Sharing" 2016). Yik Yak's current patent ("Zone Based Anonymous Content Sharing" 2016) states that a user's zone is "dynamically calculated". It states that the zone may be calculated based on a predefined radius, or it could be determined by a platform administrator. The predefined area may be a building, a set of buildings, a network connection, or a region like a university campus ("Zone Based Anonymous Content Sharing" 2016). Employees from Yik Yak have visited the University of Manitoba campus to hire campus representatives. A campus representative's main duties include encouraging friends and others to join Yik Yak, promoting the application on their campus, and assisting in moderating duties (@YikYakapp 2014; Reddit.com 2016). Thus, the assumption is that the University of Manitoba herd is restricted to the campus itself because it is named as such, is a densely populated area, a specific region, and a primary target demographic for Yik Yak.

However, it is not clear whether the Bannatyne campus is included in this area. Based on observation and data collection, yaks were restricted to references of the Fort Garry campus as evidenced by images of, and references to, courses, buildings, individuals and events at the Fort Garry campus, and the lack of references to the Bannatyne campus, in comparison. As well, since herds are geographically bound, it is likely that the University of Manitoba herd only includes the Fort Garry Campus. While the study data is not meant to generalize to all students at the University of Manitoba, it is still important to note that the potential user population of Yik Yak is inclusive of students and non-students present on and around the Fort Garry campus, or those who have the University of Manitoba selected as their herd. It is also important to note that

a user's herd location is not easily changed. Users must use a contact form within the application and request a change. According to Yik Yaks FAQ, the location of the herd must be a university campus ("Yik Yak FAQ" 2016).

Because the application is commonly understood as being intended for and targeted towards university students, it is assumed that all yakkers in a university herd belong to the university in the capacity of a student, unless otherwise stated. There have been instances where University of Winnipeg (UW) students have visited the University of Manitoba (UM) campus and commented on differences between the universities and their respective herds; the poster's status as a UW student was made explicit by them. Similarly, in other instances, high school students visiting the campus have posted in the UM herd requesting information about the university experience. These outsiders are generally not received kindly. Furthermore, because Yik Yak is disabled around high schools and middle schools, it is unlikely that many yaks are composed by non-University of Manitoba students.

As per the interpretivist paradigm, this study privileges the users' assumptions that yakkers in the University of Manitoba herd are primarily UM students, unless they state otherwise. As Figure 4 shows, users share an understanding that, while the application is used elsewhere in the province, its immense popularity with students of UM makes it feel as though the entire application is "strictly a u of m thing". Another yakker agrees that, in the province at least, its use is isolated to members of the university community. Users are also protective of the UM herd's identity. For example, in one instance, a user writes, "Get off yak if you're not affiliated with UofM" followed by an emoji depicting rolling one's eyes. The yak was upvoted at least 8 times in 28 minutes, indicating that this sentiment is agreeable to most users in the herd. It also indicates, however, that an interloper, as perceived by this user, had been spotted in the feed.

**Figure 4. A Thread Discussing the UM Herd's Group Identity**



While these assumptions and beliefs discourage outsiders from posting or revealing themselves, they also strengthen the group identity by reinforcing these beliefs through posts explicitly stating the perceived rules of the UM herd, as in the post above, and flaming users who do not seem to belong. This establishing of group norms, reliance on group based discriminators, and protection of group identity is predicted by the SIDE model, discussed earlier, which contends that anonymous members of a group are more likely to protect group identity if they have salient ties to the group (Reicher, Spears and Postmes 1995).

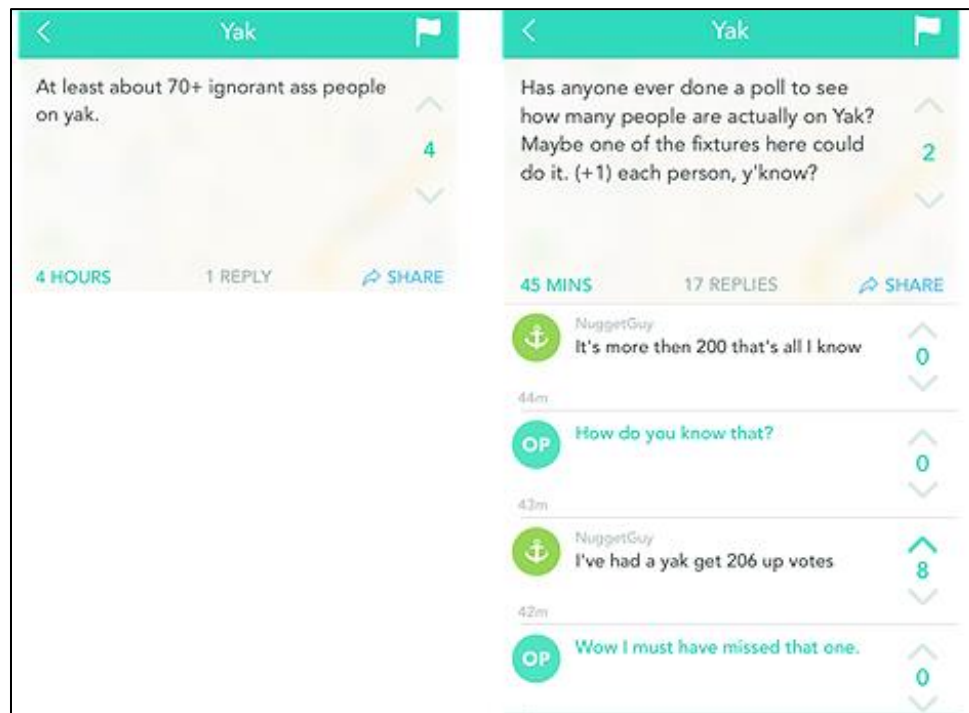
### *Population of the Herd*

It is difficult to know exactly how many individuals are in the UM herd or online at a given time. There are no statistics as such within the application. However, estimations can be made based on other means. Because a user is only allowed to vote on a yak once, tracking a popular yak's upvotes can reveal the minimum number of users on Yik Yak at a given time, and, potentially, in the herd as a whole. During the data collection period, on many occasions posts with over a hundred upvotes were observed (Figure 5). As well, yakkers themselves wondered how many people were on Yik Yak and estimated the population based on the number of upvotes posts would receive (Figure 6). As the second screen capture in Figure 6 shows, one individual indicated that their post had received over 200 upvotes, making that range the presumed upper limit of the number of yakkers in the UM herd at a given time. Taking downvoting and lurkers into consideration, the actual number of herd members is presumed to be much higher.

**Figure 5. An Example of a Yak with Over 100 Upvotes from the Data Collection Period**

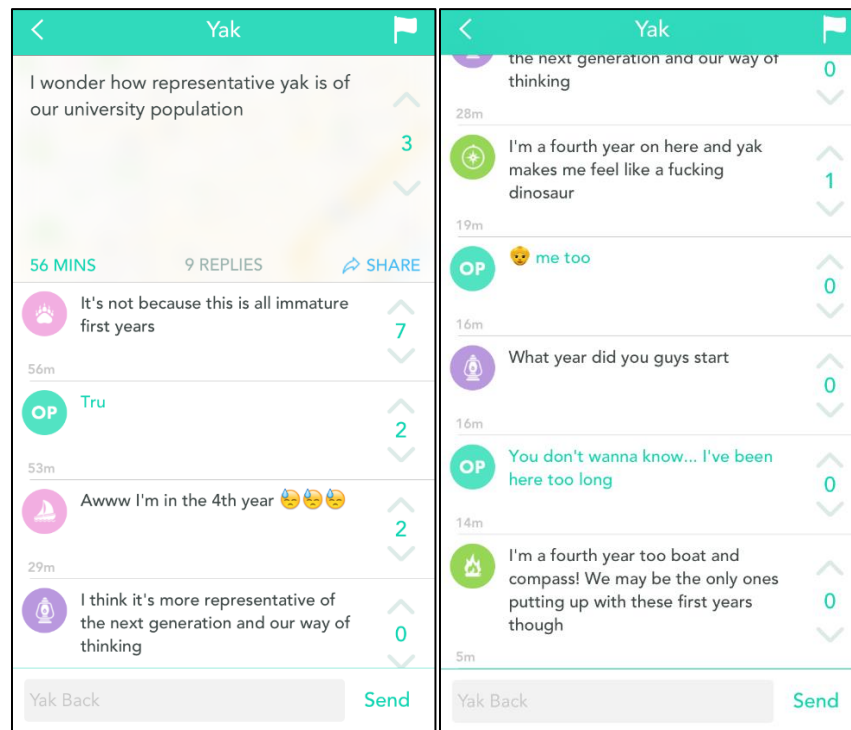


**Figure 6. Posts Estimating the Potential Population of Herd Members**



Yakkers were also curious about the representativeness of the herd, and, in one thread, six users discussed the subject (Figure 7). While the first response indicates frustration at the perceived number of first year students on the app, three commenters in the thread state that they are not in first year; two say that they are fourth year students and OP says that they have been at the UM “too long.” It is difficult to estimate the composition of the herd; regardless, the population has been observed to be diverse with members disclosing a wide array of demographic characteristics, including a variety of ages, ethnicities, socioeconomic statuses, sexual orientations, gender identities, academic disciplines/faculties, and religious affiliations. Many students were also observed stating that they were international students in their posts.

**Figure 7. A Thread Discussing the Representativeness of the UM Herd**



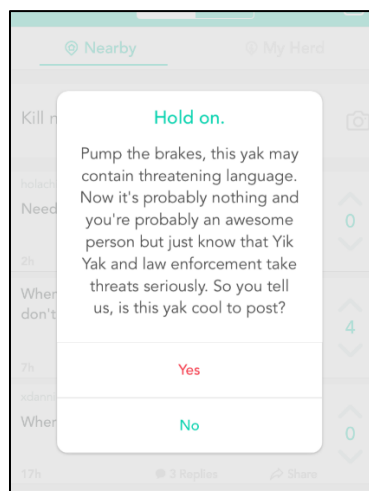
### *Policing the Herd*

Yik Yak is moderated through the combined efforts of the users themselves, the campus representatives, and Yik Yak administrators. Downvoting a post below zero results in a negative vote of -1. A post or a comment with a vote count of -5 disappears from the feed automatically allowing for consensus to regulate content. Bullying is not allowed on Yik Yak, which the app defines as “defaming, abusing, harassing, stalking, and threatening others” (Yik Yak App, 07-03). As well, posts that appear to contain street addresses, phone numbers, personally identifiable information, and social media accounts are not allowed. Posts can also be flagged and reported to administrators by users if they find the content offensive, believe that the post targets someone, feel that the post is “spam”, object to the user’s handle, or “other”. Once the post is reported, it is up to the “Yik Yak team” to take further action; this may include: removing the post from all feeds and, potentially, suspending the user. According to Yik Yak’s rules, if a user’s yaks are

frequently reported or flagged, they will be suspended. Therefore, the community standards discourage negative behaviour that could be construed as violating the terms; however, controversial, socially inappropriate behaviour, and flaming and trolling, persist on the application as they may not violate these specific rules explicitly, may not be reported, and are left up to interpretation by the Yik Yak team.

Importantly, Yik Yak prevents users from posting yaks that contain specific words. For example, some profanities cannot be posted on the app, and others prompt a warning to appear. As well, words that could be used to phrase a threat against oneself or other people (e.g. “bomb”) are also restricted or prompt the warning message shown in Figure 8. I tested (but, of course, did not post) some of the common variations of threats and suicidal expression collected on Yik Yak and found that, of these, only those with the word “kill” prompted the warning to appear. Therefore, other messages expressing suicidality without the use of the word “kill”, as discussed in the next chapter, would appear in the feed and were not flagged or removed by the application at the time of data capture.

**Figure 8. A Warning Message from Yik Yak**

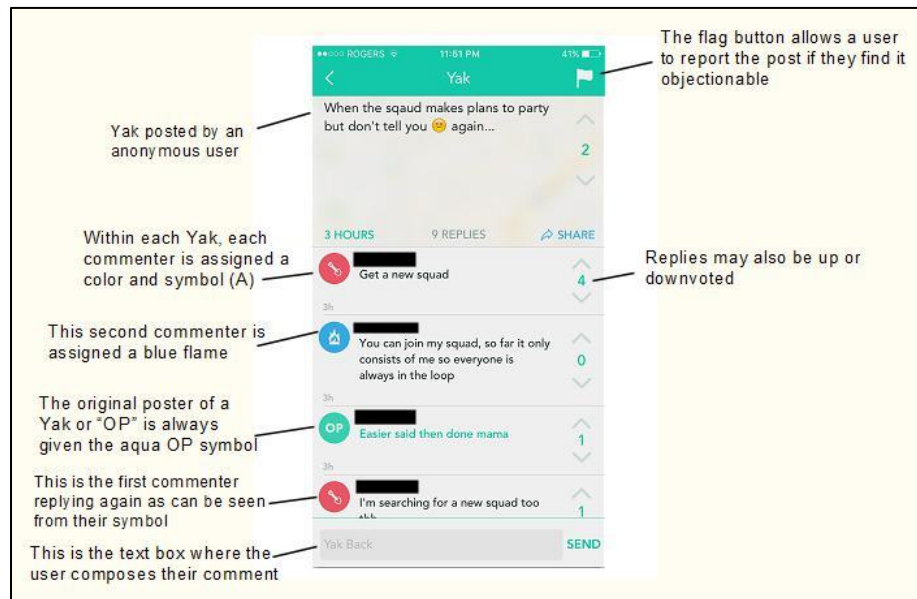


## Anonymity, Pseudonymity and Identity within the App

Kozinets (2002, 64) argues that, despite the fact that informant identity is uncertain, online ethnography follows ethnographic tradition in that its “ultimate unit of analysis is not the person but the behavior or the act.” Unlike conventional face-to-face ethnographies, online ethnographies are primarily based on the “observation of textual discourse” (Kozinets 2002, 64). Thus, data in the online context involves every aspect of expression through computer text including the content of a post, wording, type, and other modifiable features such as usernames, emoticons and graphics. This is described by Kozinets (2010, 132-33) as the *pragmatic-interactionist approach* which concerns itself with the observation of the “‘interactive acts’ in the ‘game’ that is played on the online fields of community and culture” rather than with “the players”. Therefore, online ethnography consists of contextualizing these interactive games.

The anatomy of an interaction on a Yak is depicted by the screenshot in Fig. 9. Selecting a yak from the Home feed takes the user to that yak and its corresponding replies or comments. Each commenter is identified by a colour and symbol that is randomly assigned in each yak. Therefore, if I comment in one thread, I may be assigned a yellow tree, while in another thread I may be a black boat. This allows individuals to refer to each other by using their colour and symbol as their identifier to respond to each other within a thread. For example, in the thread in Figure 9, a commenter may refer to the first commenter as “pink shovel,” the second as “blue fire”, if they wish to reply to their particular comment. The individual who posts the yak and starts the thread is known as the original poster in Internet parlance and is referred to as the OP. The OP of each yak is always assigned the turquoise OP symbol.

**Figure 9. A Schematic of a Typical Thread on Yik Yak**



When Yik Yak first gained popularity, these symbolic identifiers did not exist. At the time, users sometimes considered the app an echo chamber of sorts where a yakker could respond to themselves without anyone knowing that the conversation taking place on a particular yak involved only one individual. In response, these colourful symbolic identifiers were introduced along with the OP symbol. During the data collection period, the colorful symbols had already been implemented so this was not an issue in data collection. Interestingly, though, some yakkers seemed to express nostalgia for the old, completely anonymous interface (Figure 10).

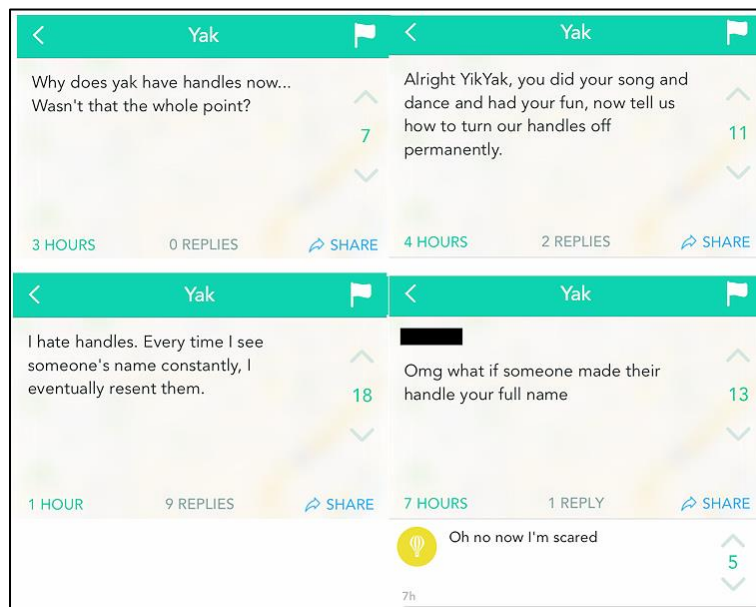
**Figure 10. A Yakker Posts about the Original, Anonymous Interface**



## Handles

The introduction of “handles,” or usernames, the newest iteration of identifier evolution on Yik Yak has arguably been the most talked about and controversial topic with regard to identity in the app. On March 8<sup>th</sup>, 2016, after more than three months of data collection for this study, Yik Yak introduced a monumental change to the application’s interface. The app now allowed users to select a specific, unique handle which they could turn on or off while posting. The handle would need to be toggled “off” for each post or comment if the user wished to stay completely anonymous and have no username associated with a post. Following this change, the University of Manitoba feed was dominated by discussions of handle use and the impact it would have on the application. Many users claimed to want to “leave” the application because of this, and others expressed disgruntlement and apprehension about the change with regard to anonymity (Figure 11). Many accepted the feature and used it to create humorous and/or topical handles which themselves became a topics of conversation.

**Figure 11. Posts Expressing Concern Regarding Handles**



When this change was introduced I, too, became concerned that this would impact the usage of the app for the purposes of expressing emotional distress and discussion of stigmatized topics. However, these concerns were mitigated quickly as users continued to express distress while remaining anonymous, while some even used their handles. While there is, as yet, no feature to create a user profile, see a user's previous posts, or track their posts, it is still possible to, over time, mentally track a user's posts by observing each time they post using their handle. This could potentially make a user identifiable if they disclose unique information. Therefore, privacy became a greater concern for both the users and for the researcher following the introduction of handles. While handles and usernames can be, and often are, used as units of analysis in online ethnographic research (Kozinets 2010), in order to maintain the privacy of users, I chose to remove all usernames from the final analysis.

Handles also affected the UM herd in a different way. Users who used their handle frequently to post yaks began to gain popularity within the herd. Yaks were made about specific users, usually expressing positive or negative feelings towards them, with commenters agreeing or disagreeing through replies and/or votes. This led to an increase in the use of handles and popular yakkers during the data collection period. Considering that data collection ended on May 8<sup>th</sup>, 2016, the rapid popularity rise of many yakkers between March 8<sup>th</sup> and May 8<sup>th</sup> is notable and evidences the rate of use of Yik Yak by the UM herd, and the dynamism afforded by this online environment.

### The Changing Landscape of Yik Yak

Towards the end of data collection period, on April 25<sup>th</sup>, 2016, Yik Yak announced a new chat feature which would be released in the month of May. This feature would allow users to message each other directly within the app, outside the bounds of Yik Yak threads. Because this

feature was not present during data collection, it is unclear how this change has affected and will continue to potentially effect the social interaction on Yik Yak. Furthermore, the perceived protective aspects of anonymity are no longer a “given,” as yakkers can now communicate with each other and learn about each other’s identity through direct messaging. Ultimately, the timing of this project has proven to be serendipitous as I was able to capture most of the data when the application was completely anonymous and handles were optional. It is possible that user profiles, profile photos, mandatory handles and other features, which could potentially compromise anonymity and privacy, could be introduced. On the other hand, these potential in-app features, and the existing chat feature, could also strengthen the social ties and group identity of the UM Herd. In the next chapter, I will discuss these social aspects of the app along with other thematic findings describing the role of this virtual community, and the results of the content analysis of the mental health concerns found in the app.

## Chapter 5

### Findings and Discussion

Following the completion of data collection, 1889 posts (including both the original posts and replies) were analyzed to answer the research questions for this study. This chapter will discuss the findings for each question separately. Counts and quantitative data are included to illustrate specific points. Transcribed posts and threads in this discussion identify the poster of the original post of a thread as the OP, and subsequent yakkers who replied to the OP of a post as Y1, Y2, Y3 and so on. All posts have been transcribed verbatim, including typographical errors. The first section presents findings in response to RQ1 and discusses in detail the nine major mental health concerns (mMHCs) found through thematic analysis of the posts. These concerns were: exam anxiety and academic stress; depression; suicidality and thoughts of death; anxiety; sleep disturbance; excessive stress; loneliness and social isolation; sadness; and loss of motivation. Various factors that were found to be related to these concerns will also be discussed. The second section presents the findings for RQ2 regarding the role of the virtual community of Yik Yak for individuals coping with mental health concerns. Four major themes were developed from data analysis in response to RQ2: giving and receiving social support; belongingness and community; disclosure of repressed self; and, countering stigma and perpetuating self-stigma.

#### Analysis of Findings for RQ1

##### *Question 1: Identifying the Mental Health Concerns of Post-Secondary students at the University of Manitoba*

In order to answer RQ1, posts were read multiple times and reviewed to identify and record instances of various references to specific mental health concerns (MHCs), which were

then coded and categorized. The initial codes were then verified by revisiting the data set and searching for contradictions and disconfirming evidence. Finally, initial categories were collapsed and merged. In all, there were a total of 489 (N) references of disclosure of psychological distress and mental health concerns. In order of frequency, as Table 3 shows, the major categories are: “Exam Anxiety and Academic Stress” (17.18%, n = 84), followed by “Depression” (15.13%, n = 74), “Suicidality and thoughts of death” (13.09%, n = 64), “Anxiety” (10.22%, n = 45), “Sleep disturbance” (9.41%, n = 46), “Excessive stress” (6.95%, n = 34), “Loneliness and social isolation” (6.54%, n = 32), “Sadness” (4.70%, n = 23), and “Loss of motivation” (4.70%, n = 23). These categories were considered to be the major mental health concerns due to their salience in the data pool, thematic richness, frequency, and the observed number of upvotes and replies they received. Table 3 provides exemplar posts for each theme from the data pool. In addition to these, problems described by yakkers as causing, related to, or contributing to these concerns, such as finances, substance use/abuse, duration of suffering, among others, were also recorded where applicable.

Posts were assigned multiple codes if they contained references to multiple sources of distress, which was a frequent occurrence. For example, one user posted: “I’m feeling really lonely and depressed lately”. This post was coded for both loneliness and depression. As expected, many factors occurred together. I will now discuss each major mental health concern along with its dimensions and major co-occurring factors.

**Table 3. Frequency and Examples of Mental Health Concerns**

Category	Frequency	N (%)	Example
Exam anxiety and academic stress	84	17.07%	"Exam anxiety at an all time high"
Depression	74	15.04%	"Depression is so finicky. Comes and goes. I've been over it for a few months, but I can feel it starting to set back in"
Suicidality and thoughts of death	64	13.01%	"I'm so close to killing myself. I don't want to be here anymore. I have no one."
Anxiety	50	10.16%	"I hate when my anxiety keeps me up"
Sleep disturbance	46	9.35%	"My sleeping schedule is 50 shades of fucked up"
Excessive stress	34	6.91%	"So stressed out I want to cry"
Loneliness and social isolation	32	6.50%	"I feel so alone it's starting to eat me"
Sadness	23	4.67%	"Always feeling sad lately"
Loss of motivation	26	5.28%	"My motivation died the day I stepped back on to campus"
Mental breakdown	13	2.64%	"About to have a mental breakdown I swear to god"
Fatigue and exhaustion	12	2.44%	"I'm so exhausted I want to quit"
Self-harm	8	1.63%	"Lots of girls from my school experimented with 'cutting' in highschool. I never stopped."
Panic Attack	7	1.42%	"I'm just really agitated and I don't know why. It feels like a panic attack."
Eating disorder	5	1.02%	"I'm sick of my ED and being a fat pig. Not sure how to not just quit life"
Social Anxiety	5	1.02%	"Everything is harder with social anxiety"
Feeling Overwhelmed	5	1.02%	"The worst thing about being overwhelmed is that I get nothing done and continue being overwhelmed the next day"
Hopelessness	4	0.81%	"I have nothing to hope for.."

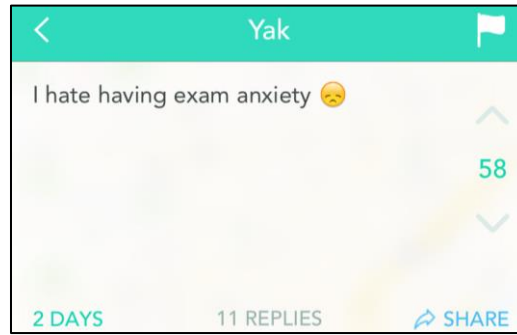
### Exam Anxiety and Academic Stress

Exam anxiety and academic stress were the most frequently referenced mental health concerns (17.07%, n = 84). They were grouped together into one category due to the ambiguity of many posts with regard to the source of distress. For example, one user wrote

*I didn't do so well this year...It's my first year and I'm feeling absolutely terribly about my grades. They're making me badly anxious and I don't know how to handle it.*

At first glance, this posts seems straightforwardly related to academic stress. However, this was posted on April 14<sup>th</sup>, 2016, in the middle of final exam period. Therefore, the reference to the “year”, and “my first year”, indicates general academic work, while “grades” could refer to grades earned on coursework and/or exams. The two factors often appeared to be intertwined. The individual also states that they are “making me badly anxious,” which could be related to a pre-existing anxiety condition, a colloquial use of the term to indicate temporary feelings of nervousness, or an indication of exam anxiety for exams that may still be pending. Many posts featured a similar coupling of stress related to exams, grades, studying, and the pressures of succeeding in university. Therefore, posts referencing exam anxiety, exam related stress, and academic stress were all grouped under the code “Exam Anxiety and Academic Stress”. As well, while the term anxiety and stress are used to often describe the emotionally distressing experiences of exams, the concept of exam anxiety and academic stress emerged as a separate category due to its apparent relatability as expressed through upvotes and replies. This indicated that academic stress and anxiety were a common feeling shared among many within the herd. As Figure 12 shows, many posts on exam stress and anxiety received a large number of upvotes.

**Figure 12. An Example of a post on Exam Anxiety Receiving a High Number of Upvotes**



There were a variety of different types of posts related to this code. For example, one user asked for help (“Should I be seeking help for my exam anxiety?”), while many expressed frustration due to exam anxiety and academic stress:

- *Literally just about started crying in the library because of finals*
- *Anxiety from finals sucks [skull emoji]*
- *Fuck exams [crying emoji x 6] emotional breakdown*

Exam anxiety and academic stress most frequently co-occurred with depression (10 posts), anxiety (9 posts), loss of motivation (9 posts), sleep disturbance (6 posts), somatic symptoms (6 posts), panic attacks (4 posts), and change in eating habits and finances (2 posts each) (Table 4).

**Table 4. Cross-tabulation of Category “Exam anxiety and academic stress” with other factors**

Co-occurring factors	Exam anxiety and Academic stress
Depression	10
Loss of motivation	9
Anxiety	9
Sleep disturbance	6
Somatic symptoms	5
Panic Attack	4
Change in eating habits	2
Finances	2

Users often posted about the effect that the two factors had together on their wellbeing. For example, when writing about depression and anxiety, one user stated:

— *School has made me so depressed and anxious lately. I can't take it anymore*

This individual was negatively impacted by “school”, which caused them to become “depressed and anxious”, culminating in an expression of exasperation and dejection. Another user posted

— *Trying to deal with finals and depressive episodes is not fun.*

The use of clinical language here—“depressive episodes”—and its meaning, indicates pre-existing experience with clinical depression. “Finals”, in this case, are a compounding factor. The user states that the two together are “not fun”; signifying that separately exams and depressive episodes carry their own burden, so together they are especially difficult to manage. Similarly, exams were also reported as adding to stress from existing psychological or emotional issues like anxiety (9 posts):

— OP: *Good time for an anxiety attack*  
OP: *Exams make It so much worse*

Academic and exam stress was also frequently linked with lack or loss of motivation. And, exam stress was also related to delayed onset of sleep, loss of sleep, and other sleep disturbances:

*Ugh when you can't sleep because you are stressing over exams but at the same time imagining what you'll do after exams are done isn't helping either*

This post expresses frustration that the author is unable to sleep due to exam stress while also indicating a measure of excitement, anticipation or concern for the end of their exams. This post

was also posted during the final exam period in April 2016. In other cases, exam and academic stress was suggested as being expressed through somatic symptoms. These are defined as physical symptoms associated with a state of stress and heightened arousal (Gelenberg 2000). Many users perceived a variety of specific somatic complaints as manifestations of their exam stress and anxiety:

- *I've noticed I'm losing a shit ton of hair I'm a 19 year old male. Fuck exams.*
- *Finals are stressing me out so bad that I burst a blood vessel in my eye*
- (OP to another commenter in a thread) *Not kidding I think finals are making it worse. I have constant headaches and am always worried about not doing well, or not having enough time to finish*
- *My exam anxiety also triggers an upset stomach which leads to feeling nauseous and crampy during an exam :(*
- OP: *The worst thing ever is being a stress puker*  
OP later comments in the same thread: *Try writing a midterm and trying not to puke up blood at the same time...*

By bringing attention to these somatic symptoms, users are also indicating the magnitude of their stress. For instance, in the second example, the OP suggests a sense of underlying incredulity that the stress of finals had expressed itself in such an extreme manner (a burst blood vessel). Similar use of graphic language (“puke up blood”) is found in the last post. And, authors of the other posts use descriptors like “shit ton of hair” and “constant headaches”, to point to the excessive stress they are experiencing due to exams and academics. Other related factors included mentions of panic attacks (4 posts), eating disturbances (2 posts), and finances (2 posts):

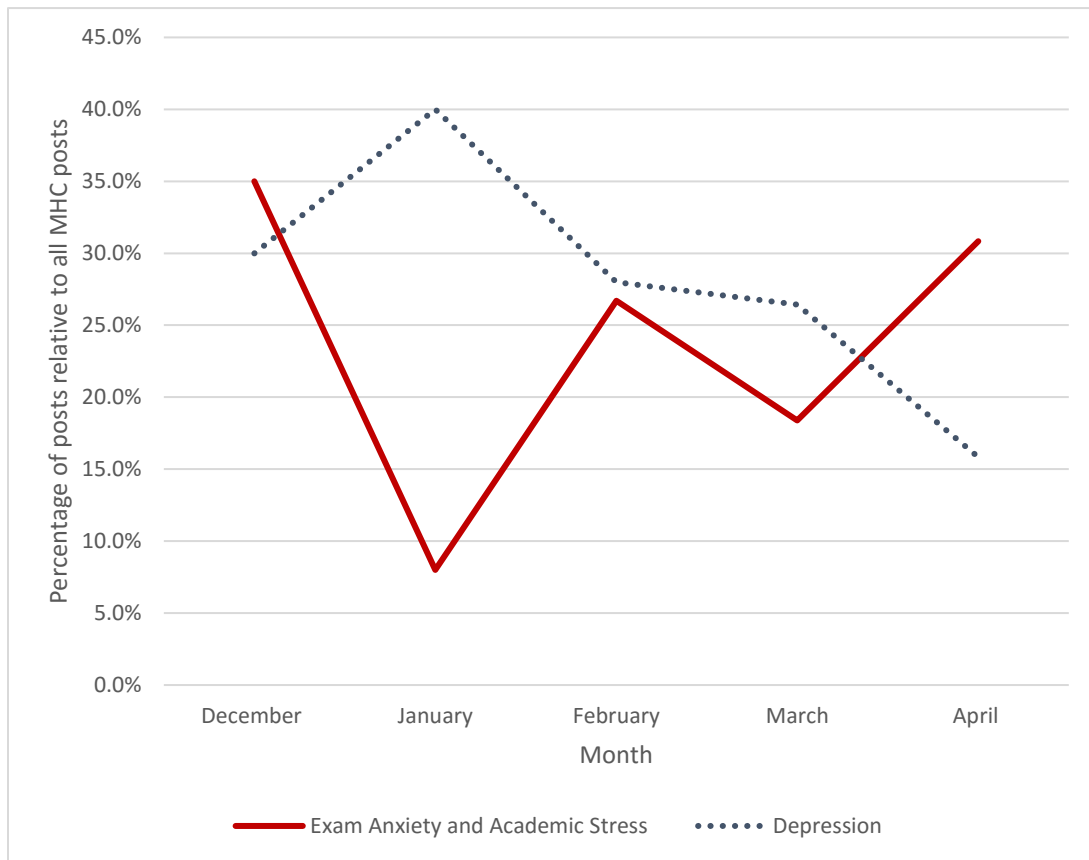
- *Had a panic attack while writing an exam today*
- *So stressed can't even eat properly so ha fuck you finals*

— *University is stressing me out so much right now, I want to VW everything but the thought of throwing away all that money stresses me out even more*

As mentioned previously, it was important to collect data during both the December and April final exam periods, as it was hypothesized that these months would yield a higher volume of posts disclosing distress. This trend was noticeable as the highest volume of posts referring to exam stress were posted during April, followed by March, and December. However, these months had also yielded the highest number of posts in general, respectively. Therefore, I calculated the proportion of posts which were coded for exam anxiety and academic stress compared to all posts referring to mental health concerns in each month. November and May were not included in the calculation and graph as only a few days in each of those months were accounted for in the data collection.

This resulted in the trend shown in Figure 13 which displays the proportion of posts referencing exam anxiety and academic stress (solid line) each month from December to April. The graph clearly shows that the months of December and April had the highest proportion of posts related to exam and academic stress coinciding with both final exam periods. In order to ensure that this pattern is unique to exam stress, I conducted the same calculations for posts referencing depression; the second most frequently occurring MHC, and an entirely different trend emerged which finds the highest proportion of posts referencing depression occurring in January and February (dotted line). January had the lowest proportion of posts related to exam and academic stress and this may be due to a number of factors including: late start to the month following Winter Break; exams being uncommon in January; and the start of a new year and students enrolling in new courses likely stimulating optimism about academics.

**Figure 13. Percentage of Posts indicating Exam Anxiety and Academic Stress compared to Depression by Month**



While posts about depression were most prevalent in January, that does not mean that depression is not prevalent in the student population in March or April—it may be—but posts by users expressing distress on Yik Yak were largely related to exam anxiety and academic stress and more prevalent during these months. This trend is an important finding as it has implications for potential programming and awareness that can be implemented by the university during these times, in addition to existing efforts, to help alleviate psychological distress experienced by students due to exams. These and other policy and programming implications will be discussed in the next chapter.

## Depression

Posts with references to depression, depressed mood, and depressive episodes were coded for “depression”. This was the second most frequently expressed mental health concern among users on Yik Yak. Posts by users varied greatly with some as straightforward as “Fuck depressive episodes”, to others, like the following, which were more descriptive:

- *Depressed. Motivation is gone. Worlds going to shit for me and I am at a loss as to how to fix it. Additionally isolated.*
- *Depression doesn't mean you are sad. It means you can't feel happy.*

Users also expressed concern that their depression was getting worse or returning and there were also references to the cyclical or seasonal nature of their depression:

- *Season is changing and my depression is getting stronger. I dropped courses and my life is a complete mess. I am exhausted.*

This user has noticed that a number of factors have coincided with the change in season, signalling that their depression is getting worse. The use of the term “stronger” in this post indicates that depression is a force with great influence on their life. As they state, it has led them to drop their courses, and perhaps other events have occurred, leading them to assess their life “a mess”. They conclude their post by stating that they are “exhausted”, signifying a lack of energy or strength, particularly in the face of a force like depression.

The most commonly associated concern linked to depression, after exam anxiety, was general anxiety. Anxiety and depression were often referred to as a pair or package deal:

- *My anxiety and depression issues are so hard to understand. I want to be alone with my thoughts but I want someone there to just hold me and rub my back and just let me cry*

— *I still have hope but being anxious and depressed is a constant battle in wanting to get shit done but feeling inadequate to even breathe.*

In particular, posts requesting help or support for MHCs frequently cited anxiety and depression together. Anxiety and depression are highly comorbid (Hirschfield 2001), so this finding was expected. The comorbidity of anxiety and depression is also a risk factor for suicidality (Bronisch and Wittchen 1994).

### Suicidality and thoughts of death

The high number of references (n = 64) to suicidality and thoughts of death were initially surprising. This was likely due to the fact that posts expressing suicidality formed a continuum of implicit expressions of suicidality and thoughts of death to explicit expressions of suicidality.

Posts containing more implicit indications included these:

- *I can't take it anymore*
- *my existence is meaningless*
- *just want it all to end*

And, many posts expressed thoughts of dying:

- *I think about dying everyday*
- *Kind of want to crawl in a hole and die*
- *I wanna die*
- *Sometimes I wonder, if I die today would anyone even miss me?*

And, finally, more explicit posts disclosed suicidal threats and plans. For example one user simply wrote:

— *Finding a way to die is a more difficult task than I thought*

This telling post clearly indicates that the user has perhaps contemplated a desire to form a suicide plan. Similarly, many posts were explicit in the expression of suicidality and these often yielded responses of great concern from other yakkers:

OP: *Suicide seems like the only way*

Y1: *There's a whole life ahead of you OP. Just get some sleep, start a new day tomorrow. One day they will get better I promise, give yourself the chance.*

Y2: *How about you give it one more day? You have your whole life to live. Do you like puppies?*

In this thread, OP explicitly expresses suicidal ideation. Two different yakkers respond by encouraging OP to take some time and reassess and attempt to provide hope by referring to new possibilities (“start a new day tomorrow”). Y2 also asks a question to divert OP’s attention to a possible positive interest (“Do you like puppies?”). Generally, responses to suicidality most often used “pleading words” and tone (“Please OP”, “Op talk to someone please”) along with a sense of urgency and emphasis. As in the example above, many of these replies also addressed the OP directly, and pleading was often followed by the insistence that “it will get better”. While that type of encouragement was provided by yakkers for emotional distress of all kinds, it was particularly common on posts indicating suicidality.

Yakkers often provided resources, most frequently referring the OP to talk to “someone”, a professional, or to call a hotline, such as the Klinik MB Hotline or Kid’s Help Phone. In a few cases, individuals expressing suicidal ideation asked for help themselves. Regarding the ethical protocol for these situations, I intended to refrain from intervening unless resources and information were not provided by other yakkers or if the information provided was inaccurate. I always reported posts expressing explicit suicide plans or planning, using Yik Yak’s internal

reporting system which flags posts. There were, however, two occasions which required me to intervene by posting the appropriate resources. The following details one of those instances:

- OP: *I’f I feel like I am about to end it ... Who can I call? I don’t know what to do anymore*
- Y1: *Call helpline*
- Y2: *Sleep on it. You’ll feel more refreshed in the morning. After that take a notepad and make a list of 5 easy goals for that day, then 5 goals in two weeks time, and make one big goal for the month*
- Y2: *You’ll be okay. People love you, even if it may not appear so.*
- Researcher: *You can call Klinik helpline – please google them. You can also go see someone at the Counselling Centre at University – 474 UC. Tell them it’s a crisis situation and they’ll see you asap.*

Due to the in-app restriction on posting phone numbers or web addresses, I directed the user to search for the Klinik helpline’s phone number on Google. Based on the processual approach to ethics, I determined that I had to intervene as, when I captured the post, four hours had elapsed since Y2’s last response. Therefore, it was imperative that proper sources be provided. The post disappeared shortly after this time. I posted an identical message on another post where the OP asked a similar question, “How do I decrease this anxiety and suicidal thoughts?” Again, no posts provided resources or an answer to the question, and this particular yak had been downvoted 2 times, suggesting that it might disappear quickly; therefore, I determined that researcher intervention was warranted. While yakkers tended to provide these same resources and encouragement in other posts, in some cases, other yakkers would also comment with their own thoughts of death or suicide on OP’s post

- OP: *I think about suicide but I know I’d never do it. Is that normal? Should I be concerned?*
- Y1: *I think about ways I could die on a daily basis*
- Y2: *When you planned it out, then it’s more serious. Otherwise, I think about suicide too :/*

In this thread, Y1 suggests that, if not normal, thinking about suicide is not uncommon as they express their own thoughts of dying. Y2 also expresses suicidal ideation and points out that planning is a more serious indicator of risk, which, according to standard psychiatric guidelines, is correct (Thienhaus and Piasecki 1997).

Expressions of suicidality most frequently co-occurred with depression (6), academic stress (6) and anxiety (3). The following is an example of a post where these four factors intersected:

*I'm only experiencing such depression and anxieties, family conflict this term and it's hitting me hard and making me want to kill@myself because my grades are so bad*

The OP expresses how factors including depression, anxieties, grades, and family conflict have compounded, “hitting them hard”, and resulting in feeling so overwhelmed that it is making them want to kill themselves. This post can be interpreted as, perhaps, not being a threat of suicide but an expression of the heavy burden of academic and life stressors. As mentioned earlier, yakkers often use strong language to signify the intensity of emotions. However, the factors listed, especially depression and anxiety, are comorbid with suicidality (Bronisch and Wittchen 1994) and the OP uses direct language to express it (“kill@myself”), therefore, this post was interpreted as expressing suicide ideation.

In addition, as mentioned in the previous chapter, Yik Yak restricts users from using threatening language. Attempting to post a message with the phrase “kill myself” results in a warning message from Yik Yak which states that “Yik Yak and law enforcement take threats seriously”. So, it appears as if the OP in this example chose to modify the phrase so that the prompt would not appear or so that the message would not be flagged, and a decision was made in choosing to express this aspect of their distress despite the warning. The warning post’s threat

of possible intervention by law enforcement may compel users to modify the wording of their post. Therefore, it is possible, that a post originally intended to say “I want to kill myself”, which explicitly expresses suicidal ideation, may be modified to “I want it to be over”, which is a related but more ambiguous expression with multiple interpretations (i.e. “it” could signify life or existence but also exams, a stressful period, a relationship, among other possibilities). Therefore, it was important to include all posts related to suicidality on the continuum.

### Anxiety

Posts referencing anxiety most often used the term itself or variants such as “anxious”, “anxiety episodes”, and “anxiety attack”. In many cases, it was described as a pre-existing feeling or condition, exacerbated by other stressors, for example:

*Just when I thought that my anxiety would take a back seat since exams finished, it looks like somebody had my credit card information. Great, guess who’s not sleeping tonight.*

Here, the OP anticipates that their anxiety would have decreased or become less noticeable after the end of their exams. However, a situational stressor, the theft of their credit card information, increased their anxiety once again, becoming more palpable and resulting in an inability to rest due to anxiety. This post received 12 upvotes, a relatively high number for a post expressing a mental health concern, indicating its relatability. Replies such as “Same” or “Me too” were common, indicating that others shared the feeling. For instance, this post received 12 upvotes also, along with a reply that shared the feeling:

OP: *Anxiety is ruining my fucking life*  
Y1: *It ruined mine a long time ago...*

Y1 responds by sharing that anxiety's negative impact on their life is lasting, there is a sense of dejection and helplessness in the comment. In another post, a user commented on the impact that anxiety had on others in their life, and, consequently, on them:

*I feel so bad for my friends who have to keep going through my anxiety. I know how hard it is on them.*

The author's feelings of guilt for the perceived burden of their condition on their friends is indicative of self-blame resulting from self-stigma. Feelings of stigma in individuals with anxiety, depression, and personality disorders commonly manifest themselves as concerns about the attitudes of friends and family (Dinos et al. 2004).

Anxiety was also often related to sleep disturbances and expressing a desire to cry or crying:

*My anxiety is so bad rn. I was exhausted at 11 pm and cannot sleep. I want to cry so bad, I've tried everything! Literally like a kid before Christmas without the excitement.*

In this post, OP is frustrated by the effect that anxiety is having on their inability to sleep even though they are tired. They state that they were "exhausted at 11 pm" to show that they have been unable to sleep for almost 4 hours as the yak was posted at 2:55 am. Their efforts to quell their anxiety have been fruitless causing them to feel despair. The last sentence in the post, "Literally like a kid before Christmas without the excitement", is a vivid metaphor describing the feelings that anxiety produces. A child before Christmas is usually unable to sleep due to the excitement of Christmas morning and related festivities, the author suggests that anxiety results in a similar state of arousal and restlessness, but without any of the eventual feelings of happiness when the time to celebrate arrives.

## Sleep disturbance

Sleep disturbance corresponded with all of the previous concerns to varying degrees. Student life, in general, is known to result in sleep disturbances; thus, these posts were also rated higher than other posts of MHCs because many other yakkers could relate to them. I recorded the times at which these posts were posted, to identify any patterns or similarities in posting habits and provide context. Some posts stated or complained about the onset of sleep:

- OP: *I can't sleeeeeppppp (4:14 am)*  
Y1: *Same (4:20 am)*
- *I can't sleep [crying emoji] (12:50 am)*
- *Can't sleep either guys. This is awful. (3:46 am)* (OP is referring to other yakkers who also posted that they were unable to sleep in a spate of posts on this particular day (April 5<sup>th</sup>, 2016))
- *Head hurts. Can't sleep. This is horrible. (4:59 am)*
- *How is it that I am so mentally exhausted, yet can't manage to fall asleep before 2am? (2:24 am)*
- OP: *I cant sleep (5:56 am)*  
Y1: *Same, my sleeping schedule is forever fucked. (5:58 am)*

As these posts show, delayed onset of sleep was a source of frustration for these users. The first poster expresses this through the spelling of the word sleep, drawing out the spelling to reflect a manner of speaking that indicates exasperation. One poster states that they are unable to sleep and their head aches, either of which can cause the other. Every post indicating sleep disturbance was posted after midnight and most commonly between the hours of 2 am and 6 am. And, many posts indicated that sleep disturbances were an ongoing problem by using the term “schedule”, like Y1 in the last example, or “habits”:

- *How have finals fucked with my sleep schedule so much so that it's almost 3am and I'm not even tired (2:53 am)*
- *My sleeping habits are so messed up. Got a morning class tomorrow and I'm not used to being up this late. (4:55 am)*
- *My sleeping habits are terrible. How do I fix this? [bandaged head emoji] (4:23 am)*
- *Fuck this sleeping schedule (3:08 am)*
- *Getting 4 hours of sleep per night this past week. It'd be nice if I can just get these midterms over with (1:29 am)*

Only one user used the term “insomnia” stating, “Insomnia’s not fun at all”; this post received 7 upvotes. Other posts focused on the length of time that they have been experiencing sleep disturbances to indicate the magnitude of the problem:

- *I have been awake for 25 hours now.*
- *I haven't slept in two days.*
- *I've been done for 53 days now...I can't sleep anymore, I can't function... I just can't*
- *I haven't slept in a month*

Many other users mentioned substance use in relation to sleep. For example, in a few instances, users were unable to sleep due to caffeine intake for the purpose of staying awake to study:

- *Drank two cups of coffee around 8oclock late so I could stay up and study. Gave up about an hour ago because I was still tired and now im wide awake... (2:58 am)*

A large time commitment is required of students for exam preparation and coursework, compelling them to stay awake despite tiredness. Coffee is commonly used as a stimulant for this purpose, but it also contributes to poor sleep hygiene practices (Brown, Buboltz, and Soper

2002). On the opposite end, alcohol, drugs, and tobacco are often used to promote sleep (Brown, Buboltz, and Soper 2002), and evidence of their use was also found in some posts:

— *When you just can't sleep so you pound back a Mickey*

In this post the user could be referring to either the slang term for the quantity of alcohol (375 ml), or a less frequently used slang term for the addition of psychoactive drugs to an alcoholic beverage to induce sleep. In response to another post requesting tips for sleeping, individuals recommended “smoking a joint” and “getting hammered”. Some users recommended non-prescription treatments such as Melatonin. More common, however, were sleep-related posts referencing the use of prescription sleep medications:

— *I'm still awake and I fucking hate it. I think I need to start considering using sleep aids.*

— OP: *Can't fucking sleep tonight and idek [I don't even know] why, my sleeping pills won't put me to sleep*

Y1: *What brand do you use and where can I get some*

Y2: *Same. I haven't slept in two weeks.*

— OP: *How do I convince my doc I need more sleeping pills*

Y1: *I don't think you're asking the right question. The first question you should be asking is whether your problem can be permanently solved with pills, and if you will become dependent on them*

OP: *Well.. she gave me 10 and they help me sleep so I'd like more*

— OP: *7th night in a row taking sleep aids...*

Y1: *It's okay op you've still got hope. I'm on close to my 415th day in a row taking sleep aids.*

The last three exchanges between the OP and other yakkers all relate to the potential consequences of prolonged use of sleep aids, including increased tolerance and drug dependence.

According to Health Canada (2014), prescription sedative use/abuse is on the rise, especially in

youth. In the first post, OP expresses frustration at being unable to sleep despite using sleeping pills. This carries the risk of ingesting a higher-than-recommended dose or overdosing due to perceived tolerance of the drug(s). Y1 responds suggesting that they, too, are experiencing sleep disturbances and would like to use sleeping pills for this purpose. The obvious answer to Y1's question is that they should visit a doctor for a prescription; however, Y1's wording could also mean that they think OP is referring to over-the-counter medications, or that they are asking about procuring prescription medications through illicit means.

In the second exchange, the OP asks for suggestions to convince their doctor to prescribe more sleeping pills. In their last comment, the OP states straightforwardly that the amount of pills (10) they received were useful in helping them sleep, which suggests that these were meant to be a short-term solution to their sleep problems. The need to convince their doctor shows that their doctor is probably hesitant to prescribe more. Y1 points out the risk of dependence to the OP and suggests that the OP needs to assess their situation and may need to find another, more permanent solution. The OP's response to Y1 indicates that they are aware of the risk of dependence but that they would like the pills anyway.

In the last exchange, the OP states that they have been taking "sleep aids" for a week, bringing attention to the magnitude of their sleep problem, which has required the continued use of sleep aids. In response, Y1 seems to indicate that they *are* dependent on sleep aids and have been for over a year. The fact that they have included the number of days shows that they have calculated how many days they have been taking them, or that they track daily use. Furthermore, by saying that "you've still got hope", Y1 suggests that sleep aids bring their own set of issues with regard to dependence. Benzodiazepines (common brands include Ativan and Valium) and nonbenzodiazepines (such as Ambien) are most frequently prescribed for sleep disorders and

were mentioned by other yakkers by brand name; their use beyond four weeks is discouraged (Kupfer and Reynolds 1997). Furthermore, both classes of drugs and other hypnotics/sedatives carry risks of withdrawal, effects of which include trouble sleeping, restlessness, muscle pain and gastrointestinal discomfort (Health Canada 2014). In addition, less common symptoms of withdrawal include extreme anxiety and depression. There is also a possibility of experiencing the ‘rebound effect’ which is characterized by a relapse or worsening of the sleep disorder (Health Canada 2014). Therefore, the references to sleep aids point to the worrying consequences of sleep disturbance over the long-term.

### Excessive stress

Some posts in the data pool did not mention any specific sources of stress, only the presence of stress. A common pattern in all these posts was that they described stress as being excessive in nature, i.e. that the stress was greater than usual or became unmanageable.

Examples of these posts include:

- *Hahahahahahahahaha I’m so fucking stressed hahahahahahahahaha*
- *When you are so stressed you can’t sleep [sad face emoji]*
- *It’s about that time of year where I honestly wouldn’t mind being hit by a bus if it meant I was free from all this crushing stress*
- *Shout-out to the month of March for making me so stressed I want to die*

The last two examples received over 15 upvotes each, signifying the relatability of the sentiment expressed in the posts. Each of these posts include descriptors, language, and animations to illustrate the severity of their stress levels. In the first post, the OP types out laughter, followed by a serious claim, followed by laughter again, akin to stereotypical portrayals of rapid mood changes related to hysteria. In the second post, as with other MHCs, stress has an

impact on the OP's sleep. The third example depicts stress as "crushing" and so debilitating that being hit by a bus is more preferable. The extreme nature of the post and casual tone ("wouldn't mind") suggests that it is intended as dark humour. The final example, again, points to the excessive nature of OP's stress, making them "want to die". Another commonality in posts was the inclusion of crying or tears to indicate high emotionality due to stress.

— OP: *So stressed out I want to cry*  
Y1: *Same*  
Y2: *So stressed I am crying*

— *You know you're stressed when you just randomly burst into tears*

It is likely that some of the posts that reference extreme stress were due to any one or more of the aforementioned MHCs, especially exam stress; however, due to lack of clarifying or contextual information, I determined that excessive stress should be its own conceptual category due to the prevalence of these more ambiguous posts and because it is a defining characteristic of emotional distress. Like the exam anxiety and academic stress category, excessive stress was also related to somatic symptoms and eating disturbance:

— *When you can't tell if the cramps are stress related or there's something actually wrong with you...*

— OP: *Anyone else's jaw fucked up from stress*  
Y2: *Mine is*

— *my high school grad dress fits better now than it ever did because I'm so stressed I can't eat properly*

Stress is accepted as a common part of daily life, however, when stress becomes unmanageable it can have detrimental effects on emotional and physical health, along with academic performance (Campbell, Svenson, and Jarvis 1992). It is associated with all of the previously discussed

MHCs, so it is important to address both the underlying causes of excessive stress and the management of stress itself. One study of Canadian students by Sawatzky et al. (2012) found that greater stress management self-efficacy was associated with lower levels of depression for students whose academic performance was impacted by their stress levels. The authors concluded that providing students with support for stress management could help them cope with stress and, potentially, prevent depression.

### Loneliness and social isolation

Posts were coded as “loneliness and social isolation” when authors signified feeling “alone”, “lonely”, having “nobody,” or distress due to lack of friends or social relationships:

- *Feeling extremely lonely*
- *I literally have no friends. Go ahead and judge me but the last time I went out with friends was during grade 12. Pretty depressing....*
- *Don't even want summer because I'm so lonely and school keeps me busy...how sad is that*
- *Feeling so lonely tonight. Nobody wants to talk to me and I just don't know what to do. :(*
- *Just one of those days where you feel friendless and alone*
- *my social life is down the drain, I just need someone to talk to*
- *I firmly believe I am forever alone. But at the same time it's not just because nobody wants me it's also because I don't want anybody.*
- *Who's as lonely as I am now*

And, as with other MHCs, loneliness was most frequently mentioned along with depression; one post summarizes the vicious cycle of loneliness and depression aptly:

— *I'm depressed because I don't have any friends but I can't make friends because I'm depressed. :/*

In many cases, students expressed feeling alone and friendless at university. Stereotypical portrayals of university life in the media often show individuals with active social lives, setting high expectations for many students entering university. However, this does not reflect reality for some; for instance, the following post, upvoted 21 times, was one of the most popular posts of the day:

— *I literally have 0 friends since I started university. #whyfuck*

University of Manitoba is often referred to as a “commuter campus” due to long distances and time required for many Winnipeggers to travel to and from campus. This is especially the case for many Manitobans from outlying areas who attend the university. In a Maclean’s magazine article describing a student’s experience at the University of Manitoba and its lack of community, the director of public affairs for the university at the time, John Danakas, says, “Commuter campuses are known as ones where students come in the morning, and because they’re often able to get home by dinner time, they leave to get home to their families, to their jobs, and so forth” (Petz 2010). This results in fewer opportunities to socialize and a decreased “sense of kinship” (Petz 2010). Students on Yik Yak reflected this in their posts as well:

— *The number of students at this school is double the population of my entire hometown....And yet I'm more alone here*

— *I always get lonely when I'm at home*

— OP: *Sounds like rez is so fun. I live at home and have made two friends at uni so far it sucks. I feel lonely.*

Y1: *At least you have uni friends*

Y2: *I'm in rez and have not made one*

In the last example, OP perceives life in residence to be fun due to the social networks promoted through events and daily life in residence. They express disappointment that they have only made two friends thus far, resulting in feelings of loneliness. Y1's post suggests that, unlike OP, they have not made any friends in university, while Y2 states that life in residence does not guarantee friendships either, contrary to the OP's perception. It is worth noting that, again, this post also received a relatively high number of upvotes (16), indicating that OP's feelings and/or circumstances are shared by others.

### Sadness

Expressions of sadness usually included straightforward disclosures of sadness such as: "im sad", "I'm just really sad lately," along with the use of colloquial terms such as "the blues" and feeling "down" to describe sadness:

— *Just those 2 am blues :(*

— *Have been feeling so down for a couple of days*

It was also common for posts referencing sadness to mention crying or wanting to cry:

— *I am tired of crying. I don't want to feel sad anymore*

— *Why do I like crying so much and feeling sad? Sometimes it doesn't have to come out but I force it....*

The complexity of emotions accompanying feelings of sadness were also expressed in other posts, especially those which mentioned other mMHCs. Sadness most frequently occurred with expressions of loneliness.

- *Cycling between feeling impossibly sad and feeling absolutely nothing*
- *Always feeling sad and lonely, especially when I drink*

Expressions of sadness often received a moderately high number of upvotes. The following two posts, which seem to relate particularly to university life, received 15 and 8 upvotes each:

- *Sadness took over my first year*
- *Same! Sadness is in the air* (in response to an OP disclosing depression)

According to Pilgrim (2014), sadness is a universal emotion and is defined as a state of mournful sorrow. It is considered to be an “extremely common aspect of human suffering” but may also be indicative of depression (Pilgrim 2014, 37). The posts above can be interpreted as an expression of an individual sharing the experience of a fleeting emotion, more profound misery, or chronic depression. The CACUSS (ACHA-NCHA) report which guided this study reported that feelings of sadness were measured separately from depression. Moreover, Ridner (2004) categorizes depression as an emotional state while sadness is categorized as discomfort, and both fall under the common conceptual umbrella of psychological distress. Thus, due to the various implications and meanings of the term, even within the context provided by these yaks, the frequency with which it occurred, and its relatability observed through upvotes, sadness emerged as a unique category from the data.

### Loss of Motivation

The final mMHC found in the data was loss of motivation. As mentioned earlier, lack or loss of motivation were often expressed along with exam anxiety and academic stress:

- *How do I motivate myself to study? I've lost all motivation and its killing me [upset emoji]*
- *Last exam tomorrow and have lost all motivation to do any studying*
- *Can't tell if I've stopped studying because I'm prepared, or if it's because I've lost all motivation*
- *Trying to find the motivation to study for my last final tomorrow but failing miserably*
- *Only done half my finals and have lost all motivation to study*
- *Not even an ounce of motivation left. Haven't been to class in over a month*

The Study Demands–Resources (SD-R) model developed by Mokgele and Rothmann (2014) found that loss of motivation (burnout) in the scholastic setting is related to the depletion of mental energy due to (perceived) high study demands, and a lack of enabling factors that promote student engagement and prevent exhaustion and disengagement. The enabling factors are referred to as “study resources” by the authors and include the intrinsic nature of the study task(s), relationship with the lecturer, and social support of peers to help students cope with their work. They also found that student burnout was a predictor of poor psychological well-being, providing further confirmation of the interrelatedness of loss of motivation, academic stress and other MHCs in the data.

#### *Summary of Findings for RQ1*

In addition to mMHCs, there were also a total of 13 references to mental or psychological “breakdown”, and 12 posts expressing exhaustion and fatigue. Self-harm was brought up in 8 posts and replies, while references to panic attacks, eating disorders, social anxiety, and hopelessness were less frequent. These remaining MHCs rarely received replies or upvotes,

which, considering the sense of isolation felt by people with stigmatized mental health concerns, could have the potential to increase these feelings and sense of self-stigma.

The observations and thematic findings from this study echo the findings from the CACUSS report: anxiety, depression, panic attacks, suicidality, hopelessness, exhaustion, loneliness, sadness, and feeling overwhelmed, were all observed in the data pool, at varying frequencies. While the CACUSS report did not measure sleep disturbance or excessive stress, other studies (Trockel et al. 2000; Kitzrow 2003; Adlaf et al. 2001; Ibrahim et al. 2013, 391) show that these factors occur frequently in the university student population and can have a significant negative impact on academic performance and general psychological well-being. For example, yakkers often reported that their exams and academic performance were causing them significant stress affecting their motivation to study or resulting in lack of sleep which would, in turn, risk impacting their academic performance. For instance, one user clearly expressed this entanglement of loss of sleep, motivation and academic stress:

— *After all of these late and sleepless nights doing assignments and reports I feel as though I have lost all motivation*

And, a pattern was also observed in many MHC posts related to academic stress regarding the year of study in university. Many of these posts seemed to indicate that the author was enrolled in their first year of university. This observation relates to Adlaf et al.'s (2001) finding that psychological distress in their sample declined with each subsequent year of study. On the other hand, many posts on Yik Yak also reflected prolonged suffering and frustration with repeated patterns or behaviours, as evidenced by the recurrent references to the length of time and severity of distress. For example:

— *Every Christmas I just want to die. There is no joy left.*

- *Lots of girls from my school experimented with ‘cutting’ in highschool. I never stopped.*
- *I’ve been depressed for 6 years.*
- *I’ve been feeling this way for a few years and it’s been bottled up. I’m sick of crying myself to sleep for nothing at all and I’m so tired of living with a heavy heart. I sound so stupid I know.*

In these posts, “every Christmas,” referring to “highschool” years while the OP is presumably in university, feeling depressed for “6 years,” and “a few years,” are just some of the ways that individuals expressed the chronic nature of their distress. In many ways, the antecedents and consequences of MHCs result in a cyclical process reinforcing and exacerbating feelings of distress. This observation coincides with the findings from the study by Zivin et al. (2009) which found that two-thirds of students who indicated they had a mental health problem in an initial survey also had a mental health problem two years later.

It is clear that the mental health concerns of students at the University of Manitoba are highly complex and result in individuals experiencing great and prolonged distress which must be addressed by university administrators, public health agencies, and clinicians. Special attention should be given to students in their first year of university, along with individuals who require ongoing support. Furthermore, consideration must be given to the peak stress periods during final exams when planning mental health awareness and support programming for students.

## Thematic Findings for RQ2

*Question 2: Examining the role the virtual Yik Yak community plays for individuals coping with mental health concerns*

Based on an analysis of all 1889 posts and replies, four major themes were developed from the data in response to RQ2 regarding the role of the virtual community on Yik Yak for individuals coping with mental health concerns. These themes are: “Giving and Receiving Social Support”, “Belongingness and Community”, “Disclosure of Repressed Self”, and “Countering Stigma”. In contrast to RQ1, the analysis for RQ2 primarily involved the examination of replies to OPs posts and analyzing the nature of these interactive exchanges. Patterns in types of responses were identified and organized into sub-themes, which were further abstracted into the overarching themes. Table 5 provides an overview of these themes and sub-themes. *In vivo* coding was used for much of the labelling in the initial coding framework due to the patterns and similarities in responses and because these labels aptly exemplify each code.

**Table 5. Thematic Framework for RQ2**

<b>Themes</b>	<b>Subthemes</b>
<b>Giving and Receiving Social Support</b>	<u>Emotional Support</u> "I feel you OP" – Empathy, sympathy and shared recognition of experience "Keep Going" - Patience and Persistence "I got better"/"It gets better"- Optimistic Encouragement "You are beautiful OP" – Compliments and Commending Efforts <u>Information Support</u> Coping strategies Pharmaceutical Interventions Mental Health Professionals Managing Mental Health Concerns and Academics “You okay, OP?” – Eliciting information due to concern for well-being
<b>Belongingness and Community</b>	"We're in this together" - Solidarity "Yak Fam" - Kinship and Friendship "♡" - Affection and Love
<b>Disclosure of Repressed Self</b>	Secrecy and Confessing the Self Venting and Emotional Relief Articulating and Deconstructing Diffuse Emotions
<b>Countering Stigma</b>	By Dismissing Stigmatizing Beliefs By Promoting Help-seeking

### *Giving and Receiving Social Support*

The most salient theme in the data in response to RQ2 was “giving and receiving social support”. The variety of posts and types of replies within this theme are organized into two sub-themes: emotional support and information support. The majority of posts comprising the data pool were composed of supportive posts. This was the most significant and encouraging finding from this study. As discussed in Chapter 1, Yik Yak is notorious due to the negative press it receives; therefore, the amount of posts indicating support for the OP and other members of Yik Yak and the UM herd were not expected, especially because this environment is not an online *support* group in the traditional sense (Preece 1998; Preece and Maloney-Krichmar 2005). Ethnographic immersion in this environment led to the discovery of the atmosphere of solidarity, collegiality, shared experience and community within the herd. This theme exemplifies Suler’s (2004) concept of benign disinhibition, which is characterized by the sharing of personal information, emotions, feelings, and unusual expressions of kindness, helpfulness, and generosity. Members often expressed these shared feelings through the use of specific phrases and terminology not found outside the app. These and other classifying characteristics of social support in the app will now be discussed.

#### Emotional Support

Posts which requested emotional support, implicitly or explicitly, and replies which provided emotional support through many different ways, were organized into this sub-theme. This sub-theme included the following codes: empathy, sympathy, and shared recognition of experience; patience and persistence; providing encouragement and optimism through experience; and, compliments and commending efforts.

**I feel you OP – Empathy, sympathy, and shared recognition of experience.** This was the most common response to posts where the OP disclosed psychological distress. This specific phrasing signifies both that the individual feels the same way, or has felt the same way in the past, and understands where the OP is coming from. Variations of this response included the equally common “Same”, “me af [as fuck]”, and “me too”. Similarly, in one post, the OP stated, “When its 3 am and you should be sleeping but having a psychological breakdown instead,” to which a yakker replied, “Very glad to know I’m not the only one.” In another post revealing an OP’s anxiety, a commenter stated “you and I are the same person, anxiety is a fucking bitch.” This shared recognition of experience was also symbolized by the upvotes these posts received, indicated their relatability. Therefore, just by knowing that another individual felt the same way or was experiencing the same emotions, members could feel affirmed, supported, and less alone in their suffering. Upon receiving validation for their feelings, in some cases, the OP would respond with an emoticon or more detail which would lead to an exchange regarding the lived experience of their distress:

- OP: *I go to work, I’m happy. I’m with my friends, I’m happy. I go home, I cry myself to sleep.*
- Y1: *I feel ya*
- OP: *And the people I trusted most ended up not caring like I thought they did*
- Y2: *Feel the pain OP*
- Y3: *Life is full of disappointment, you just have to try your best to stay strong and keep moving forward, tell yourself that goods things will happen to you eventually, it just might take some time.*
- OP: *Good things do happen. I’m saying despite these happy times I still end up crying when I’m alone*
- Y3: *Oh*
- Y4: *Same OP...same [sad emoji]*
- OP: *[heart emoji]*

In this exchange, the OP discloses distress by stating that they cry when they are alone at home despite being “happy” around others and at work. Two yakkers relate to this experience; another offers advice and the OP clarifies that they understand but that they are still unhappy or distressed (“crying”) when they are alone. Y4 also relates and adds a sad emoticon to indicate that they too experience this feeling and the OP responds with a heart emoticon to signify understanding and shared sympathy. In other cases, commenters often expressed sympathy by providing consolation, telling the OP that they were sorry and that everything would be okay. Preece’s (1998) study of online medical support groups also found that empathy was a major theme in the participants’ discussions along with messages of support and mutual understanding which corroborates this finding.

**Keep going – Patience and persistence.** Another common response to distress was a specific form of encouragement telling the OP to “keep going” and persist. Variations of this code include responses such as: “Stay strong”, “keep your head up”, “hang in there”, “don’t give up”. This type of encouragement focused on survival:

— OP: *I feel like I am having a panic attack. I hate exams [crying emoji x 2]*  
Y1: *Hang in there OP. You’ll make it*  
Y2: *Almost there*

Rather than providing advice, this type of comment acknowledged OPs experience while recognizing its distressful nature and focusing on its impermanence to console OP. In a study of an online community for individuals with sleep problems using a sleep program, the authors found that “encouragement to keep going” was one of the perceived benefits of participating in the community for members, particularly during more challenges aspects of the program

(Coulson et al. 2016). Similarly, encouragement to keep going, was a common response especially common during examination periods.

**I got better/It gets better – Providing optimistic encouragement.** Commenters also provided encouragement to OPs by sharing their own experience of recovery or persisting through adversity, and telling OPs that their situation will improve. This is similar to Preece's (1998) finding that participants in online groups often post messages containing stories or personal accounts, which provide information that is useful to others. In one instance, the original post itself was intended as encouragement for other yakkers:

- OP: *It's crazy to think this time last year I was suicidal and had no motivation for anything. One more exam and I'm finished my first term of university [thumbs up emoji] it gets better folks!*
- Y1: *Congrats! It gets even better yet*
- Y2: *I needed this, thank you so much :)*
- OP: *It's super cliché Y2 but trust me it's true. "It all gets better in the end. If it's not better than it's not the end".*
- Y3: *I feel you OP [neutral emoji]*
- Y4: *No it doesn't always*
- OP: *Always does Y4. Always*
- Y5: *Y4 you have to believe [crying emoji]*
- Y6: *I love posts like this, it definitely gets me motivated and I can't wait to say this*
- OP: *It's a great feeling Y6. I never thought I would but I can. Your day will come, just work towards it every single day*
- Y7: *Fuck yeah op! Y4 believe what ops says, its true!*

The OP intends to provide encouragement to the entire UM herd by posting about their experience and that they overcame their difficult circumstances. They also express pride that they have come a long way. Y1 affirms the OP's experience and encourages them in return by saying that their circumstances will likely only continue to improve. Y2 expressed gratitude for OPs post and indicates that they feel encouraged and that they may have been struggling, too. In contrast, Y4 seems dismissive of the OP's post by stating that they disagree with the premise that

it “always” gets better. However, the OP counters this idea by insisting that it does and Y5 and Y7 encourage Y4 to “believe”. Y6 also expresses appreciation for the post and says that these types of posts make them feel motivated and that they look forward to being able to say the same, like the OP. Significantly, this post received a staggering 94 upvotes. It also remained in the feed for two days due to its popularity; clearly indicating that others appreciated the encouragement the post provided or to show their praise for the OP’s accomplishment.

**You are beautiful OP: Compliments and commending efforts.** Praise was also offered in distinct ways. Commenters, in response to an OP’s distress, would commend their efforts, and, in many cases compliment their appearance. This phenomenon was interesting because the anonymity, the lack of identifying information, and contextual details, means that yakkers did not even know who they were conversing with, let alone what they looked like or who they were as a person. They were offering compliments specifically to make the OP feel better and appreciated.

Despite the fact that yakkers were strangers within the threads, these types of comments suggested a sense of altruism to the herd and shared humanity of experience which motivated commenters to compliment one another simply because it could positively influence another person. Most compliments stated that the OP was “beautiful”, which is not meant to praise their physical appearance but to remind the OP that they are a beautiful and worthy individual. Commenters also encouraged the OP by commending their efforts. In one post, the OP said that they were anxious and reported that they went for a run and felt better. A commenter responded by saying “Good for you OP! Do whatever it takes,” recognizing and validating the positive action that the OP took to mitigate their anxiety.

It is also important to note that, often, when socially supportive comments were provided, the OP's or yakkers who were the target for support would in turn show their appreciation by thanking the commenters for their help, support, and kindness. This cycle of reciprocity is an important aspect of maintaining the sense of community within the app.

### Information Support

Along with emotional support, yakkers also provided information to each other. This form of support was intended to help others make decisions, reassess their own situation, and/or help improve their immediate circumstances. Information was often provided as recommendations for coping strategies, pharmaceutical interventions, seeking professional help, and for managing academics while struggling with mental health concerns.

**Coping strategies.** I observed that yakkers often provided practical strategies for coping with distress. They offered a wide range of ideas for managing stress and anxiety; many of which were creative and unique. Table 6 lists the wide range of coping strategies that were suggested, and in most cases these were based on the yakkers' own experiences of coping with stress. In a previously discussed example of distress due to anxiety, the thread also included an example of a unique coping strategy:

— OP: *My anxiety is so bad rn. I was exhausted at 11 pm and cannot sleep. I want to cry so bad, I've tried everything! Literally like a kid before Christmas without the excitement.*

Y3: *Try and take some deep breaths and focus on something that has really no emotion attached to it, I usually just pick a colored construction paper it might calm you down*

This unique tip was appreciated by the OP later in the thread and speaks to the experiential knowledge provided by peers which can be more useful or applicable for alleviating distress due to the shared contexts and similar circumstances of many members.

**Table 6. Common Coping Strategies Suggested by Yakkers**

Watch tv/Netflix	Masturbation/Sex
Go to sleep/"Sleep on it"	Go on a trip/travel
Study	Hang out with friends
Read a book	Quit your job
Breathe/ take deep breaths/breathing exercises/meditation	Watch the sunset
Exercise/yoga/walking	Use Marijuana/drugs/alcohol
Take a break/take time off/take semester off	Make a to-do list/make a plan
Listen to music/white noise	Try a hobby
Take a psychology class to better understand condition	

**Pharmaceutical Interventions.** Yakkers also asked for and exchanged their experiences and advice regarding pharmaceutical interventions for specific conditions. This way they could crowdsource information in a discreet, anonymous, and confidential setting. Advice of this variety was also deemed as being trustworthy as users often explained their own experiences in detail. For example, on a post where the OP disclosed that they might turn to sleep aids for their sleep disturbances, yakkers replied:

- Y1: *What do you take OP? I've been doing melatonin but I think I need to switch it up to Ambien or something. I've heard that it can make you really groggy in the morning though, so trying to avoid that.*
- Y2: *Nooooope don't do ambien! You get reliant on that shit and can never sleep unless you take it every night*
- Y3: *I take Novo-Quetiapine and it works p good*

In this exchange, not only do the yakkers show that they are knowledgeable about the varieties and effects of specific medications from their own experience, but that they are also willing to share this information with others for the purposes of comparison and decision-making.

**Mental Health Professionals.** Similar to advice and information on pharmaceutical interventions, yakkers also exchanged information about their experiences with seeking and receiving mental health support from professionals such as psychiatrists, psychologists, counsellors, doctors, and peer support workers. The most common advice given for individuals who were severely depressed or suicidal was to seek professional help. In most cases, people were advised to either go to the counselling centre at the University of Manitoba, talk to their doctor or call a helpline. Yakkers held favourable opinions about doctors and mental health professionals, and trusted biomedical interventions, in general, unlike the pro-anorexia communities discussed earlier. This observation confirms Giles and Newbold's (2011) findings from their study on mental health communities, which reported that users frequently recommended professional help and had a reverence for professional expertise. Tellingly, one of the most frequently asked questions about mental health was regarding help-seeking for depression and/or anxiety issues. For example:

- OP: *Yak fam who have been depressed .. who did you see first (professionally), your family doctor? A psychiatrist?*
- Y1: *Family doctor, who then referred me to a psychiatrist*
- Y2: *Same ^*
- Y3: *Sports medicine Doctor, then psychiatrist, then just my regular doc*
- Y3: *Oh wait there was a sport psychologist somewhere in there too*
- OP: *Alright I guess family doctor it is*
- Y4: *As long as you start somewhere :)*
- Y5: *My mother spoke to her family doctor, who referred her to a psychiatrist and also a therapist*

This is a typical example of crowdsourcing information for help-seeking for depression from a medical professional and comparing the information to aid decision-making. Based on Y1, Y2, and Y3 all stating that they saw a family doctor, the OP decides that seeing a family doctor is the best option. Another common question was asking for information about counselling:

- OP: *Is there any places for free counselling in the city ?*  
Y1: *U of M*  
Y2: *Yes, and if you need referrals to based on your specific needs or whatever you can stop by the peers office in uc so they can direct you to the most appropriate service if what to look into it*
- OP: *I need counselling Anyone good at uni I could go see im planning on going its been rough*  
Y1: *There is free counselling places in the city for sure! Try the university*

In another post, the OP discloses nervousness about attending a group therapy session and asks the herd about their experiences, another yakker replies by asking them where they went because they would like to attend one as well:

- OP: *Anyone ever been to a mood disorders group therapy session? Im thinking of going to one for my depression and one for my anxiety but I'm too nervous*  
Y1: *I've thought about it [neutral face emoji]*  
Y2: *Where are you going for this? I need to go to one*  
OP: *The mood disorders of Manitoba Winnipeg location and ADAM [Anxiety Disorders Association of Manitoba]*

While fear of stigma may drive this need to seek help on this anonymous platform, yakkers were able to ask these questions and receive information from a diverse yet local population. In their offline life, yakkers may not be aware of any individuals possessing this information or who they can discreetly ask for assistance for these issues. Thus, Yik Yak plays important mediating role by providing a platform for informal, informational support which may encourage and empower individuals to eventually seek formal, professional help.

It is also important to consider that the reliance on, and referrals to, medical expertise and pharmaceutical interventions is indicative of medicalization and pharmaceuticalization discourses. Medicalization has its foundation in sociologist Talcott Parsons' examination of illness as a deviant social role, known as the "sick role" (Idler 1979). For Parsons, the person

who takes on the sick role is not responsible for their state and is relieved of their normal responsibilities as long as their state is seen by them as being undesirable. Another defining feature of the sick role is that the individual must seek out and feel obligated to find ‘technically competent’ help, from a physician or other therapeutic professional (Idler 1979). Peter Conrad (1992, 209) defines medicalization as “a process by which nonmedical problems become defined and treated as medical problems, usually in terms of illnesses or disorders.” Conceptually, medicalization allows a problem to be defined as medical, while at the institutional level organizations apply a medical approach to treat a problem. This concept emphasizes social control over the individual and society by the medical establishment and “turn[s] sickness into a kind of conspiracy” (Idler 1979, 724).

Pharmaceuticalization bears some similarity to medicalization. It is defined as: “the process by which social, behavioral or bodily conditions are treated, or deemed to be in need of treatment/intervention, with pharmaceuticals by doctors, patients, or both” (Abraham 2010, 290, as cited in Bell and Figert 2012, 775-76). Metzl and Herzig (2007) rightly state that with the increased socioeconomic presence of pharmaceuticals in our daily lives, it is not only doctors who do the prescribing, but also patients who are instructed to ask for specific prescriptions. The specific mentions of medical professionals, psychiatric jargon, pharmaceutical classifications and trade names of common and uncommon drugs, as well as references to diagnostic criteria by yakkers suggests that medicalizing discourse permeates across and through mediums such as Yik Yak. Furthermore, “expert” knowledge is shared by non-experts on this platform which may potentially be a risk to those who unwittingly rely on inaccurate information provided by yakkers. For example, in one interaction which began by an OP asking for advice about seeking help for their “undiagnosed depression,” one yakker replied, “Undiagnosed as in? Cause honestly

if it hasn't been 6 months at least then it isn't technically clinical and they might just shrug it off". Another yakker counters this information by stating, "It's actually 3 months." This exchange seems to indicate use of diagnostic criteria from the *Diagnostics and Statistics Manual of Mental Disorders*. The fact that it is being exchanged by students on this app again suggests that such medicalizing discourses have entered everyday conversations and are now a part of the lay expert's lexicon. While exchanging this type of information may help individuals on Yik Yak seek help and counter the stigma of seeking professional help (as I discuss later), it also points to the potential danger posed by the exchange of inaccurate information and reliance on biomedicine.

**Managing Mental Health Concerns and Academics.** Data also indicated that many yakkers seemed to lack information about the regulations for managing academic obligations in the face of severe psychological distress. Questions about deferring exams were posted frequently, and people also asked about authorized withdrawals, which is a process that "removes [a] course entirely from [their] official academic transcript" on the basis of medical or compassionate circumstances ("University of Manitoba - Student Advocacy – "Authorized Withdrawal" 2016):

- OP: *Could you actually get your first year of uni wiped if you end up having a mental disorder? Not sure if it's true*
- Y1: *Ref* [users post "ref", short for "reference", to receive notifications of new replies to a post]
- Y2: *I don't think so, but I think you can get exams deferred/tuition forgiven etc in extreme cases.*
- Y3: *You can also get authorized withdrawals sometimes, but that wouldn't work after the fact*
- Y4: *REF*
- Y5: *If you are having serious mental issues. Like extreme cases of depression and whatnot you can have a semester completely wiped from your record. But whoever you are talking to about it has*

*Y5: To know about your mental imbalances from the beginning and they watch your progress or lack of progress. My friend had this happen to her and her counsellor actually offered her a way out of her*

*Y5: Classes this semester because they know exactly what has been going on her life outside of school. Because she has mandatory meetings every two weeks.*

*Y6: Technically you can but you need a lot of doctors notes to convince your faculty that you actually went through it*

*OP: I'm in the same boat as her Y5, I've been seeing my therapist for a while now weekly*

*OP: Yea I'm just getting tested for a mental disorder now and people were telling me these kinds of things so I was just wondering.*

*Y5: Are they involved with the school at all. Hers is a campus counsellor. And he has been watching her all year after an incident in September.*

*Y7: You can't get an entire year taken out, however like mentioned, you can apply for authorized withdrawals with proper documentation/proof*

*OP: Yes it's the counseling services on campus, and thanks Y5.*

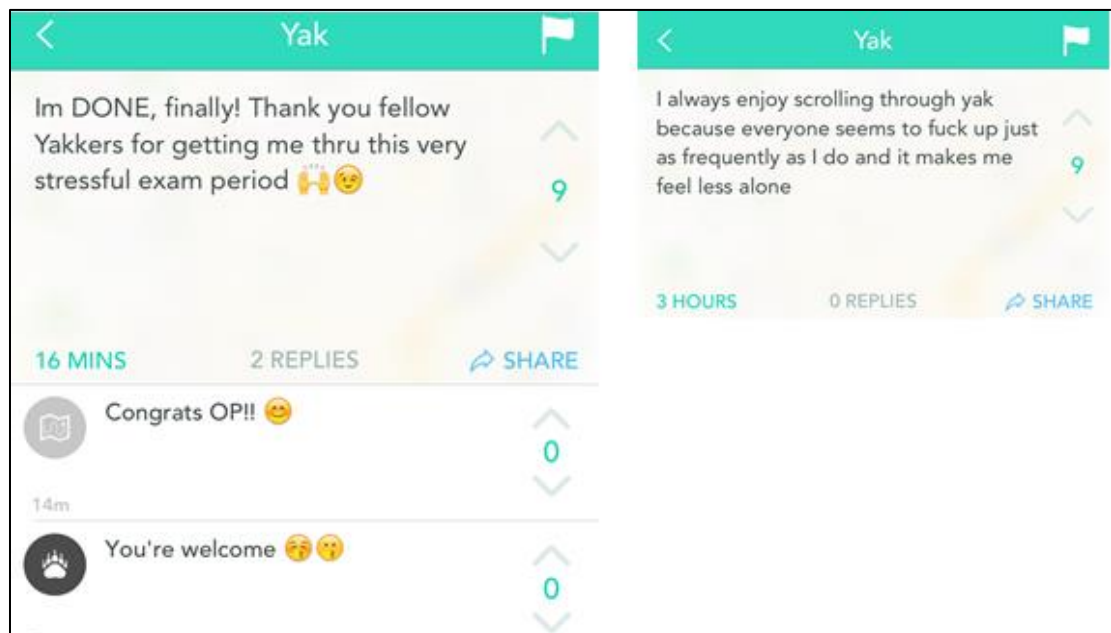
As this exchange shows, a lot of anecdotal information is provided to the OP regarding the procedure and not all of it is accurate. These posts, along with those about exam deferrals due to mental health concerns, suggest that more accurate information needs to be provided about these procedures so students do not have to endure further stress or confusion under these circumstances. The general ambiguity surrounding these processes also seems to suggest that these avenues to defer academic work or remove courses from the transcript are guarded by the university to prevent abuse or misuse of these processes. However, while abuse or misuse should be prevented, misinformation or lack of information about these processes is more harmful to individuals who may actually need them.

**You okay OP? - Concern for well-being.** Another form of offering information support was asking the OP how they were. This simple act of asking for more information was indicative of the concern that yakkers tended to feel for each other despite not knowing each other personally. The most common form of expressing this concern was simply asking “Are you okay?” when the OP expressed extreme distress. For example:

- OP: *I have never been so depressed and having suicidal thoughts.....don't know anymore*  
Y1: *Talk to a counsellor at school, it'll help.*  
Y2: *What's wrong? Why are you having these thoughts?*

Y2 expresses not only concern for the OP by asking these questions but also indicates a willingness to understand and help by offering advice or support. Eliciting information from the OP helps the posters feel that another person “out there” cares for them enough to, at least, know more about their situation, and that together they help each other through a difficult time. As a post by a yakker in Figure 14 shows, this, by itself, can help people in this community feel less alone and alleviate stress. Along with the overarching theme of social support, this notion is directly related to the sense of belongingness and community that people can feel in this herd.

**Figure 14. Threads of Yakkers Appreciating Yik Yak as a Source of Support**



## *Belongingness and Community Identity*

Relating to one another's posts, the commonality of experiences and the various in-group references, all indicate that many feel a sense of belongingness and community within the herd – this was the second theme derived from the data. Providing each other with social support with regard to emotional distress, also strengthened the herd's group identity. Even the use of the term "herd" itself symbolically ties yakkers to one another; the simple act of belonging to the UM herd, and their physical proximity, is a sign of sharing some similarities in motivation to use an anonymous app composed of locally-identified individuals. This sense of community identity and belongingness were identified through three subthemes: social solidarity, kinship and friendship, and affection and love.

**We're in this together: Social Solidarity.** The shared experience of attending the University of Manitoba, living in the province, striving for academic success, undergoing stress due to exams, and, less commonly, distress due to mental health concerns, brought out feelings of solidarity among yakkers. Responses and posts often signified that "we (the herd)" are "in this together." For example, threads on exam stress contained the following comments:

— *You're not alone! There are a lot of us. And we can still do well!*

— *#teamLetsDoThis*

— *We got this yall!!*

— *I'm here in this terrible place with youz*

— *We'll survive*

— *Lets all just meet in the quad and cry for a bit*

These type of comments, and the uses of “we,” “us,” “all,” and “team,” signify that these individuals belong to one group or entity. The group’s identity is informed by the familiarity and recognition of their commonality of experience. By using this language, yakkers can feel a sense of belonging, helping them to feel less alone and isolated, and having a place where they are able to join and communicate with others about these experiences. In light of the finding that loneliness and social isolation are a major concern for students, it is likely that one way students cope with loneliness is to use Yik Yak to help mitigate those feelings and feel more connected to their community overall.

**Yak Fam: “Kinship” and friendship.** Community spirit was also expressed in the UM herd by frequently using the phrase “yak fam” to call the herd to attention in a post, and comments referring to friendship within the app. The slang term “fam” is short for family, and is commonly used in everyday conversation by young people. Fam, in the context of Yik Yak and in other online usage, signifies friendship or a trusting relationship rather than the conventional definition of the term. The terms “bro”/“bruh”, and “cus”, short for brother and cousin respectively, are used in the same way as fam. Here are three examples of its usage:

— OP: *So much stress is going to be lifted tomorrow.. 2 papers due and a midterm lol happy fucking Monday!!!*  
Y1: *I feel you fam*  
OP: *It’s almost over though, push for just over a month and we’re freeeee*  
Y2: *Yas fam I can’t wait*

The use of terms and explicit statements of friendship were particularly interesting because, during the period of data collection, there was no way to identify or exchange personal identity information in the application and these comments never held the suggestion that such an exchange of personal information would take place, only that they consider yakkers friends or

offer their friendship to others in threads. Figure 15 is a post from a yakker who feels like they gained friends just by joining the herd.

**Figure 15. Friendship on Yik Yak**



There were other exchanges that also illustrate the idea of these ephemeral friendships well:

- OP: *I lost my dad last year...I might be giving myself away but my life has been rough :/*
- Y1: [heart emoji] *Keep your head up, buddy!*
- Y2: *If you need a friend, let me know*
- Y3: *My condolences op, I too lost someone very special to me around this time of year last year.*
- OP: *Thanks fam. I appreciate the support*

In this exchange, Y2 offers their friendship, but, like the post on the app, it is transient and bound to that particular thread, as neither Y2 nor the OP offer any concrete ways of establishing an IRL friendship and meeting each other outside the realm of the app. Therefore, friendship on Yik Yak during the data collection period was largely symbolic and tethered to the architecture of the application, as fleeting as the threads themselves. However, the meaningfulness of these gestures was important; the OP expresses gratitude and states that they “appreciate the support,” acknowledging the commenters’ compassion.

Another exchange illustrates friendship following the introduction of handles. As mentioned in the previous chapter, friendships became solidified due to frequent recognition of handles and interacting with the same individuals in different threads.

— OP: *I hate getting sad when I drink*  
Y1: *Let's get a drink together!*  
OP: *Yes*  
OP: *Let's do it*  
Y1: *I'd actually be down* [martini emoji]  
OP: *Omg* [username of Y1] *ur my Yik yak friend I just noticed it was you*  
Y1: *Yaaaas*

The OP recognizes Y1's username from previous interactions and the two users identify each other as friends. Specifically, the OP says that Y1 is their “Yik yak friend,” confirming the premise that friendships made in the herd remain within the application, and are distinct from IRL friendships. However, they are still a source of human connection, mutual understanding, and, in many cases, humour, entertainment and joy. This post was collected before the chat feature was included in the application towards the very end of the data collection period.

♥ - **Affection and love.** In the data collected, the heart emoticon was the most frequently used symbol and it was used to express affection, compassion, sympathy, liking, and, love. However, this does not signify romantic or familial love. Users continually change and expand the meanings of emoticons so interpretations of emoticons are fluid and context-dependent as well (Park et al. 2013). Love, in the context of Yik Yak, was an altruistic expression of sending positivity, good feeling, and well wishes to other yakkers; similar to the IRL expression to give or send love to someone. Yakkers would also state that they loved or sent their love to other commenters:

- *Love you, stay strong [heart emoji]*
- *I still love you OP*
- *Much love sent your way [heart emoji]*
- *OP: im sad*  
*Y1: Me too love, me too!*

One long exchange, in particular, emphasizes the affectionate and altruistic love that some yakkers feel for others in threads, and for the herd as a whole. This original post received 41 upvotes. In this conversation, the OP sends a positive message to the entire herd:

- *OP: Hey everyone, just here to say no matter how shit your day is remember someone loves you out there. I love you Remember that It helped get me through depression knowing that someone always loves me*  
*Y1: [heart emoji]*  
*OP: Stay real Y1. Your perfect [heart eyes emoji]*  
*Y1: Thanks [crying, two hearts, kiss, entwined hearts emojis]*  
*OP: Hey guys guess what I love you. Keep it real. I want you to wake up and realize how perfect you are. Your unreal and people are lucky to know you [heart emoji]*  
*Y2: You're a hero, op. Keep doing what you're doing*  
*Y3: Op [heart emoji x3] so much love for you*  
*OP: NO the hero is you friend. Every day you wake up you have the ability to change someone life remember that. I'm know different than anyone else. I just know what it feels like to feel unloved and...*  
*Y4: Thank you OP, I need to hear stuff like this once in a while [shining heart emoji]*

Not only does the OP reinforce the feelings of affection and love for other members of the herd, yakkers reply in kind and are very appreciative of OP's message. The appreciation, along with the number of votes, emphasizes the idea that, for individuals looking for support, the virtual community on Yik Yak can also offer positivity and validation in this way. The posts may disappear in mere hours, but the sentiment behind them belongs to real individuals who may remember them long after and be influenced by them to return to the app for support and community.

Belongingness and community feeling on Yik Yak resonate with Rime's (2009, 2016) argument that emotion sharing online functions to stimulate bonding and strengthen social ties. Wetterlin et al. (2014, 5) found, in their research on youth and mental health resources online, that there is "an underlying desire to seek human interaction as part of an online community without interfering with daily life or compromising privacy" (Wetterlin et al. 2014, 5). This is echoed by both the themes of social support and community feeling. Furthermore, as per the literature on self-disclosure, observations confirm that the virtual community helps yakkers get social validation from others, and feedback and help with problems in life (Greene, Derlega, and Mathews 2006), along with gaining social attention and interest from targets (Rime 2009). Finally, as per Rime's theories (2009, 2016), sharing the negative emotional experience of psychological distress on Yik Yak can help users gain: help and support, comfort and consolation, legitimization and validation, and advice and solutions.

### *Disclosure of Repressed Self*

**Secrecy and confessing the self.** Disclosing stigmatized identities and experiences on the app was possible due to the anonymity the app provides. Users were able to disclose secrets and information that even their close friends or family did not know about. As Foucault (1978, 59) wrote, in confessing the self, "one admits to oneself, in pleasure and in pain, things it would be impossible to tell to anyone else." Individuals who feared telling others or were ashamed of their source of distress could disclose these and other secrets on the app. Here is an example where two posters talk about this aspect of Yik Yak:

- Y1: *Lmao [laughing my ass off] my friends don't know I've been hooking up and taking pregnancy tests but the whole yak fam knows hahaha*
- OP: *Who needs friends when you've got anonymous social media platforms?*

Y1's astute comment points out that, in many ways, yakkers are supplied with more personal information than many of their IRL friends and family. As the OP states, their friends do not know that they are engaging in sexual behaviour that their friends may judge negatively, so they disclose this information on an anonymous application because as Suler (2004, 321) states, people online "loosen up, feel less restrained, and express themselves more openly," without fear of judgement from others. The emotional function of this action leads to the next sub-theme.

**Venting and emotional relief.** Kantrowitz-Gordon's (2013) study on mothers with postpartum depression concludes that writing about the pressures of motherhood and depression on the Internet allows for emotional release. Indeed, yakkers also indicated feeling relief from disclosing repressed identities and information. This benefit of self-disclosure on the app is supported by the literature (Farber 2003; Rime 2009; Kantrowitz-Gordon 2013; Fullwood and Attrill 2016). One user explicitly talks about this benefit:

— *I can't delete yak at this stressful time! Anomalously venting my frustration and knowing others are experiencing the same stress is very helpful*

Users would often delete, or claim that they were deleting the app during the final exam period to avoid the potential distraction and continuously checking the feed. The OP, on the other hand, is dismissive of this idea. This post received 12 votes and precisely supports this argument that the virtual community provided users with an outlet for their frustration, stress and distress.

Furthermore, the OP here also reinforces the central points of the two previous themes regarding the social support, help, and community provided by the application. In another thread pictured in Figure 16, the OP discloses their distress due to an eating disorder and expresses that talking about it on the app "is like getting a weight off my back."

**Figure 16. A Thread Illustrating a Yakker's Sense of Emotional Relief**



**Articulating and Deconstructing Diffuse Emotions.** Rime (2009) argues that the social sharing of emotion can help in the production of meaning and narrative construction to help make sense of exceptional circumstances and emotional events. In writing out their experience of distress on the app, users are able to try and articulate their emotions, deconstruct them, and reassess them by externalizing their emotions, which has the potential to provide greater insight into oneself (Farber 2003), and can also help others understand their own emotional states. In particular, yakkers commonly used a technique of rhetorical questioning, making their posts appear like an exercise in self-talk or journaling:

— *I hate how I get anxiety over the littlest things... Why am I like this*

— *How do you enjoy life if you constantly feel like your existence is meaningless?*

The OPs for both these posts aren't posting for solutions but rather to externalize their thoughts and feelings; put them "out there", and, possibly, think them through. Yakkers also used poetic devices such as metaphor and imagery to great effect to describe and understand their emotional states:

- *Depression can really be a black hole for all things good*
- *My depression makes me feel like a werewolf. "Oh no! I feel the transition happening! Get away before I offend you with my sudden anti-social behavior!"*
- *I've got scars from fighting but secret is the person I'm battling is myself*
- OP: *Totally dead on the inside*
  - Y1: *Yeah. It's like walking through an endless field of ash. You can't drink water, there's no food, and yet you simply cannot die.*
  - Y1: *You can't fap [masturbate]. You can't drink it away. You can't tell anyone. You couldn't explain it if you tried anyway. You can't wait to get better but have no idea what to do to get there.*
  - Y1: *I fucking get it, OP. You beautiful person. You know what you are to me? You're proof of my own miserable existence. You are a gem, one of those people that can validate my sadness.*
  - OP: *Y1 you are my spirit animal*
- OP: *When someone cries so hard that it hurts their throat, it is out of frustration or knowing that no matter what you can do or attempt to do can change the situation. When you feel like you need to cry,*
  - OP: *when you want to just get it out, relieve some of the pressure from the inside – that is true pain. Because no matter how hard you try or how bad you want to, you can't. That pain just stays in place.*
  - OP: *Then, if you are lucky , one small tear may escape from those eyes that water constantly. That one tear, that tiny, salty, droplet of moisture is a means of escape. Although it's just a small tear, it*
  - OP: *it is the heaviest thing in the world. And it doesn't do a damn thing to fix anything.*

All these examples show that yakkers can and do use the textual space of Yik Yak to transcribe emotion. In doing so, they can capture, label, and organize diffuse emotional experiences (Rime 2009). In a study by Høybye, Johansen, and Tjørnhøj-Thomsen (2005, 216-

217) on an online forum for women with breast cancer, the authors argued that women confronted their illness and were empowered through “verbal acts of writing and communicating experience [and] imaginative acts, embodied in metaphors re-imagining their experience of the world and regaining power over a life that was shattered by breast cancer.” Similarly, use of metaphor here is an “imaginative act”, helping members to reconstruct their experience. Moreover, the fact that they are not written in a personal journal and kept hidden from others speaks to the possible desire to, as Suler (2004, 323) frames it, put it “‘out there’ where it can be left behind”. In addition, reading these accounts may also help others make sense of and validate their feelings.

### *Countering Stigma*

**Countering stigmatising beliefs.** Receiving validation, affirmation and finding that others feel the same way can have the effect of helping to counter public stigma and self-stigma. Public stigma often involves believing that individuals with mental illnesses are dangerous to themselves and/or others, incompetent, and deserving of shame and blame (Parcesepe and Cabassa 2012). However, by countering beliefs that perpetuate mental health stigma, yakkers may be contributing to decreasing mental illness stigma. I observed an interesting trend of attempts to counter stigma; intentionally or unintentionally, and dismiss stigmatizing comments on some posts of mental health concerns:

- OP: *Why do girls try to glorify self-harm... When is it okay to inflict pain upon your innocent body? If mentally you don't feel okay you should seek out help, especially if it's come to this level*
- Y1: *And if I'm not innocent it's OK? Wow, thanks for making me feel worse*
- Y2: *Wow okay first of all op not all girls glorify self-harm, second of all, it's not just some girls it's also guys. People who show self-harm are not glorifying it. There are few people who do*

Y1: *Op is so wrong on everything in this yak, it's terrible.*

In this thread, the OP discusses girls who self-harm and Y1 and Y2 counter OP's claims directly. That self-harm is a tactic for seeking attention is a common myth and research shows that the opposite is true and that the prevalence of self-harm in boys may be underrepresented in hospital statistics due to the differences in types of self-harm injuries in girls and boys (Thornton 2015). By dismissing such beliefs and attitudes, yakkers help to diminish the myths and stigma associated with self-harm and may also help increase understanding on the subject. In another post, a yakker explicitly discusses mental health stigma:

— *The stigma around mental health is the worst...it's the most real thing in so many people's lives yet so many people still don't get it :/*

**Countering stigma of help-seeking for mental health concerns.** As mentioned, when providing encouragement to yakkers with mental health concerns, users would often commend them for their efforts, turning something which the OP may have felt is negative (seeking help for mental health concerns) to a positive (trying to improve their life); this has the added effect of helping others see that mental health concerns need to be confronted rather than hidden away and help should be sought despite feelings of nervousness:

— OP: *I'm really nervous about going to the uofm group sessions for my depression, should I go*

Y1: *Hey OP :) I've never been to one but I still think it's a great idea. One of the best things you can do for yourself is to just try it, because you'll definitely get something out of it :)*

Y2: *And I guarantee everybody else there would have been nervous their first time, and probably their second and third times as well. It's totally understandable, and they won't judge :3*

Y2: *And I mean they're all there for the same thing as you... You'd be surprised how quickly you'll be able to relate to some of them.*

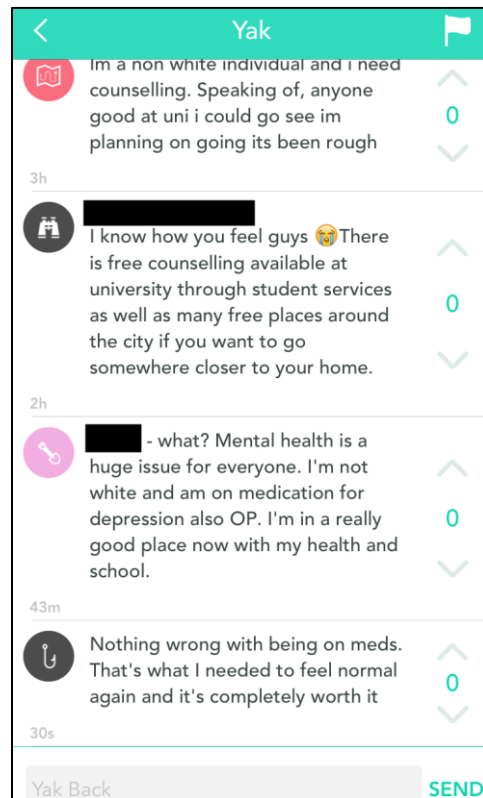
The yakkers encourage the OP and remind them that feelings of nervousness are natural and normal, and that others like them have been in their situation. Similarly, in another thread, the OP asks about help seeking for anxiety, discloses embarrassment, and a yakker attempts to alter this using rationale and comparing help-seeking for mental illness with other mundane forms of help-seeking:

— OP: *I have such bad anxiety :(*  
Y1: *Have you thought about talking to the folks at peers or the consolers for the university?*  
OP: *I'm too embarrassed^^*  
Y2: *Don't worry op*  
Y1: *It's their job to help! That's like being embarrassed to ask the workers at Safeway about what Apple is best or ask for cold medicine from a pharmacist*

In this way, by reframing help-seeking for mental health concerns, Y1 attempts to destigmatize the issue. In another post, a yakker says that they are really concerned about their mental health and are considering getting help but are unsure; a yakker replies, “Ya you should, Not treating mental illness is not treating an illness It will only get worse.” A commonly held perception of mental illness is that it is “not real” or not as serious and demanding of attention as physical illnesses (Parcesepe and Cabassa 2012). By asserting that they are one and the same, this yakker helps to promote the idea that mental illness should be taken equally as seriously as any other illness before it worsens.

In another thread on help-seeking, a commenter argued that mental health issues were “white people problems.” Figure 17 shows a few responses which contradict this premise later in the same thread:

**Figure 17. Countering Stigma on Yik Yak**



In this exchange, the first commenter states that they are not white and need counselling. “pink shovel” states that “Mental health is a huge issue for everyone”; not just white individuals, meaning that mental health issues are not race-specific and affect everyone, and they, a non-white person, are receiving treatment for depression. The last commenter goes to further counter the stigma of treating mental health issues with medication by stating that there is “Nothing wrong with being on meds,”; validating pink shovel, the OP and others like them who may be treating their problems with medications. Furthermore, this “chorus of voices”, and other yakkers who dismiss stigmatising beliefs, often using their own examples, help to counter mental health stigma and contribute to the changing public discourse on mental illness (Mojtabai 2007).

## **Chapter 6**

### **Conclusion**

Mental illness is a pervasive issue for Canadian youth. Mental health concerns and psychological distress among university students affect multiple aspects of their lives and can be a significant detriment to achieving academic and life goals. This study examined the narratives of students at the University of Manitoba, posted on an anonymous social media application. The goal of this study was to understand the mental health concerns of students (RQ1) and the role that the virtual community on Yik Yak plays for students coping with mental health concerns (RQ2).

Overall, the findings for RQ1 suggest that, while usually expressed in less than 200 characters, psychological distress experienced by students at the University of Manitoba is profound, varied, complex, and multifactorial. Specifically, students expressed that exam anxiety and academic stress, depression, suicidality and thoughts of death, anxiety, sleep disturbance, excessive stress, loneliness and social isolation, sadness and loss of motivation, were major mental health concerns and significant sources of psychological distress. The results also suggest that efforts to address the mental health of students must consider the varying dimensions and needs of students suffering from psychological distress, and implement programming that can effectively address these concerns, especially for students in their first year of study and during the December and April final exams, which were observed to be peak periods for disclosure of academic stress.

In response to RQ2, the thematic analysis showed that the social sharing of emotion on Yik Yak fosters social support through individuals exchanging emotional and information

support. The virtual platform has a unique identity constructed through discourse that promotes feelings of belongingness and community for members. It also aids in the disclosure of repressed selves through textual articulation, description, and metaphor, and results in a beneficial collective process of sharing for this community, which contributes to the construction and dissemination of social knowledge by countering stigmatizing beliefs and providing information on the lived experiences of mental illness. According to Rime (2009) social sharing is not only for individual adaptation but also for other members of a community, and this is evident from the interactions presented in this study.

Furthermore, the app also plays a mediating role for individuals who are afraid to seek help. Corrigan and Rao (2012) argue that the first step in countering self-stigma is being open about one's condition. By sharing their feelings of distress, yakkers may be able to take the first towards disclosure IRL. Selective disclosure with trusted peers on Yik Yak is a viable alternative to seeking information from information-based websites, especially for individuals who feel alone and isolated in their suffering. Moreover, the social support, affection, friendship and sense of community provided by the app can also be a source of positivity for individuals suffering from psychological distress. This virtual space, and others like it, show that human connection and community can be fostered in the online environment.

### Limitations

One limitation of this study was that, due to the lack of information found on Yik Yak or elsewhere about the app, and the lack of user information, it was difficult to determine accurately the extent to which the population of the herd under study was actually comprised of University of Manitoba students, and most self-identified as such. Evidence provided in Chapter 4 by providing evidence did demonstrate that the herd itself believes that their group is comprised

mostly of University of Manitoba students. Because the analysis of data is based on an interpretivist approach, the beliefs and assumptions of the herd were of primary importance. Furthermore, the results from this case study are not intended to be generalizable; rather, they capture the specific interactions, concerns and context of a group at a particular moment in history. In order to strengthen the external validity of this study, the context and setting is detailed in Chapter 4 to allow for comparison with other online fields.

Another limitation of this study was that it was coded by one person. While some qualitative method papers encourage multiple coders and perspectives for increased accuracy of coding (Kurasaki 2000; Krippendorff 2004; Berends and Johnston 2005), Braun and Clarke's (2006) methodological philosophy for thematic analysis, which was applied in this research, does not advocate multiple coders because they argue that there is no singular, right way of coding, nor an accurate reality in the data which can be captured. They highlight that coding of data should be organic and reflexive, based on experience and insights gained during the research itself.

### Policy and Practice Recommendations

A number of recommendations emerge from this study. First, this study underscores the continued importance that the University of Manitoba and other Canadian post-secondary institutions adapt to the mental health needs of all students by continuing to implement programs that promote positive coping and management of stress. Studies show that mindfulness-based stress reduction programs and cognitive-behavioural approaches aid in stress reduction and management (Regehr, Glancy, and Pitts 2013; Sawatzky 2012). Meditation techniques have also been shown to be helpful for reducing stress in students (Shiralkar et al. 2014). It is important that these programs are not only created and implemented, especially during peak stress periods,

but they must also be promoted effectively to help reduce mental illness stigma and increase utilization. Because sleep disturbances were also commonly reported, time management and good sleep hygiene practices should be promoted, as well.

As well, many questions on help-seeking suggested that sources of help can be more widely promoted. In particular, free services were desired due to existing financial pressures. The university's counselling centre is one resource, but others in the city and province should be promoted by the university, as well, along with increasing the intake capacities for long-term care of students with chronic mental health conditions, and to help meet the demand of students who do need help.

Day, McGrath, and Wojtowicz (2013) conducted a study on the efficacy of a six-week online self-help program for university students with depression, anxiety and stress. Participants reported significant improvement in symptoms, and maintained the benefits six months later. This is a promising intervention, especially for university counselling centres to implement to help offset high demands for services. Furthermore, the program is conducted online and is, therefore, more accessible, private and affordable than traditional therapeutic interventions. Thus, this intervention, along with the aforementioned stress reduction programs, should be implemented by the university administration at the University of Manitoba to help improve outcomes for students.

### Research Contributions

Anonymous social media applications such as Yik Yak have reputations for being a breeding ground for cyber-bullying (Pullen 2015). While this may be true in some cases, this study shows that the dynamics of a social space are context-dependent and constructed by the

users themselves. In the data collected for this study which included posts featuring mental health concerns and distress, no posts suggesting cyberbullying were found. Instead, on the whole, yakkers provided support to each other in times of distress. In many cases, they showed great concern for each other out of shared humanity and recognition of shared suffering which matches previous studies on the subject (Preece 1998; Suler 2004; Preece and Maloney-Krichmar 2005; Greene, Derlega, and Mathews 2006; Wetterlin et al. 2014). Therefore, this study contributes to the growing literature on social media and online social spaces by providing a description of a virtual community on Yik Yak through a qualitative analysis of posts on mental health. The findings from this study also show that students express their distress in culturally specific ways; this information can be used to aid in identification and assessment of student distress by student counselling professionals to understand the nature of student concerns. By exploring the mental health concerns of students through a novel avenue, this study also supports the literature on university students' mental health and sources of distress. It adds to the existing body of research that continues to call for more resources for this vulnerable population.

As well, this study makes methodological contributions to the nascent field of online ethnography for the study of health and illness. Using ethnographic observation, field noting, thick description, prolonged immersion, as well as content and thematic analysis in conjunction with ethnographic methodology, this study was able to capture a unique period in the history of a mobile application, which underwent numerous subsequent changes. As identity on the app moved from anonymity to pseudonymity, and then to the addition of direct personal interaction, this ethnographic study may be the only one of its kind on Yik Yak during a period when individuals were able to be especially disclosive due to the anonymous nature of the application.

Furthermore, by laying the theoretical groundwork using theories from anthropology, sociology, psychology, and culture and media studies, this study developed into an interdisciplinary exploration of mental health. The framework combined the theories of stigma, online self-disclosure, and Foucauldian thought, with an interpretive anthropological approach to capture the phenomenon of online self-disclosure of stigmatized identities in an anonymous community populated by local others.

### Directions for Future Research

While this study contributes qualitative data regarding the mental health concerns of university students in Manitoba, it would be interesting for future research to compare the data to quantitative survey research to identify similarities and differences in findings. Other potential sources for comparison include: data from the Student Counselling Centre at the University of Manitoba, which collects client information on the mental health needs of students, and the online confession boards on Facebook which, while no longer active, are still available for study. As well, linguistic word counts and statistics can also be employed in future studies to better understand the lexical variations of online mental illness disclosure to improve understanding of lay and expert definitions of psychological distress symptoms and disorders.

The field of online media and social networking continues to develop at a rapid pace. Undoubtedly, more applications will be introduced in the future which provide new social spaces for disclosure of stigmatized identities. As well, Yik Yak itself has and will continue to change. Future research should continue to explore these spaces using various methodologies to discover and understand the nature of online interactions in these spaces, especially with regard to health and illness. Finally, testing potential peer-to-peer mobile applications for mental health help and support, using qualitative data, is a promising direction for future interventional research.

The goal of this study was to understand the mental health concerns and needs of the University of Manitoba student community. Through an online ethnographic study, I was able to learn about the inner-workings of a virtual community of mostly students, and that psychological suffering within this group is widespread. I also found that messages of kindness, caring, and support between strangers left a positive imprint on this virtual landscape and helped the individuals using this app to feel “a little less alone.” It is my hope that future studies on mental health and virtual communities continue to study these spaces so that we can better understand and adapt to the needs of individuals with mental health concerns and the ways in which they cope with these problems.

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