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Is a Lack of Digital Skills Keeping People from Receiving Emotional Support? Investigating the Digital Skills of Depressed Individuals Seeking Support in Online Communities

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2024

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UNIVERSITY OF CALIFORNIA

Santa Barbara

Is a Lack of Digital Skills Keeping People from Receiving Emotional Support? Investigating

the Digital Skills of Depressed Individuals Seeking Support in Online Communities

A dissertation submitted in partial satisfaction of the

requirements for the degree Doctor of Philosophy

in Communication

by

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September 2024

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ACKNOWLEDGEMENTS

This dissertation could not be possible without the many people who supported me along the way. First, thank you to my advisor (and really, co-author), Amy Gonzales, who put way more work into this dissertation than I'm sure any other advisor has ever put into a student's dissertation. She is brilliant and thoughtful about research and writing, and she deserves all the raises and an endless supply of good energy, beautiful views, and foot massages. I am also eternally grateful to my committee Ron Rice and Jennifer Kam. I thank Ron for his in-depth training on theory construction, encouraging and upbeat personality, and for always being willing to chat about life, making my experience in the UCSB Communication Department delightful. I thank Jennifer for her supportiveness and words of kindness, for her mentorship, and her inspiring work that pushes people (myself included) to take a more person-centered approach to research. I'd also like to thank those who were instrumental in helping me on various parts of this dissertation. Thank you to my research assistants who helped review my survey instrument and test it on Qualtrics. Thank you to Samuel Liu, Julian Bravo, Jaime Gomez Rodriguez, and Madison Castro. I am also extremely grateful to friends who were willing to review my survey and the courageous participants who shared their depression experiences with me.

Next, I'd like to thank all the faculty and staff that supported me. The UCSB Communication Department staff are wonderful and work tirelessly to make sure the department runs—be that through administrative paperwork, answering my questions, or helping me figure out research funding. Thank you to Tricia Taylor, Mandy Czarnecki, Michelle Frederich, Casey Hankey, and Jacova Morris.

It has been my pleasure to get to know the faculty in the department as well, as each have shaped my learning as both an instructor and researcher. Thank you to Karen Myers (for showing me around UCSB, convincing me to join the department, serving as the grad director, and always being willing to chat), Tamara Afifi (for running the department, mentoring me, and always being kind), Dan Lane (for being a stellar example of an educator, caring about the grad students, always being willing to impart advice and assistance, and for bringing the department together), Scott Reid (for answering all my statistics questions and always being willing to chat), Andy Merolla (for being kind and encouraging and being an amazing educator), Miriam Metzger (for introducing me to new ways to look at media research), Robin Nabi (for inviting me to write a chapter on social media well-being and introducing me to the world of persuasion), Joe Walther (for tacos and a wonderful quarter of CMC), Kristy Hamilton (for being wonderful to their TAs and creating community), Jennifer Gibbs (for serving as the grad director and supporting the graduate students), Eric Zackrison (for showing me a great example of what an applied learning environment looks like), Muniba Saleem (for mentoring me through my summer teaching), and René Weber (for helping me solidify my love for statistics).

And of course, I would not have survived without a wonderful grad student support group. Thank you to all those who celebrated with me, researched with me, spent time with me, and listened to my joys—and especially my complaints. Many, many thanks to my fellow students and friends, Laurent Wang, Yibei Chen, Zi Jian Lew, Qing Huang, Veronica Wilson, Lindsay Miller, Musa Malik, Xingyu Liu, Ceciley Zhang, Li Qi, Chloe Gonzales, Monica Cornejo, Cynthia McLeod, Margot Plunkett, Hannah Overbye-Thompson, and Abdullah Salehuddin.

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ABSTRACT

Is a Lack of Digital Skills Keeping People from Receiving Emotional Support? Investigating

the Digital Skills of Depressed Individuals Seeking Support in Online Communities

by

Jesse King

Millions of U.S. Americans suffer from major depressive disorder, which is
characterized as persistent feelings of sadness, fatigue, and thoughts of death or suicide,
among other things. Numerous researchers have found that people with mental health
struggles—including depression—benefit from online spaces where they can find emotional
support. This dissertation investigates the specific conditions under which people with
depression intend to access emotional support. More specifically, as informed by Büchi and
Hargittai's (2020) model on digital skills and online well-being, I attempted to understand
how digital skills (i.e., privacy skills, algorithm skills, communication skills) are related to
how people with depression disclose about their depression and perceive emotional support
from others. I also investigated how anonymity is related to group identification with other
people online and their depression disclosures. I measured anonymity in two ways:
affordance anonymity and self-anonymity. I administered a cross-sectional survey from 446
people with depression and employed quota sampling of 224 of whom had disclosed about
their depression on Reddit and 222 on Facebook in order to ensure variation in anonymity.
To reduce memory bias and provide more insights into the type of communication skills

utilized by people with depression, I also collected the text from recent online depression disclosures from these same participants.

My quantitative findings showed that for all participants, depression stigma did not significantly predict either type of online anonymity. Further, self-disclosure fully mediated the relationship between both types of anonymity online and online emotional support, and online group identification only partially mediated the relationship between affordance anonymity and self-disclosure. In addition, I found that privacy skills marginally moderated the relationship between self-anonymity and depression disclosures such that those who had high privacy skills disclosed the most. There was not, however, a significant moderation of algorithm skills on the relationship between depression disclosure and emotional support.

Finally, I conducted a qualitative thematic analysis of the depression disclosure text and found that people with depression use two main communication skills to seek support online: direct and indirect. Direct skills are defined as strategies that people with depression used to seek support—which were known by the recipient (Crowley & Faw, 2014)—and include skills such as the use of hypothetical questions, requests for advice, requests for friendship, and requests for relating (i.e., asking if others relate to their experiences). Indirect skills are defined as strategies used that are done without the recipient's awareness (Crowley & Faw, 2014) and include skills such as the use of narrative, metaphor, and venting. A holistic analysis of the posts and their accompanying comments indicated that Reddit disclosures were more detailed and explicit, eliciting more substantive disclosures from commenters, and Facebook disclosures were vaguer, inviting more pity platitudes of support from commenters.

The theoretical contributions of this dissertation are threefold: a) the findings validate and extend Büchi and Hargittai's (2022) model of how digital skills relate to perceptions of online social support, b) the findings reveal the benefit of online anonymity for people with stigmatized health concerns by exploring how different conceptualizations of anonymity might shape online disclosure practices, and c) the findings extend theoretical understanding of how people with depression utilize communication skills in an attempt to gain support online. This dissertation also has a number of practical implications, including that online platform designers should consider features that boost the privacy skills of their users with depressive symptoms.

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I. CHAPTER ONE: INTRODUCTION

In 2020, major depressive disorder affected 21 million people in the U.S. alone (NIMH, 2022). Symptoms of the disorder include persistent feelings of sadness and irritability, loss in interests, fatigue, difficulty concentrating and making decisions, sleep issues, physical pain, and thoughts of death or suicide. These symptoms can severely interfere with day-to-day functioning, causing extreme distress (APA, n.d.). While 66% of those 21 million seek treatment for their depression, 34% do not seek treatment for a number of reasons, including stigma, mistrust of the healthcare system, not wanting help, people's lack of knowledge regarding depression, and the possibility of relationship stress (Griffiths et al., 2011; Jesse et al., 2008; Nicolaidis et al., 2010). Despite these barriers, research on online communities and support groups suggests that online spaces may provide a) a promising alternative to people with depression who may not feel comfortable seeking treatment or help from medical professionals or their support networks or b) a supplement to those who have limited access to such resources and networks. In this dissertation, I validate and elaborate extant theory in communication scholarship to better understand how the anonymity afforded in online spaces enhances the availability of social support for people with depression. More specifically, I attempt to a) validate and extend Büchi and Hargittai's (2022) model of how digital skills (i.e., privacy skills, algorithm skills, and communication skills)[1] relate to

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[1] These skills will be defined in detail in chapter 2. Privacy skills refer to "individuals' knowledge of the technical aspects of online data protection and institutional privacy practices and their ability to apply strategies for online privacy control and data protection" (Li, 2018, p. 1434), where privacy is defined as "the quality or state of being apart from company or observation" (Merriam-Webster, n.d.). Algorithm skills, for the purpose of this dissertation is conceptualized as *algorithm awareness,* which is referred to as "awareness of how algorithms influence what people see" (Hargittai & Micheli, 2019, p.

perceptions of online social support, b) explore the benefit of online anonymity for people with stigmatized health concerns by examining how different conceptualizations of anonymity might shape online disclosure practices, and c) extend theoretical understanding of how people with depression utilize communication skills in an attempt to gain support online.

Depression

The *Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition (DSM-5 (American Psychiatric Association, 2013) identifies a number of *depressive disorders*, all of which share a number of common features: "the presence of sad, empty, or irritable mood, accompanied by somatic and cognitive changes that significantly affect the individual's capacity to function" (p. 155). The DSM-5 is the official diagnostic manual produced by the American Psychiatric Association, which is used by psychologists and other medical professionals to diagnose mental health disorders (Thom et al., 2019); the manual specifically calls out *major depressive disorder* (MDD) as representing "the classic condition in this group of disorders" (American Psychiatric Association, 2013, p. 155). MDD is different from other depressive disorders based on duration, timing, and etiology (i.e., causes of the disorders).The diagnostic criteria of MDD requires that someone must meet five or more of nine symptoms, all of which must have been present during a two-week period and be substantially associated with one's functioning. At least one of the first two symptoms listed in the diagnostic criteria must be present: a) "Depressed mood most of the day, nearly every

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113), and communication skills refer to the *types* of disclosure someone uses to achieve a goal (Brashers et al., 2002; Crowley, 2016)—as well as "encoding and decoding online messages, managing online contacts, online profiling, and collaboration between Internet users" (van Deursen et al., 2022, p. 1886).

day, as indicated by either subjective report (e.g., feels sad, empty, hopeless) or observation made by others (e.g., appears tearful)" (p. 160) and b) "Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation)" (p. 160). The other symptoms include c) "Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day," d) "Insomnia or hypersomnia nearly every day," e) "Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down)," f) "Fatigue or loss of energy nearly every day," g) "Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick)," h) "Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others)," i) "Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide" (American Psychiatric Association, 2013, p. 161). In addition, these symptoms must be impairing someone in multiple areas of functioning (e.g., social, occupational). And finally, the symptoms must not be due to side effects associated with a substance or due to another medical condition.

  There are a number of risk factors that make someone more susceptible to developing depression. In general, risk factors for MDD include personality (e.g., those who are more neurotic are at higher risk for depressive episodes), environmental (e.g., adverse childhood experiences can increase chances of developing depression), genetic factors (e.g., having a family member with depression increases one's chances of developing depression), and the presence of another disorder (i.e., having a non-mood disorder can increase someone's

chances of developing depression) (American Psychiatric Association, 2013; Otte et al., 2016). Generally, there is a higher prevalence for depression in females (American Psychiatric Association, 2013; Otte et al., 2016); however, there are no clear gender or age differences in the development or onset of depression (American Psychiatric Association, 2013). Treatments for depression include psychopharmacology (i.e., medication) and psychotherapy (e.g., cognitive behavioral therapy) (Otte et al., 2016; Thom et al., 2019).

There are a number of reasons why people with depression might go online to disclose about their depression. Past research has indicated that people with depression seek to disclose about their depression in order to elicit support and empathy from others, build community, express themselves, seek relief, find psychoeducation, be entertained, challenge stigma beliefs, and interact with others (Lachmar et al., 2017; Naslund et al., 2016; Reins et al., 2019; Zhu, 2011). When they choose to disclose, they do so thinking about the context in which they disclose and to whom they should disclose—and in doing so, target network members who they expect to be supportive (Fulginiti et al., 2016). For example, when people with depression receive positive online reinforcement from friends, they are more likely to discuss their depressive symptoms publicly on Facebook (Moreno et al., 2011). While the existing literature outlines the reasons why people with depression seek out online communities, there is sparse research on the tactics and methods people with depression use to communicate with others (i.e., communication skills) online about their depression. Thus, undertaking a qualitative analysis of depression disclosures and associated comments from others online may provide insight into the skills necessary to extract support from others online.

Theoretical Backdrop

As noted, stigma—a mark of shame that people impose on others or the self, typically related to a misunderstood or lesser understood phenomenon (Meisenbach, 2010)—may be an important factor in whether someone with depression chooses to seek support online (Chaudoir & Fisher, 2010; Greene, 2009; Naslund et al., 2014). Stigma may play an influential role in motiving people to interact with others online about their depression (Naslund et al., 2016), including how people choose to show up or present themselves online (e.g., anonymously)—especially because stigma has been clearly associated with the experience of people with depression. Numerous studies have found a positive correlation between depression and stigma—such that those with depression hold stigmatized opinions about the disorder and extend those stigmatized ideas to themselves (Barney et al., 2009; Kanter et al., 2008; Peluso & Blay, 2009). These stigmatized beliefs are detrimental to people with depression because they can keep people with depression from seeking out professional help (Barney et al., 2006; Barney et al., 2009; Picco et al., 2018) or help from family members (Picco et al., 2018; Samari et al., 2022). In some cases, then, stigma may push people with depression experience to seek out more anonymity online to reduce the chance that their personal networks find out about their condition (Joinson, 2001; Ma et al., 2016).

Online communities such as Reddit provide some amount of anonymity, which allows for those experiencing a stigmatizing illness to seek support without a threat to their reputation (Andalibi et al., 2017; Andalibi et al., 2018a, 2018b; Andalibi & Flood, 2021). In order to tap into that support, however, they must first be willing to disclose about their depression online (Luo & Hancock, 2020; Park et a., 2016; Weber et al., 2004). There is strong evidence that when people seek out online communities or forums and disclose their

stigmatized health identity, they will be met with emotional support from others (Andalibi et al., 2017; Carr et al., 2016; De Choudhury & De, 2014). This idea is consistent with more recent theorizing in Luo and Hancock's (2020) *framework of self-disclosure in social media and psychological well-being*. They argued that people are able to receive support through the act of disclosing in online spaces, and that people disclose varying amounts of information such that more disclosure will result in more perceived support. However, Luo and Hancock (2020) do not consider the contextual effects of anonymity, a central component of many online spaces.

A defining feature of internet communication is the enhanced opportunity for anonymous communication (Evans et al., 2017; Norman, 1999; Rice et al., 2017). And because people with depression may utilize this anonymity online as a way to shield themselves from public judgements, they may begin to develop a sense of group identification with others posting about their depression online. As a classic example of this idea in computer-mediated communication (CMC) scholarship, the *social identity model of deindividuation* (SIDE; Lea et al., 2001) explains that when someone is anonymous in an online group, they experience greater disinhibition and, as a result, begin to adopt group norms, if that group is salient. In doing so, they may start to form a collective group identity (Seiter & Brophy, 2022; Tajfel, 1982; Thompson, 2012), which will encourage an in-group sense of community, more disclosure, and more social support of other in-group members (Andalibi & Flood, 2021; Wentzer & Bygholm, 2013). Given what we know from SIDE (Lea et al., 2001) scholarship as well as anonymity and disclosure research (Andalibi et al., 2018b; Andalibi et al., 2016; Clark-Gordon et al., 2019; Ma et al., 2016), perceived anonymity may

thus be a key factor in determining the benefits of online communication for depressed individuals.

While anonymous online forums may provide a safe space for seeking and providing social support, there is only a modest amount of research examining how individual differences moderate those processes. In particular, a deficit in digital skills may impede access to online support (Büchi et al., 2018). As Van Dijk's (2005, 2020) *resources and appropriation theory* explains, unequal distribution of resources is predictive of unequal access to the skills needed to benefit from use of digital technology. Büchi and Hargittai's (2022) elaboration of the model posits that digital skills—or the capabilities needed to participate in online environments (Van Deursen & Van Dijk, 2014)—can moderate the relationship between social media use and one's well-being. However, this model is new and relatively untested. The authors refer to digital skills literature that suggests that those with poor digital skills will experience fewer well-being–related outcomes associated with their online use, and those with more digital skills experience more well-being–related outcomes, including connectedness and general well-being measures (Büchi et al., 2018; Hofer et al., 2019; Yang & Jang, 2024). Could it be, then, that a lack of certain digital skills impedes individuals with depression from fully accessing the benefits of online social support they seek? To answer this question, this dissertation attempts to investigate the conditions that allow for depressed individuals to receive support online and the ways in which digital skills may help or impede them in that process. More specifically, I will explore whether privacy skills, algorithm skills, and communication skills are associated with the support seeking process for people with depression—all of which will be fleshed out in later chapters.

To do this, I have conducted an online survey of people with depression, which included two open-ended questions that asked participants to provide a) the text of a recent post they made about their depression and b) the accompanying comments provided on the post. Quantitatively, I measured perceived anonymity of online communities, digital skills (i.e., privacy skills and algorithm awareness skills), depression-related disclosure on online communities, perceived emotional support, and depressive symptomology, as well as factors that relate to digital skills such as gender, age, education, and income. In the survey, participants provided the text of their depression-related post from either Facebook or Reddit, as these two platforms were selected for quota sampling due to the variation they create in anonymity among the sample (i.e., Reddit is considered to provide more anonymity and Facebook is considered to provide less anonymity; see Andalibi et al., 2016; Andalibi et al., 2017; Andalibi et al., 2018a, 2018b; Andalibi & Flood, 2021; Balani & De Choudhury, 2015; Eichstaedt et al., 2018; Gutman-Weo, 2022; Michikyan, 2020; Pavalanathan & De Choudhury; 2015;). The text of their post was then analyzed using a qualitative thematic analysis in order to identify the types of communication skills utilized online by people with depression (Braun & Clark, 2006; Nowell et al., 2017).

In this study, overall, quantitative analyses explored the ways in which digital skills might be associated with online social media activities and social media outcomes. The cross-sectional survey results indicated that a) stigma was not significantly related one's anonymity online, b) depression disclosure fully mediated the relationship between anonymity online and perceived support, c) group identity partially mediated the relationship between the anonymity a platform provides and depression disclosure, d) privacy moderated the relationships between self-anonymity online and depression disclosure, and e) algorithm

skills did not significantly moderate the relationship between depression disclosure and perceived support.

Further, a qualitative analysis of depression disclosures online investigated the ways in which people with depression attempted to access support from others online. An analysis of text-based depression disclosures revealed the use of both direct (i.e., hypothetical questions, requests for advice, requests for friendship, requests for relating) and indirect (i.e., metaphors, narratives, venting) communication strategies for seeking support. Taking a holistic approach and analyzing the posts in conjunction with the associated post comments revealed platform-related differences such that a) Facebook encourages vaguer depression disclosures eliciting more pithy platitudes of support from commenters and b) Reddit encourages more detailed, explicit depression disclosures eliciting more substantive disclosures as support from commenters.

In sum, a central goal of this dissertation was to investigate the moderating relationship of digital skills on online community use and online support seeking for people with depression, with the intention of making the following contributions: a) validate and elaborate Büchi and Hargittai's (2022) model of how digital skills relate to perceptions of online social support, b) expand upon the benefit of online anonymity for people with stigmatized health concerns by exploring how different conceptualizations of anonymity might relate to online disclosure practices, and c) extend theoretical understanding of how people with depression utilize communication skills in an attempt to gain support online (see Figure 3, p. 64). Such findings also provide valuable practical insights for practitioners and designers to consider when trying to create spaces that support the needs of depressed individuals.

In the following sections, I expound upon the literature on online communities and emotional support, mental health stigma, and digital skills as they inform how digital skills relate to the ways in which people with depression access support from others in online communities. Thereafter, I describe my quantitative and qualitative methodology and analysis approaches, followed by the quantitative results and qualitative findings. I conclude with a discussion of my findings, which provides some support for the benefit of online anonymity for people with depression, adding to existing theorizing that digital skills moderate the relationship between online community use and perceived online benefits (Büchi & Hargittai, 2022), and the various types of communication skills that can be utilized by people with depression who are seeking support online—all of which informs theoretical and practical implications. I conclude with limitations of the study and future avenues for research.

II. CHAPTER TWO: LITERATURE REVIEW

People have accessed social support in online communities for years (Barak et al., 2008; McEwan, 2015; Mikal et al., 2013), including in the context of mental health and depression (Sharma & De Choudhury, 2018). In order to receive support from others, people must disclose about their depression in these communities (Luo & Hancock, 2020; Park et al., 2016; Weber et al., 2004). Because depression is often a stigmatized issue (Barney et al., 2006; Peluso & Blay, 2009; Yokoya et al., 2018), it can sometimes be difficult for people to disclose mental health concerns offline, which is why some people have chosen to disclose online where there are fewer perceived identity threats (Andalibi et al., 2018b). One way people avoid this stigma—even online—is to make themselves anonymous (Andalibi et al., 2018b; Andalibi & Flood, 2021; Wright, 2000a). This anonymity, among other factors such as having a shared health concern, in an online community can create a sense of group identity for online community members, which may encourage people to disclose more (Haberstroh & Moyer, 2012; Malik & Coulson, 2008). In this chapter, I expand upon these arguments and propose a number of associated hypotheses.

The Benefits of Social Support

Social support, and its implications for health and well-being, has been a long-studied topic in the social sciences (House, 1981; House et al., 1988; Schwarzer & Leppin, 1991; Vangelisti, 2009). *Social support* is an umbrella term that is defined for this dissertation as "the receipt of tangible and intangible assistance from friends, family, and others in one's social circle" (Nick et al., 2018, p. 1130). Social support is important for health and well-being because it "has important implications for practical efforts to reduce stress, protect health, and enhance the quality of working life" (House, 1981, p. xi). In the literature, social

support is often broken down into a number of dimensions. One of the most common and comprehensive typologies of social support is Cutrona and Suhr's (1992) Social Support Behavioral Code, which includes five types of social support: informational support, esteem support, network support, instrumental/tangible support, and emotional support (see also Desens et al., 2019; Ko et al., 2013). Informational support refers to messages with facts and knowledge (e.g., advice, referrals, teaching) while esteem support refers to messages that promote one's abilities and value (e.g., compliments, validation, alleviating feelings of guilt). Network support, on the other hand, refers to messages that make someone feel they belong (e.g., communicating belonging, access to others, presence/spending time with others, companions), and instrumental or tangible support refers to physical goods or services provided (e.g., money, gifts). And finally, emotional support refers to expressions of caring (e.g., expressing concern, sympathy, understanding/empathy, encouragement). While each of these types of support can be provided to people with depression online, I specifically selected emotional health to focus on for this dissertation—the reason for which I will explain in the next section following more context on social support in general.

Social support has often been examined as a factor in shaping someone's overall health, as it can benefit both physical and mental health (Wright & Bell, 2003). In one early study of this nature, Berkman and Syme (1979) set out to understand the relationship between social ties and mortality, and thereby conducted a longitudinal study with a nine-year follow-up and found that those who lacked social ties were more likely to have passed away at the nine-year follow-up compared to those who had a larger number of social contacts. This finding was independent of other self-reported factors related to mortality such as SES, health practices (e.g., smoking), and physical activity. These findings indicate that

social support can be positively associated with someone's physical health, which has been supported by decades of related scholarship (Berkman & Glass, 2000; House, 1981; House et al., 1988; Kaplan et al., 1977; Schwarzer & Leppin, 1989, 1991). In order to understand the association between social support and mental health, Aneshensel and Stone (1982) conducted a widescale survey of 1,000 Los Angeles County adults and found evidence that for adults with hardships and depressive symptomology, social support can ameliorate depressive symptoms. Over the decades many other scholars have demonstrated the value of social support for positive mental health (Berkman & Glass, 2000; House, 1981; Schwarzer & Leppin, 1991).

Social support has been studied in a number of ways, including as *received* support (i.e., actual support given) and *perceived* support (i.e., perception of the degree to which others are providing support) (Rains & Wright, 2016). Received support is often measured by conducting a quantitative content analysis—for instance, of an online post in a support forum (Coursaris & Liu, 2009; van Uden-Krann et al., 2008); while this method is useful in describing the types of support provided in an online forum, some researchers argue that the perception of support is more beneficial to the receiver than the actual support given (Burleson & MacGeorge, 2002). Burleson and MacGeorge (2002) explain that though enacted and perceived support are weakly correlated, perceived support is often more valuable than actual support in that perceived support is attributed to feelings of being loved, valued, or accepted. Given my interest in how people post online in attempt to feel supported, this dissertation focuses on quantitatively measuring the perceptions about the support the participants received in addition to understanding how people seek support qualitatively.

Emotional Support

Literature supports the idea that emotional support can act as a protective factor against difficult experiences for those with depression (Brinker & Cheruvu, 2017; Shaw et al., 2004), and emotional support is the most critical form of support for improving health outcomes (Bloom, 1990; McEwan, 2015; Reblin & Uchino, 2008; Uchino et al., 1996). Burleson (2003) defined emotional support as "specific lines of communicative behavior enacted by one party with the intent of helping another cope effectively with emotional distress" (p. 552). People may provide emotional support by showing love and care, encouragement, expressions of sympathy, or listening and empathizing (Cutrona & Suhr, 1992; McEwan, 2015). These types of support then translate into real-world consequences for those who receive or do not receive emotional support. Those who do not receive emotional support as children, for example, are more likely to be depressed and have chronic health conditions as adults compared to those who do receive emotional support (Brinker & Cheruvu, 2017; Shaw et al., 2004), and emotional support has been shown to bolster people at risk for suicide (Lincoln et al., 2012; Park et al., 2010; Shaw et al., 2021).Thus, a lack of emotional support can be a significantly related to both mental and physical health. For these reasons, the current dissertation will focus on measuring and analyzing emotional support.

These well-established benefits of social support—and more specifically emotional support—have also been observed in online contexts (Andalibi et al., 2017; Andalibi et al., 2018; Barak et al., 2008). Oftentimes, this phenomenon has been studied in the context of online support groups (McEwan, 2015). These online support groups began showing up in the 1990s and were available as email lists, forums, and chat rooms (King & Moreggi, 1998; Rice & Katz, 2001). Today, online support groups are still available by similar means but

also exist on social media sites, and there are groups available for practically any health topic imaginable. The purpose of these groups is to "offer relief and improved feelings rather than therapeutic change in the emotions, cognitions, or behaviors of participants" (Barak et al., 2008, p. 1868). The internet facilitates this purpose by opening up a support group to a wider number of participants—unconstrained by geographic limitations. There are numerous studies revealing the mental health benefits of social support groups—independent of channel or platform. Online support groups, for instance, can provide social support (Andalibi et al., 2017; Andalibi et al., 2018; Carr et al., 2016), provide people with a feeling of relational closeness (Carr et al., 2016), allow people to relate to others and share information (Antheunis et al., 2013; Greene et al., 2011; Maloney-Krichmar & Preece, 2005), assist in self-management of chronic diseases (Yan et al., 2015; Yan & Tan, 2014), and improve psychological and physical health (Chen & Xu, 2021; Hwang et al., 2010; Lee & Cho, 2019; Lin & Kishore, 2021; Tang, 2022; Trepte & Scharkow, 2016).

While other types of support, such as informational support (Bronstein, 2017; Evans et al., 2012; Feldhege et al., 2020; Lu et al., 2021) can positively benefit people with depression, this dissertation focuses on emotional support because people with depression experience a sense of isolation and feelings of disconnection from others because they feel "different" or "misunderstood" by others (Osler, 2022, p. 2). However, people with depression often seek connection with others. In order to overcome the feelings of isolation and misunderstanding, people with depression must find others with shared experiences (Osler, 2022). Numerous studies have shown that emotional support protects against depressive symptoms (Musliner & Singer, 2014; Shensa et al., 2020), and in addition, one study found that participating in an online depression community can be associated with

feelings of belonging (Smit et al., 2021). Further, emotional support is typically cited as one of the reasons people with depression seek out the use of mental health forums (Evans et al., 2012; Prescott et al., 2019). In a number of studies about online depression-related discussion groups, emotional support is one of the most common types of support provided, followed by informational support (Bronstein, 2017; Evans et al., 2012; Feldhege et al., 2020). Among people with depression, some of the most common online depression community topics include feelings and community, both of which are elements related to emotional support (Feldhege et al., 2020). Thus, this dissertation investigates the factors that are related to perceived emotional support in online support communities.

Social Support and Tie Strength

One factor that relates to perceptions of support is the source of support, or who the support comes from—be that a close friend (also known as a "strong tie") or a stranger (also known as a "weak tie")—which is particularly relevant for a contextual understanding of depression disclosures online. Both strong ties and weak ties—which will be hereafter defined—can provide meaningful forms of social support in different ways (Bourdieu, 2018; Coleman, 1988; Lin et al., 1981; Putnam et al., 2000; Seidel et al., 2000). Granovetter (1973) explained that "the strength of a tie is a (probable linear) combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services that characterize the tie" (p. 1361). Thus, a strong tie occurs when more of these characteristics are present and a weak tie occurs when fewer of these characteristics are present. It is perhaps not surprising that one's close personal relationships, or strong ties, are often a critical form of social support online (Bourdieu & Wacquant, 1992; Ellison et al., 2007; Ellison & Vitak, 2015; Krämer et al., 2021; Lin et al., 1981). Scholars argue that daily

interactions—both online and offline—with strong ties result in greater perceptions of emotional support (Xu et al., 2021). Strong ties are typically people who are personally close—such as family members or close friends (Ellison et al., 2007). While research shows that people clearly benefit from interacting with strong ties online (Ellison et al., 2007; Krämer et al., 2021), research also touts the benefits of interactions with weaker ties. While this dissertation will not be testing tie strength, it is necessary to explain network ties, as they are an important literature related to social support and may provide insights into the exploratory qualitative analysis.

Online weak-ties can also provide people with social support, though this support may be somewhat different in nature. A weak tie is typically a relationship between acquaintances—meaning people who do not have a close relationship (Bourdieu, 2018; Coleman, 1988; Ellison & Vitak, 2015; Granovetter, 1982; Lin et al., 1981; Putnam et al., 2000; Seidel et al., 2000). Because the internet allows people to have access to larger networks of people—both people they already know and people they have never met in person—the internet increases the number of possible people that someone can receive support from (McEwan, 2015). A number of studies corroborate this idea and have found positive benefits related to using the internet for social networking and social support (Ellison et al., 2007; Ellison et al., 2014; Liu, 2022; Udwan et al., 2020). One reason why people may seek support online is that they lack support in their existing networks (Rains & Wright, 2016; Tanis, 2008). Having access to more weak ties also increases the number of people who can provide social support. For instance, in an online mental health community, people from all over the world can post and respond to posts—thus, possibly creating a wider

possible network and more diverse opinions than a local support group could provide (McEwan, 2015; Wright, 2000b).

   As this study will investigate the perceived support people experience, it is necessary to understand how networks of online communities as a type of source may relate to the perceived support. As previously stated in chapter 1, I selected two platforms to sample from in order to create variation in anonymity within the sample. It is important to note that while I expect people with depression will perceive support from others on both platforms based on existing literature (Ammari et al., 2019; Andalibi et al., 2018a; Andalibi et al., 2018b; Burke & Develin, 2016; De Choudhury & De, 2014; Hayes et al., 2016; Krämer et al., 2021; Park et al., 2016; Zhang, 2017), the source of the support they receive may be different. For example, Seiter and Brophy (2022) found that both Reddit and Facebook included messages of support, but they suggested that the anonymity of Reddit and the norms of the site to be civil (i.e., *Reddiquette*, or the rules of the platform to be civil; see Reddit, n.d.a) were related to the amount of support someone perceived. In part, likely because Reddit is normatively anonymous and civil, studies have shown that the weak ties on Reddit are relatively supportive in the case of mental health disclosures (Andalibi et al., 2018; Andalibi, 2019). On Facebook, however, people have connections with strong ties (Xu et al., 2021), which can result in supportiveness reflective of a closer relationship. These various findings indicate that the types of responses people receive to their disclosures on Reddit and Facebook may be different. Because the social ties literature is relevant for social support, I mention it here; this literature will be used to support the exploratory qualitative analysis in which I will analyze the types of comments that are provided to depression disclosures online.

Seeking Support on Social Media

When researchers started investigating the benefits of social media, it was a natural course of action to study the relationship between social media and social support—as there was ample research supporting the fact that social support occurs when social networks are in place (Albrecht & Goldsmith, 2003). Social media can be defined as a "web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (boyd & Ellison, 2008, p. 211). Essentially, social media is an online space where people "communicate" and "share" text and content (e.g., pictures, memes, links) with others. Researchers have attempted to classify all the uses of social media, some of which include networking, relieving stress, and recording their personal histories (Kim et al., 2011). Social media platforms have features that allow people time to write and read posts, find expert opinions, feel more comfortable disclosing, and possibly be anonymous (Pfeil, 2009)—all factors that can contribute to increased social support online.

People give social support to others online because they—that is, the givers of support—feel the need to communicate with others when they experience an emotional event, and the articulation of such emotions helps to resolve the emotions (Rimé, 2009). Then, the act of sharing one's such emotions allows others to provide support (Lin et al., 2014; Rimé, 2009). Burke and Develin (2016) summed this idea up nicely in their study on social sharing on social media: "Hearing about a friend's troubles on Facebook causes friends to reply with more emotional and supportive comments" (p. 1). Their study confirmed this claim such that when people posted about their difficulties on Facebook,

friends of the poster responded with supportive comments (Burke & Develin, 2016). Sharing online, therefore, can elicit the need for and then be met with support. For instance, people may turn to an online group for support because they do not have people in their immediate community who understand what they are going through and desire to connect with others who have similar concerns and experiences (McEwan, 2015).

Seeking Support for Mental Health Online

Especially relevant to the dissertation at hand, people with mental health concerns—including those with depression—may seek online support (DeAndrea & Anthony, 2013). While there are numerous studies documenting the negative influences of social media on mental health (Cunningham et al., 2021; Keles et al., 2020; Lin et al., 2016), other research has shown that people who struggle with mental health difficulties can in fact benefit from social media (Rideout & Fox, 2018) and online support forums (Sharma & De Choudhury, 2018). One experimental study in particular has corroborated the idea that people benefit from interacting online. Littler et al. (2020) conducted an experiment in which participants were exposed to one of three conditions: a) a positive interaction in a computer-mediated communication (CMC) environment, b) a negative interaction in a CMC environment, and c) a neutral control group (i.e., reading a blog post with no interaction). They found that when people have positive experiences interacting with others in a CMC environment, it can decrease their state anxiety. In addition, when people request support online, they are met with peer support, including that people reassure others that they are not alone; provide others with hope, comfort, and encouragement; and share strategies for coping with mental illness (Naslund et al., 2014). More generally, people provide emotional and informational support in online mental health forums, though some mental health topics elicit more

emotional rather than informational support (Sharma & De Choudhury, 2018). The subreddit r/depression, for example, includes more messages of emotional support than informational support (Sharma & De Choudhury, 2018). Based on the existing research, it is likely that depression-related disclosures will elicit emotional support in online support communities.

Disclosure as the Means of Support

In order to access support, people with depression will typically need to disclose their mental health status; this usually occurs through *self-disclosure*. Cozby (1973) defined self-disclosure as "any information about himself which Person A communicates verbally to a Person B" (p. 73). Essentially, self-disclosure is the act of communicating personal information to others. Yun (2006) described *online public disclosure* as "the willingness to share the core self with other members" (p. 115), which can occur when people are seeking social support online. Early studies of CMC found that CMC could encourage more disclosure than in-person interactions (Joinson, 2001; Schouten et al., 2009). Thus, it seems that CMC environments provide something that in-person disclosures do not. In online spaces, self-disclosure has been theorized and tested as being deeper (i.e., disclosing more personal information) and more unconstrained (Walther, 1996). That is, *the disinhibition effect* (Suler, 2004) posits that people are more likely to disclose more and more intensely online because disclosing online will have less of an impact on their self-image (Suler, 2004)—and people with depression may fear disclosing in offline contexts due to the potential impact of the disclosure on their self-image.

When people are depressed, they may not want to disclose their depression status to others. There is some survey research, for example, that shows that people with depression may avoid emotional or distressing self-disclosures (Kahn & Garrison, 2009; Kahn &

Hessling, 2001). The reason that people with depression may disclose fewer emotions and distress could be due to the social implications of disclosing their depression status. Coyne and Calarco (1995) conducted focus groups of people with depression and learned that the participants chose to refrain from sharing their depressive symptoms with others because they worried about how the information would be received by others. They also found that people with depression were less involved in their interpersonal relationship and were concerned with self-presentation (Coyne and Calarco, 1995). These finding indicate that depression disclosure may be stifled in situations where people face stigma and fear disclosing to others who may judge them, but disclosing online may appear more appealing, as it requires fewer interpersonal interactions and allows them extra control over the management of their self-presentation (e.g., ability to edit, take more time thinking of a response, etc.).

Disclosing online, then, may be a viable option for receiving support from others. Luo and Hancock's (2020) proposed model of online self-disclosure explains that a cyclical process occurs when people self-disclose on social media, which then positively affects well-being. Essentially, they argue that when people do disclose online, they are attempting to achieve some goal—be that connectedness, support, or something else. If they attain their goal, then they will experience benefits to their well-being (such as positive emotions or higher self-esteem). If they do not, then they could instead experience distress. This model is particularly relevant to depression, as people must disclose online in order to receive support. For instance, Park and colleagues (2016) investigated how people with depression accessed social support on Facebook and found that when people disclosed negative information, they received social support; and this social support was inversely associated with depression,

indicating the benefits of online depression disclosure. As a caveat, it could be that the very act of disclosure is beneficial (Sargunaraj et al., 2021); however, that motivation for disclosure is distinct from disclosing in order to seek and obtain support, which will be the perspective taken in this dissertation.

Mental Illness Stigma

As previously alluded to, one reason people with mental health concerns may seek out online communities for support is the stigma associated with mental health. Stigma is characterized by a mark of shame that people impose on others or the self, typically related to a misunderstood or lesser understood phenomenon (Meisenbach, 2010). Holding a stigma toward people with mental illness can be developed from varying sources including negative public images of mental illness, structural discrimination of mental illness (e.g., inadequate medical support for mental illness), psychological distress associated with stigmatization (e.g., shame, helplessness), stigma encountered in everyday life, and coping with stigma (e.g., concealing mental health) (Yin et al., 2020). Mental health stigma is detrimental to people suffering from depression because it can keep them from seeking help (Cheng et al., 2018; Yee et al., 2020). Because of their stigma, they may choose to conceal their stigma or only disclose their stigmatized condition in specific circumstances due to the fear of being stereotyped, discriminated against, or rejected (Goffman, 1963).

In an offline setting, people may fear disclosing their depression because of how they think the disclosure will be received. Lawlor and Kirakowski (2014) explained the process by which stigma can be negatively associated with support seeking. They stated that when there is a publicly-held stigma about a topic, people will perceive the stigma—thereby becoming aware of it—then agree with it, apply it to themselves, feel hurt, and then feel that they

themselves are stigmatized. At that point, they may avoid the stigmatized label, which will keep them from seeking formal, professional help. Lawlor and Kirakowski (2014) argue, leads to a reluctance to seek informal support from their family and peers. Thus, self-stigma about one's own mental health (e.g., someone stigmatizes themselves) can keep someone from disclosing a mental health status—so as to decrease their feelings of shame (Abdullah & Brown, 2011; Meschke & Juang, 2014).

Given these concerns, the internet can be a critical tool for seeking support for depression. As noted previously, one key benefit of seeking support online is that it is possible to readily find weak-tie support online, which may be less stigmatizing. Naslund and colleagues (2016) argue that experiencing stigma is a catalyst to seeking support online; that stigma is associated with the social isolation they feel. This stigma triggers the decision to visit an online network where they might be more open to disclosing because they can disclose to people who they may not have everyday interactions with. By disclosing online to weak ties, they may be less worried about close others rejecting them due to their mental health condition (Andalibi et al., 2018b; Lawlor & Kirakowski, 2014; Yeshua-Katz & Hård af Segerstad, 2020). In fact, when it comes to health-related stigmatized issues, people sometimes prefer receiving support from weak ties (Wright & Rains, 2013), which are more easily accessible online (Tanis, 2008; Naslund et al., 2016). If people with stigmatized illnesses post on a platform that includes more strong ties, they can use communication skill tactics—such as indirect disclosures—to lessen the stigma they might feel from others (Andalibi et al., 2018b).

There is a range of other benefits that result from disclosing a stigmatized identity online that could be beneficial to those with depression (Tanis, 2008). For instance, online

forums are convenient (i.e., not bound by geographic location or schedule like a mental health professional might be), and online community groups allow an individual more control over their interactions online (i.e., they can take time to craft and edit their message) (McEwan, 2015; Rains & Wright, 2016). These forums also allow people to communicate with others facing similar difficulties, which then allows them to challenge their own stigma and learn about interventions for their mental health (Naslund et al., 2016). Those who experience more health stigma are also more likely to value text-based forums and prefer anonymity (Tanis, 2008), elements which are available in online communities. Anonymity is an especially salient factor in mental health disclosures, as will be discussed in the next section.

The Benefits of Anonymity

While some people are willing to disclose about their mental health problems in identifiable contexts, such as on Facebook (Eichstaedt et al., 2018; Michikyan, 2020), because of stigma, anonymity can be an important factor to people when disclosing their mental health online. Scott (1998) describes an anonymous source as "one with no known name or acknowledged identity" (p. 383). The author clarifies the distinction between anonymity and confidentiality, stating that confidentiality occurs when "the source of a comment is known to a few, but the identity of the source is not further revealed" (Scott, 1998, "To Reveal," p. 383). Thus, in order to create anonymity, people may use a pseudonym (i.e., a fictitious identity) or attempt to remove identifying cues in the messages they craft (e.g., if they are posting a message online about a situation with a friend, they may write more generally about the situation so the friend cannot identify themselves in the message). Essentially, anonymity enables web users to post messages that others may not be able to

trace back to the original poster offline. People can manipulate the information they share to be more or less anonymous online, which mirrors Scott's (1998) proposition that anonymity exists on a continuum from fully anonymous to fully identified. For this reason, I will also measure anonymity on a continuum.

Anonymity in Mental Health Contexts

As stated previously, some people appreciate the option for anonymity when posting online about their mental health (Joinson, 2001; Ma et al., 2016). Andalibi and colleagues (2018a) even claimed that anonymity is "essential" for facilitating support seeking in "socially stigmatized contexts" (p. 1). In a number of studies that investigated anonymity in online mental health communities, researchers' findings indicated that toxic disinhibition—or intense, negative disclosures (Suler, 2004)—may be less frequent in mental health forums, as these anonymous online communities typically elicit a high comment response rate (Balani & De Choudhury, 2015), high quality feedback (De Choudhury & De, 2014), reciprocity, and a lack of aggressiveness (Andalibi et al., 2018a). More anonymity has also been linked to support seeking strategies. Andalibi and colleagues (2016), for example, found that throwaway accounts (i.e., accounts used to post only once on Reddit; considered more anonymous by the researchers) were more likely to use both indirect and direct support seeking compared to non-throwaway accounts. In addition, Dai and Shi (2022) found that participants in an online health community had more positive mental health attitudes when forum users were anonymous. Thus, this research indicates that anonymity can encourage more supportive exchanges and also result in positive outcomes and benefits—as is the focus of this dissertation.

Operationalizing Anonymity

There are multiple approaches people have taken to evaluate anonymity online, two of which are utilized for this dissertation: affordance anonymity and self-anonymity.

Taking an affordance approach to anonymity focuses on how a platform is built to enable a user to be anonymous (Evans et al., 2017; Rice et al., 2017). The term *affordances* originated from evolutionary psychology and referred to "the actionable properties between the world and an actor" (p. 1, Norman, 1999, see also Gibson, 1979). The term was later adopted by those studying human-computer interaction (Norman, 1999) and communication (Evans et al., 2017; Rice et al., 2017)—both of which wished to study the perceived affordances of technology and media. An affordance can also be described as "the inherent functional attributes of a particular object emerging in the relationship between actor and object" (Fox & McEwan, 2017, p. 299), which focuses on the "inherent properties of an object" (p. 300). Norman (1999) and Fox and McEwan (2017) argue that what matters more than measuring affordances is measuring *perceived affordances*, which represents the user's experience of an affordance on a communication channel, as "users imbue objects with their own interpretations that may not correspond with the intention of an object's design" (p. 300). In their view, people can have different interpretations of a platform affordance than the designers and engineers intended (Fox & McEwan, 2017; Norman, 1999). As a result, Fox and McEwan (2017) created a multi-dimensional scale of perceived affordances, including a subscale for the affordance of anonymity. They defined anonymity in this way: "the degree to which users feel their real names or true identities can be concealed in a channel regardless of how public or private their communication may be" (p. 303). Thus, in their perspective, the focus of the affordance is on whether the communication channel itself

(i.e., the platform) can keep a user anonymous. Hayne et al. (2003), refer to this as "technical anonymity", as opposed to "social anonymity, or the extent that a user may be perceived as more or less anonymous due to social or linguistic cues and other factors than the medium's technical features.

A self-anonymity approach, on the other hand, focuses on how anonymous an individual views themselves to be regardless of the platform affordances. Scott (1998) proposed that anonymity should be viewed as a psychological perception of the communicators involved such that he defined self-anonymity as "a sender's perceived anonymity to others when he or she is the message source" (p. 388). The fact that a platform provides options for anonymity (i.e., has anonymity affordances) does not automatically signify that users will take advantage of those affordances. That is, a user on a normatively anonymous community (i.e., a platform that is designed to include the users' name and photo; Andalibi & Forte, 2018; Haimson & Hoffmann, 2016) may reveal their name, thus making themselves less anonymous, whereas another user on a normatively identifiable community may obscure their identity by changing their profile name, photos, writing style, or other information identifying.

Arguably, platform anonymity (also known as *technical anonymity* by Hayne et al., 2013) and self-anonymity should correlate, according to the affordance literature; yet, practically, users may not always exploit all features of a platform to enact a given affordance (known as *social anonymity* by Hayne et al., 2013). On the other hand, users may take additional measures to make themselves even more anonymous by obscuring their identity through pseudonyms, screen names, and avatars, etc. For example, anonymity on Reddit often elicits high self-disclosure among users because they see Reddit as a safe place

to post without needing to worry about the day-to-day social consequences of their sensitive

disclosures. This is because Reddit does not allow for profile pictures or collect personal

information (Balani & De Choudhury, 2015; Gutman-Wei, 2022). Even so, users can be

anonymous on various levels on Reddit—either by pseudonym screen names or by temporary

throwaway accounts, which are accounts used to post only once. Scholars have generally

considered the latter to be *more* anonymous. Using throwaway accounts, people are even

more likely seek out social support, disclose more, have more personal details in disclosures,

be more emotional in their posts (De Choudhury & De, 2014), and show more disinhibition

(Pavalanathan & De Choudhury, 2015). Pavalanathan and De Choudhury (2015) investigated

the use of throwaway accounts on Reddit and found that they are utilized six times more on

mental health communities than on other Reddit communities, indicating the desire for extra

anonymity when posting about mental health. Thus, anonymity exists on a continuum, and

people to some extent have control over how much anonymity they utilize on a platform.

Conversely, a user may intentionally or unintentionally provide cues, or others may attribute

those cues to a specific user, so that social anonymity is less than technical anonymity

(Hayne et al., 2013). In order to have variation in anonymity for this dissertation, I will

sample for users who have posted about their depression on both Facebook and Reddit, as the

literature has indicated people can be more anonymous on Reddit using throwaway accounts

(De Choudhury & De, 2014) and people on Facebook can be more anonymous using fake

profiles (Pollack & Yanoshevsky, 2022; Sarikakis & Winters, 2017; Wani et al., 2017).

Thus, this dissertation measures both perceived anonymity affordance and perceived

self-anonymity, as people may report differences across the two measures. Hypothesized

models involving anonymity will be tested twice: once with perceived anonymity

affordances, and once with perceived self-anonymity. It is likely that both types of anonymity will have the same relationships with other variables presented in this dissertation (e.g., positive relationship between affordance anonymity and self-disclosure as well as a positive relationship between self-anonymity and self-disclosure).

The Role of Stigma in Online Anonymity

As previously stated, stigma is a defining factor in triggering someone's decision to go online to seek emotional support and may therefore influence their choices about online presentation—be that in the belief about the anonymity affordances of the platform they choose or their self-presented anonymity (Lachmar et al., 2017; Naslund et al., 2016; Zhu, 2011). Among the many reasons why people with depression go online to disclose about their depression, stigma is an especially prominent factor, as stigma can leave people feeling isolated from others around them (Osler, 2022). Yet, research has indicated that people who decide to go online are in part attempting to challenge the stigma they experience in their day-to-day lives (Lachmar et al., 2017; Naslund et al., 2016). When people are motivated by stigma, they may seek out anonymity online because it enables them to feel safer from the threats related to stigmatized identities due to the fact that they are less identifiable (Andalibi et al., 2017; Andalibi et al., 2018a, 2018b; Andalibi & Flood, 2021). Thus, I predict that

> *H1: Stigma will positively predict perceived anonymity in an online community of*
>
> *people struggling with depression.*

Anonymity can also relate to disclosure and eventually perceived support. Various studies have indicated that increased anonymity online allows people to disclose more intimate information, such as something stigmatized like mental health (Andalibi et al., 2018a; De Choudhury & De, 2014). Oftentimes, anonymous disclosures can also include

more details about personal experiences (Clark-Gordon et al., 2019). The relationship between anonymity and support appears to thus be mediated through disclosure. For instance, Tanis (2008) found that among health forum users, the anonymity of a platform was not directly related to coping, but a text-based disclosure did, indicating that disclosure is likely a mediator between anonymity and support; this is supported by Luo and Hancock's (2020) aforementioned model as well. While there are a number of factors that could influence emotional support—such as valence of the disclosure (i.e., whether it is positively or negatively framed) or the closeness of the poster and commenter (Li & Zhang, 2021; Ziegele & Reinecke, 2017)—in the case of the current study, I predict a *statistical* full mediation of disclosure between online anonymity and emotional support. Therefore, I propose (see Figure 3, p. 64) that

> *H2: Disclosure will fully mediate the relationship between anonymity and emotional support in an online community of people struggling with depression such that online anonymity will be positively associated with disclosure, which in turn, will be positively associated with emotional support.*

SIDE Theory and Shared Identity

One theory that is often used to explain the role of anonymity online is the social identity model of deindividuation (SIDE; Lea et al., 2001). It posits that when anonymous, users become deindividuated, which is defined as the loss of self or self-awareness in conjunction with self-association with a group (Lea et al., 2001). Then, to the extent that they have strong identification with the group, and this group is salient, they will then be more likely to follow that group's norms. This theory is particularly useful in the current dissertation because this enhanced deindividuation is related to people's online disclosures.

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For instance, Suler (2004) explains that anonymity is one of the factors that makes online disinhibition possible; because people can detach their online actions from their in-person identity, they do not feel as vulnerable online and therefore feel willing to disclose more freely online—be that positively or negatively. This can also have negative consequences. Indeed, much research has investigated the negative implications of anonymity online, such that it can breed incivility, trolling, flaming, and cyberbullying because people can hide behind anonymity to say harmful things without fear of consequences (Halpern & Gibbs, 2013; Lapidot-Lefler & Barak, 2012; Nitschinsk et al., 2022; Siegel et al., 1986; Spears, 2017; Theocharis et al., 2016). And although much of the research on SIDE has focused on the negative implications of disinhibition in an anonymous environment, in the case of support groups, anonymity can produce positive outcomes. Using SIDE to inform their study, Venner and colleagues (2012) tested the benefits of anonymity in an online epilepsy support group. They found that people who were more anonymous were more likely to offer support to others, showing that deindividuation can produce support online. They assumed that participants in the online epilepsy support group shared an identity, but they did not test perceived salience of the group—indicating that online anonymity within an online community can be related to group identification even when salience of group is not specifically tested; meaning, the online anonymous someone experiences, the more group identification they will experience. Similarly, this dissertation focuses on the anonymity-deindividuation aspect of SIDE and emphasizes the positive, rather than negative, implications of anonymity online.

In the case of the current dissertation, SIDE theory suggests that people can form a shared identity with their online communities, and if that identity is salient, it encourages

them to share more personal depression experiences in their online groups. They do so by

creating narratives together about their experiences, histories, and hopes for the future

(Wentzer & Bygholm, 2013). When people create a group identity online, they can then

disclose their depression in a supportive environment with people who they feel understand

them (Andalibi & Flood, 2021). Thus, people with depression seeking emotional support

online may benefit from finding online communities where they can find others who

understand what they are going through (Andalibi et al., 2018b; Malik & Coulson, 2008;

Wentzer & Bygholm, 2013). For this dissertation, I specifically ask people to report on their

experiences within platforms where they already have some sense of group identity, as has

been established in existing research. On Reddit, for instance, that sense of group identity is

in part due to their anonymity (Lea et al., 2001), and in part due to their participation in a

topic-specific subreddit. On Facebook, users also have a sense of group identity, because

they have curated a group identity with those in their friend list (Georgalou, 2017; Harris,

2013; Zentz, 2021) or joined a group bound by a specific group identity (Belentschikow et

al., 2022; Zentz, 2021). While not all network ties on Reddit or Facebook may share a mental

health identity, the poster of a depression disclosure may share some identity that allows

them to feel safe disclosing about their depression. As another example, in an analysis of the

YouTube comment sections of mental health–related videos, Naslund and colleagues (2014)

found that people created a sense of community through their shared experiences of mental

health, so much so that when someone left a negative comment, those who shared a mental

health identity banded together to defend against the negative commenter. In that study,

commenters with shared identities and experiences also shared their own personal feelings

and experiences with mental health, highlighting that they felt less isolated by watching the

mental health video. As such, in the case of a non-anonymous online space, people can still develop a sense of group identity, establish norms, and even provide meaningful disclosures. Thus, the more group identification someone experiences, the more it could play an important role in the relationship between anonymity and self-disclosure (see Figure 3, p. 64). As such, I measure group identification generally, wherein the participant can interpret the type of group identification they experience. As both Reddit and Facebook have shown evidence of inducing a sense of group identity, I hypothesize,

> *H3: Perceived group identification will partially mediate the relationship between perceived anonymity and disclosure in an online community of people struggling with depression such that anonymity is positively related to group identification, which is positively related to disclosure.*

The Digital Divide

Existing theory and research postulates that digital skills should be related to the online support process (Büchi et al., 2018; Büchi & Hargittai, 2022; Hofer et al., 2019; Yang & Jang, 2024). There are three digital skills that are particularly relevant to the context of depression-related disclosures in online communities: privacy skills, algorithm skills, and communication skills. The first two are hypothesized as moderators of social media activities and social media outcomes, informed by Büchi and Hargittai's (2022) model, while the third will be approached with an exploratory qualitative analysis focusing on the skills employed by people with depression. Before discussing these specific skills, I will provide context on how digital skills are situated within a broader discourse on the digital divide.

While approximately 93% of people in the U.S. use the internet (Wike et al., 2022), according to the literature on the digital divide, not all of those people will use the internet in

the same ways, or have the skills and resources to use the internet in the same ways, and thus will not receive the same benefit from doing so (Houston & Erdelez, 2002; Scheerder et al., 2017; Van Deursen & Helsper, 2015; Wei et al., 2011; Yardi & Bruckman, 2012). The *digital divide* was originally described as the difference between the *haves* and *have nots* of digital technology (i.e., access) (DiMaggio et al., 2004)—be that access to computers, the internet, or digital skills (Haight et al., 2014; Scheerder et al., 2017; Van Deursen & Helsper, 2015; Van Deursen & Van Dijk, 2019; Van Dijk, 2006; Wei et al., 2011). Yet, more recent scholarship has clarified that the digital divide involves a number of other factors; Van Dijk's (2005, 2020) *resources and appropriation theory* explains that unequal distribution of resources leads to unequal access to not only the internet but the skills and associated benefits of such digital use.

Digital Skills

Digital skills can be defined as "what is needed to use the Internet" (Van Deursen & Van Dijk, 2014, p. 22) to achieve one's goals or the capabilities "relevant for the general population to function well in an increasingly digital environment" (Van Deursen & Van Dijk, 2014, p. 41). Some scholars do not define the term and instead describe it as an umbrella term, which is constituted by specific types of skills. For instance, Van Deursen and Van Dijk (2014) stated that in order to function in digital environments, people must have operational skills (e.g., understand Internet interface including buttons, fillable forms, menus and opening documents online including downloading photos or attaching files to emails), formal skills (e.g., navigate the internet by hyperlinks and not getting disoriented when navigating websites), information skills (e.g., effectively locating information online such as defining search options or evaluating information sources), communication skills (e.g.,

networking with others online, encoding and decoding, adopting online identities, etc.),

content creation skills (e.g., creating effective and attractive text or images), and strategic

skills (e.g., taking action to reach a goal or gaining benefits from that goal). More recently,

Hargittai and Micheli (2019) introduced a number of other digital skills, including digital

awareness skills, assistance seeking skills, algorithm awareness skills, privacy skills, safety

and security skills, managing information and communication overload skills, and managing

digital identity skills. As the world has become increasingly digital, the number of digital

skills has increased, and developing these skills further is paramount because they are

necessary for interacting online and participating in society (Haight et al., 2014; Hargittai &

Micheli, 2019; Mossberger et al., 2003; Scheerder et al., 2017; Van Deursen & Van Dijk,

2015).

There have been many studies demonstrating an association between digital skills and

various quality-of-life outcomes. For instance, there is a large literature focused on

educational outcomes (Castillo de Mesa & Jacinto, 2020; Warshaw et al., 2016; Wei et al.,

2011). Wei and colleagues (2011), for instance, hoped to understand how secondary school

students' digital access and skills were associated with learning outcomes. They found that as

a student's computer skills increased, so too did their educational performance. Fewer studies

have investigated how digital skills relate to social outcomes. One example has, however,

found evidence that digital skills were positively associated with online community

participation (van Ingen & Matzat, 2018), meaning the more digital skills someone has, the

more likely they are to participate in online communities. This finding is particularly

promising for the current dissertation, as it provides evidence that having more digital skills

can result in more online interactions.

In more recent digital divide literature, scholars have posited that, especially for well-being–related outcomes, digital skills likely behave as moderators. Büchi and Hargittai (2022) extended van Dijk's (2005, 2020) theorizing about the causes and consequences of the digital divide by proposing that digital skills moderate the relationship between social media use and the outcomes of such use (see Appendix A for their model). They argue that people's digital skill level should relate to the extent to which someone benefits—or not—from their social media (or online community) use. A number of studies have found that those who use social media who also have more digital skills seem to also experience personal health benefits from such use (Büchi et al., 2018; Hofer et al., 2019; Yang & Jang, 2024). And, although these studies are focused on digital skills broadly rather than on privacy or algorithm skills, they indicate a clear link between digital skills and health.

While some studies have found a direct relationship between digital skills and outcomes (van Ingen & Matzat, 2018; We et al., 2011), whether the relationship is direct or moderating appears to be based on the type of outcome being investigated. For instance, Büchi and colleagues (2017b) attempted to find a direct relationship between internet skills and the personal outcome of well-being, but they found no direct relationship; they did not, however, test a moderating relationship. In a later study, however, Hofer and colleagues (2019) did find evidence of digital skills as a moderator such that those high in digital skills had a positive association between online use and high life satisfaction while those low in digital skills had a non-significant relationship between the two variables. The current dissertation builds on this literature and follows Büchi and Hargittai's (2022) framework of viewing digital skills as a moderator of the relationship between social media use and beneficial outcomes. One drawback of the model, however, is the conflation of the social

media itself and the user actions performed on social media. The model states that "social media use (diverse activities)" is associated with "positive and negative outcomes (e.g., connectedness, stress, knowledge, losing money)" (Büchi & Hargittai, 2022, p. 5), which relationship is then moderated by digital skills.

This dissertation diverges from the model in two specific ways to expand the theorizing. First, I separate out the platform-related contextual factors of the platform itself from the users actions by measuring the normative anonymity affordances of the social media as well as the user-perceived anonymity. And second, I specify two types of digital skills (i.e., privacy and algorithm) that may relate to the relationship of positive outcomes with social media use, which have not been tested in previous work using this model. In sum, this dissertation focuses specifically on the moderating relationships of a) privacy skills on the relationship between online anonymity and online disclosure and b) algorithm skills the relationship between on online disclosure and perceived emotional support. I will therefore elaborate on each of these digital skills in slightly more detail.

Privacy Skills

Privacy skills are particularly relevant in online communication, especially in the case of stigmatized mental health disclosures (Andalibi, 2019; Andalibi et al., 2018 "testing waters"; Tanis, 2008; Naslund et al., 2016; Wright & Rains, 2013). Privacy skills describe "individuals' knowledge of the technical aspects of online data protection and institutional privacy practices and their ability to apply strategies for online privacy control and data protection" (Li, 2018, p. 1434), where privacy is defined as "the quality or state of being apart from company or observation" (Merriam-Webster, n.d.). In other words, privacy skills describe one's ability to understand how to manage one's privacy and understand channel

privacy settings (Hargittai & Micheli, 2019; Li, 2018; Trepte et al., 2015; Walker & Hargittai, 2021). Hargittai and Micheli (2019) explain that people must first have some sense as to what information should be kept private and second need to develop the skill to protect that information online. Because social networks favor public sharing (e.g., settings must be modified if one wishes to restrict who sees their post), people must have and use privacy skills in order to manage their personal information (Boerman et al., 2021; Chadudoir & Fisher, 2010; Choi et al., 2016; Debatin et al., 2009; Hargittai & Micheli, 2019; Mesch & Beker, 2010; Park, 2013; Trepte, 2021).

People have varying levels of privacy skills, and those who have these skills are more likely to use a number of privacy protection strategies. Researchers have investigated the various ways people report protecting their privacy, including blocking individuals from seeing certain content, editing friend lists, disguising their location, using fake names or other identifiable information (Sarikakis & Winters, 2017), deleting cookies or clearing browser history (Boerman et al., 2021), limiting profile visibility (Chen & Chen, 2015), or using pseudonyms (Hargittai & Micheli, 2019).While some people take no actions related to their privacy settings because they do not know they can change their settings (Debatin et al., 2009; Vitak, 2012), others may be aware of privacy settings but not know where to go to adjust them or understand how to use them.

Privacy skills are particularly relevant for people struggling with depression because they may not want others to know about their mental illness due to the stigma associated with depression (Andalibi et al., 2018b; Naslund et al., 2016; Taddicken, 2014; Tanis, 2008; Wright & Rains, 2013). In a study on perceived privacy risks on social media of people with serious mental illnesses, Naslund and Aschbrenner (2019) sampled Twitter users who self-

identified as having a serious mental illness (including 23% with major depressive disorder).

They found that 36% of their sample was concerned about privacy risks when they shared anything related to mental illness. More specifically, some people expressed not wanting their employers to know about their mental health status because they thought it may affect their chances of being hired or promoted. Thus, it is important to investigate privacy skills of people with depression in the context of online disclosures, as their privacy skill level may have some relationship to how much they share online (Boerman et al., 2021; Chen & Chen, 2015; Dienlin & Metzger, 2016; Kezer et al., 2016).

Given these concerns, it is important to note that some scholars consider disclosure itself to be a privacy skill. Dienlin and Trepte (2015), for instance, consider disclosure to be an example of a privacy skill in that people try to maintain their privacy by refraining from disclosing certain information about themselves. Thus, in a large portion of privacy literature, privacy has been conceptualized as a way to control information (Marwick & boyd, 2014; Sarikakis & Winters, 2017; Smith et al., 2011; Trepte, 2021). From this perspective then, withholding (not disclosing) information is one form of privacy management. Yet, germane to this study, other researchers note that people who have privacy skills may still disclose online because they have other socio-emotional goals that require them to disclose (Park et al., 2016; Tanis, 2008). In some cases, people may be more open to disclosing because they have other means of protecting their privacy, such as selecting certain privacy settings. On Facebook, for example, people can limit the visibility of their posts to certain people using privacy settings (Acquisti & Gross, 2006; Hargittai, 2010; Kezer et al., 2016), which provides users with the freedom to still use the social media site as an outlet for self-disclosure. Indeed, many scholars have noted that a central use of social media, such as

Facebook, is personal self-disclosure (Bazarova & Choi, 2014; Luo & Hancock, 2020).

Given that a meta-analysis that examined the relationship of privacy skills and information sharing behaviors found no relationship between the two factors (Baruh et al., 2017), for the purposes of this dissertation, disclosure is not operationalized as a privacy skill, but rather it is measured as a concept that is separate and distinct from self-disclosure. Rather, I propose privacy skills as a moderator of online anonymity and self-disclosure, as will be established forthwith.

Moderating Relationship of Privacy Skills on Disclosure

If there is a subset of people with mental health problems who worry about their privacy, and abstaining from disclosure is an easy way to manage privacy, why might those people still disclose online? In general, scholars have shown that people disclose personal information online despite privacy concerns when they weigh the benefits and risks and decide that the benefits outweigh the risks (Dienlin & Metzger, 2016; Smith et al., 2011). In the case of a mental health disclosure in particular, individuals may see the disclosure as being worth the privacy risk for the benefit of obtaining emotional support (Andalibi et al., 2017). For instance, those who feel they cannot disclose their depression to family and friends in person but still need support may seek out people online. They may do this because they feel that disclosing their depression to someone else may alleviate some of their feelings of worry or emotional isolation (Andalibi & Flood 2021; Zhang, 2017).

The literature describing the risk-benefit analysis of disclosures and privacy was inspired by the research that demonstrated that in some cases both privacy concerns and privacy efficacy were associated with disclosures (Chen & Chen, 2012; Stutzman et al., 2012) and in other cases were not (Dienlin & Metzger, 2016). These contradicting results

(referred to as the "privacy paradox") indicate that privacy skills could be related to self-disclosure in complicated ways in that in some cases there may be a direct relationship but in other situations there may be a non-significant direct relationship. It could be then, that the inconsistent results could hint at a possible moderating influence of privacy skills on the relationship between some predictor and disclosure. Masur (2019) explained that perhaps some people may use privacy skills in order to *be able to* disclose personal information; this argument hints at a moderating relationship such that those with depression who are high in privacy skills will disclose more than those low in privacy skills when they are high in anonymity. That is, those who have more privacy skills are then more open to disclosing more information about themselves when they also feel that their identity is concealed. Thus, it could be that privacy skills acts as a moderator of the relationship between online community use (i.e., enactment or affordance of anonymity) and disclosures because having privacy skills enables someone to mitigate the risks associated with online disclosures. These discrepancies in the privacy skills literature—in conjunction with Büchi and Hargittai's (2020) assertion that digital skills are moderating factors between online community use and outcomes—indicate that it is possible that the anonymity people experience in an online community interacts with privacy skills, which are associated with disclosures online. Though to my knowledge, this interaction between anonymity and privacy skills on disclosure has not yet been tested in previous research, I expect that those with greater privacy skills understand that they can disclose more when they have more anonymity. Those with low privacy skills, on the other hand, regardless of their anonymity, may not significantly differ on their willingness to disclose about their depression (see Figure 1). In the current dissertation, using Luo and Hancock's (2020) model of self-disclosure and online

well-being, I define my measurement of action as self-disclosure and measurement of platform use as use of anonymity on social media. Thus, I propose the following hypothesis:

> *H4: Privacy skills will moderate the relationship between perceived anonymity and*
> *disclosure in an online community of people struggling with depression such that*
> *those high in privacy skills will disclose more as perceived anonymity increases, and*
> *those low in privacy skills will have no significant change in disclosure as perceived*
> *anonymity increases.*

Figure 1

Predicted Moderating Relationship of Privacy Skills on Perceived Online Anonymity and
Disclosure in Online Communities from People Struggling with Depression

Algorithm Skills

Algorithms are "a finite set of precisely defined rules and processes to achieve a certain outcome" (Fouquaert & Mechant, 2022, p. 1771). In a technical sense, algorithms are the logical instructions written by engineers and programmers that determine the

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infrastructure of the internet (Gran et al., 2021). One form of algorithm skills is *algorithm awareness* by Hargittai and Micheli (2019), who define it as the "awareness of how algorithms influence what people see" (p. 113). They also explain that those who lack such awareness and understanding are more at the mercy of what sites make available to them most prominently (Beer, 2017; Brodsky et al., 2020; Dogruel et al., 2022; Eslami et al., 2015; Hargittai & Micheli, 2019; Rader & Gray, 2015; Rader et al., 2018). In other words, when people do not understand how algorithms work, they lack the skills to critically understand how the algorithm is shaping their online experience and the online experience of those who may—or may not—be exposed to the content they post online.

Algorithm skills may also be particularly relevant for people seeking support online because those who understand how algorithms work have a better understanding of how an algorithm may prioritize or deprioritize their post (i.e., their depression disclosure) (Beer, 2017; Cotter & Reisdorf, 2020; Fouquaert & Mechant, 2022), which in turn relates to how many people can potentially see the disclosure and therefore provide support (Beer, 2017; Klawitter & Hargittai, 2018). The role of algorithm skills has not yet been investigated in terms of online support seeking, yet they could be related to whether people perceive they have been supported by others online. As such, when people do not receive the support they expect, having algorithm awareness may help cushion the blow of poor response rates and help explain the source and nature of feedback from audiences. For instance, a number of studies have found that when people do not receive positive reinforcement for their posts on social media, such as comments or Likes or other paralinguistic digital affordances (PDAs; e.g., hearts, favorites, upvotes)—especially from close network members or people in their network with online clout—they feel excluded or less supported (Carr et al., 2016; Hayes,

2018; Vinuales et al., 2021; Wohn et al., 2016). Because people with depression might go online to remedy their feelings of isolation and feeling misunderstood (Osler, 2022), it may be especially important to understand how algorithm skills might be related to the online support seeking process of people with depression.

Acquiring Algorithm Skills

Research on algorithm awareness as a *digital skill* is sparse, and a majority of studies that have investigated algorithm skills have focused more on evaluating whether or not people *have* algorithm skills, taking a more descriptive approach to understanding levels of algorithm skills in the public. There is a wide range of awareness about the role of algorithms online: some people are completely unaware (Eslami et al., 2015; Gran et al., 2021; Powers, 2017; Rader & Gray, 2015; Rader et al., 2018), some have surface-level algorithm skills in that they understand that algorithms can give personalized recommendations (Dogruel et al., 2022; Espinoza-Rojas et al., 2022; Gruber et al., 2021; Koenig, 2020), and others are experts who have a mathematical or critical understanding of algorithms (Dogruel et al., 2022; Gran et al., 2021). And even some people who report that they are aware of algorithms are still confused about how algorithms work (Brodsky et al., 2020; Eslami et al., 2015; Eslami et al., 2016; Gran et al., 2021; Powers, 2017; Smith, 2018). Thus, despite the ubiquity of internet use in the U.S., there are still people who lack algorithm skills and the knowledge necessary to accurately understand the role algorithms play in their online experiences.

Those who are aware of algorithms have various beliefs about how they work, which could be a factor in how people perceive the response to their online depression disclosures. For instance, some people believe that algorithms only show what people want to see (Dogruel et al., 2022), or that data on personal behavior is used to prioritize certain content in

one's feeds (Rader & Gray, 2015), or that interactions with friends on social media influence

the algorithm (Eslami et al., 2016). These beliefs could shape the ways in which people

interpret people's response to their depression disclosures such that when people do not

receive comments or PDAs on their disclosures, some may attribute the lack of interest to the

algorithm while others attribute it to the lack of their friends' engagement. On the other hand,

many people are baffled by how algorithms work. In one study, researchers analyzed Twitter

posts that referred to the Facebook algorithm in an attempt to understand what people believe

about the algorithm (Bucher, 2017). The posts indicated that at times, the Facebook

algorithm accurately predicted what would interest users, but other times it recommended

content that was the complete opposite of what they expected (e.g., showing politically

liberal content to a very conservative user). Bucher (2017) explained, "When algorithms do

not behave in the way people expect, they tend to describe the system as broken" (p. 36).

This finding is interesting in the context of online support communities, as people may also

have similar attributive thoughts when they receive no comments or paralinguistic digital

affordances (PDAs; i.e., emojis, likes, upvotes, etc.; Carr et al., 2016; Hayes et al., 2018;

Wohn et al., 2016) on their posts; if they are aware of the algorithm, they may assume that

the algorithm is broken. It is similarly possible that people with more algorithm skills will be

more likely to attribute the lack of support for their disclosures to a faulty algorithm (that did

not show their post to those who would be most likely to show support) rather than

attributing the lack of support to other people.

      People who use social media and platforms such as Netflix, Google Search, and

others often understand algorithms to be what scholars refer to as *curation algorithms* (Cotter

& Reisdorf, 2020; DeVito et al., 2018; Eslami et al., 2015; Rader & Gray, 2015; Zarouali et

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al., 2021), which are particularly relevant to the current dissertation. On social media, curation algorithms arrange content on one's feed by prioritizing content, classifying it, and filtering it (Fouquaert & Mechant, 2022). These algorithms can personalize social media feeds to an individual's preferences and interests based on past behavior on a platform (Ricci et al., 2015). Past researchers found that people are often able to describe some types of algorithms because of their interactions with curation algorithms on social media and other websites[2] (Eslami et al., 2016; Espinoza-Rojas et al., 2023; Gruber et al., 2021). The Facebook algorithm, for example, will prioritize showing someone a post if the post received more engagement—and especially from people they interact with more often (Newberry, 2023). Thus, if someone is aware of this algorithm, they may not feel as dejected if their post requesting support did not receive any feedback—because it could be because they posted at a time when people they interact with were not online to interact with it. On Reddit, subreddits have three feed options: "Hot" (i.e., sorted by posts getting a lot of attention), "New" (i.e., sorted by most recent), and "Top" (i.e., sorted by posts upvotes[3]) (erkang06, 2020). The current default feed option is the "Hot" feed, which means that if people are not viewing posts under the "New" feed as often during the time someone posts, those new posts might go unviewed—and therefore receive less interaction or support. In that case, algorithm awareness could be related to someone's perception of support such that those who are algorithm aware will have more knowledge about the various algorithm-related factors that relate to whether a post receives comments or PDAs and thus not make inaccurate or unfounded attributions to others' lack of desire to provide support. In sum, people tend to

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[2] Examples include Netflix, Google Search, and Amazon.

[3] "Upvotes" are similar to "Likes" on Facebook.

acquire algorithm skills through their experiences with existing algorithms on the platforms they use, which can inform how they view their interactions with others online—including situations involving support. Thus, I will investigate how algorithm skills might moderate the relationships between online depression disclosures and perceived emotional support.

The Moderating Role of Algorithm Skills

Essentially, when people have algorithm awareness skills, they seem to be more likely to try to achieve what they want from an algorithm when they are online, meaning that those who do not have algorithm awareness may not know how to get what they want (in this case emotional support) from their online interactions. Hargittai and Micheli (2019) explain, "those who understand that algorithms play a role in what content they see can both adjust their expectations and use strategies to find content in a way that sidesteps constraints imposed by platforms" (p. 114). Such strategies may include attempting to "attain the desired visibility for one's own content" (Hargittai & Micheli, 2019, p. 114), which is particularly relevant if people are attempting to access emotional support online.

While there is not much research on how algorithm skills are related to internet use outcomes, a few studies have shown that the development of algorithm skills can in fact have some association with the actions people take online. For instance, when people are made aware of an algorithm (e.g., taught about curation algorithms), they take actions such as altering their settings or changing their interactions on social media (Eslami et al., 2015; Eslami et al., 2016). Siles and colleagues (2022) conducted focus groups with TikTok users and found that people attempt to "train" the algorithm to show them videos that are more relevant to their interests. In that study, people also stated that they gleaned insights about algorithms from their past experiences with other platforms such as Facebook. They found

that once the algorithm was able to identify and recommend content that was relevant to them, they were more satisfied with the algorithm and therefore the app itself. In another study, one person explained that they purposefully "like" or comment on friends' content because they think that providing this feedback will allow the friend's post to show up on more people's feeds (Bucher, 2017). Together, these findings indicate that algorithm skills encourage more critical thinking about how to achieve goals online. In the case of the current dissertation, it is likely that people with algorithm skills will have the ability to think critically about why their disclosures did or did not receive the types of support they might expect (be that through comments or PDAs) and therefore be able to make more nuanced conclusions about the amount and type of support they perceive that they received.

Based on the limited existing literature, it appears there may be some support for Büchi and Hargittai's (2020) argument for a moderating role of digital skills—in this case, algorithm skills may also moderate the relationship between online disclosure and emotional support. Two studies provide some insight into how algorithm skills can change people's beliefs about online disclosures and their perceived emotional support, depending on if they have low or high algorithm skills, which can possibly extend to the way people perceive supportive interactions online. First, Eslami et al. (2015) found that some people who were not aware of the Facebook news feed algorithm thought their friends were hiding posts from them, which made them feel negatively about their relationships; however, when the researchers told them that the algorithm prioritizes certain posts, the participants blamed the algorithm. Thus, a lack of algorithm skills can be negatively related to relationship perceptions because people misattribute unseen posts to other people rather than the algorithm. Another study, conducted by Hu and Wang (2023), investigated people's

perceptions about dating app algorithms and found that recognition of how algorithms limit dating choices shaped the dating experience. For instance, one participant in that study explained, "After I realized [dating algorithms can kill the fun of online dating], I became less focused on one type of user when I am on dating apps. Thinking about it, I may have missed someone good because of this preference-based matching" (p. 5). Thus, the participant was able to critically think through how the algorithm might have influenced her online dating experience, and doing so made her feel less upset about her relationship outcomes on the app. That study provides evidence that people who understand how algorithms work to some extent will be able to reason through why they did not receive an expected result online. In the case of online social support, users with algorithm skills will likely also be able to reason through why they did or did not received comments or PDAs on their requests for support online.

These two studies show that when people have more algorithm skills, they are able to more clearly understand why they may or may not be receiving the results (whether more, or less) they expect from their online disclosures. Those who lack algorithm skills, however, may be less likely to perceive as many benefits from their online disclosures. I therefore propose that algorithm skills will have a moderating role in the relationship between disclosure and perceived online emotional support. I thus propose the following moderating hypotheses (See Figure 2):

> *H5: Algorithm skills will moderate the relationship between self-disclosure and perceived emotional support from others, such that having more algorithm skills amplify the benefits of disclosure for perceived emotional support.*

Figure 2

Predicted Moderating Relationship of Algorithm Skills on Disclosure and Perceived

Emotional Support on Online Communities from People Struggling with Depression
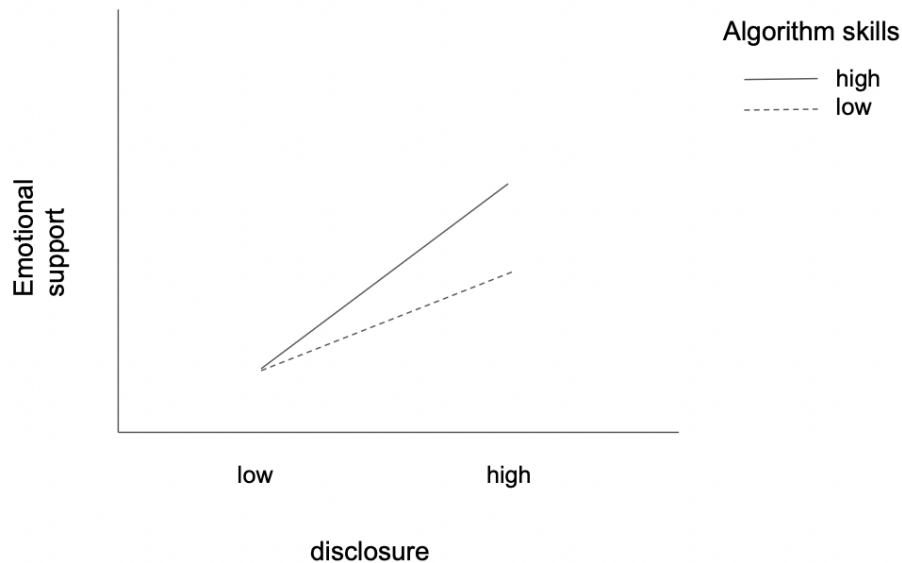
Full Theorized Model

Five separate hypotheses have been proposed to test the relationships between stigma, anonymity in online communities, online community group identity, privacy skills, self-disclosure in online communities, algorithm skills, and perceived emotional support. Each of these hypotheses will be tested using separate analyses as hypothesized (i.e., regression, moderation, mediation) due to the benefits of testing simple statistical models. Sometimes simplicity of statistical analyses is preferred to complexity because it reduces the possibility for using incorrect analyses that do not fit the theorized data, diminishes the possibility of introducing error, can help avoid the issue of changing hypotheses post hoc in SEM, and make results more transparent and accessible (Kestin & Armstrong, 2015; Levine, 2013;

Smith, 1997). Yet, as there is overlap in the concepts, it is also of interest to test the model in its entirety as a *theoretical* test of the full model. Figure 3 (p. 64) shows the integrated model of these hypotheses and proposed relationships. It is possible that this model will not be supported, as the digital skills chosen for this dissertation's context have not yet been shown to be significant moderators to their related predictor and outcome variables. As a result, in testing this full structural equation model, I take a more conservative and confirmatory approach to structural equation modeling (Jöreskog, 1993; Kline, 2016), meaning "the researcher has a single model that is either retained or rejected based on its correspondence to the data" (Kline, 2016, p. 11).[4] Levine (2013) explains, "The biggest problem with SEM, as it is used in communication research, is that it is more often used for model fitting than for model testing . . . What frequently happens is that the a-priori model either provides a poor fit to the data or some other (modified) model provides a better fit. Some paths are dropped, some paths are added, and some error terms are sometimes allowed to co-vary suggesting some unknown confounding factor. The end result is a model that fits the current data very well . . . And, because the model was fit to some existing data, it is unclear (and doubtful) that it will replicate" (pp. 205-206). Thus, the results of this confirmatory approach—whether interpretable or not—will provide useful insights into future researchers' theorizing of the influence of digital skills on the support seeking process.

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[4] In testing this model, I may employ a number of methods used to improve fit; however, due to the essentiality of digital skills to this dissertation and sparse research on these specific digital skills as moderators of their respective predictor and outcome variables, I have chosen not to respecify the model by removal of variables post-hoc. Future researchers may use the results of this dissertation to test other predictions about theoretical models that might employ similar variables with different relationships.

Figure 3

Full Model with Predicted Relationships
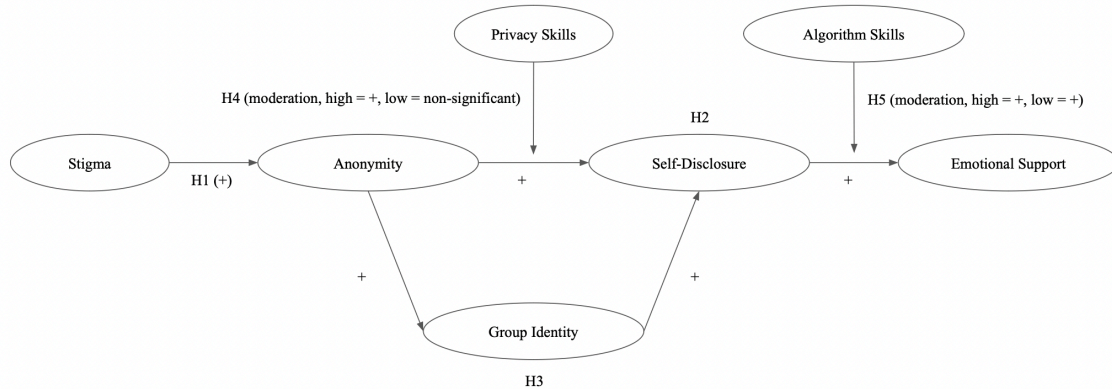
Online Support Seeking Strategies

The model above is tested with a quantitative analysis of self-report measures. I also asked participants to provide the text from a post in which they sought social support online and the accompanying comments. In doing so, the measures of the variables described above were always in reference to a participant's specific instance of support seeking, thus enhancing the validity of the data. However, it also gave me the opportunity to qualitatively analyze instances of support seeking online (i.e., the participants' text posts and comments) in order to descriptively assess the types of strategies individuals with depression use. In particular, the strategies included their communication skills and the anonymity affordance.

Communication Skills

While disclosure is the *act* of revealing personal information about oneself to build a relationship (Derlega et al., 1993; Kim & Dindia, 2011; Yun, 2006), communication skills describe the *types* of disclosure someone uses to achieve a goal (Brashers et al., 2002; Crowley, 2016). In the interpersonal literature, there is no one definition of communication skills, as it is used as a broad term to describe a number of specific *tactics* used to achieve

some type of communication goal (see Afifi et al., 2011; Burleson, 1986; Dahle, 1959; Hargie, 2019); yet, a common sentiment among these studies is that a communication skill is the method by which one attempts to achieve a goal (see Afifi et al., 2011; Burleson, 1986; Dahle, 1959; Hargie, 2019). In the current dissertation, using an interpersonal communication lens, I investigate how people struggling with depression use communication skills in an attempt to seek support from others online using an interpersonal communication lens. The research on communication skills employed online by people with depression is limited. However, these studies do show that there are predictable patterns in the way people with depression communicate interpersonally (Bernard et al., 2016; Rude et al., 2004; Shean & Heefner, 1995). For instance, research has shown that people with depression have decreased communication skills generally (Shean & Heefner, 1995). Shean & Heefner (1995) tested this by putting people in in-person dyads, where one participant had depression and the other did not; they were then asked to have a conversation. The researchers found that those who were more depressed showed decreased eye contact and less freely gave information to their partner. Yet this dissertation explores communication skills specific to text-based online spaces where communication skills such as eye contact are not applicable; therefore, I treat this analysis as exploratory to uncover the online communication skills of people with depression.

Firstly, it is important to note that the digital skills literature and the interpersonal literature conceptualize *communication skills* slightly differently (Iordache et al., 2017; van Deursen et al., 2014; van Deursen et al., 2022). From the interpersonal literature, I will use the concepts of direct and indirect strategies, and from the digital skills literature I will explore how the platform is important in determining how digital communication skills are

enacted (i.e., channel and network-related contextual factors). This section will outline both definitions that will be used to investigate how people with depression access support online.

Interpersonal Definition of Communication Skills

In an interpersonal context, communication skills are conceptualized as nonverbal and verbal expressions of communicating that are typically associated with social skills, such as using gestures, eye contact, greeting others, communication effectiveness, and active listening among other things (Heefner, 1995; Shean & Heefner, 1995; Takahashi et al., 2006). Some of these concepts may be useful for online communication while others may not, as text-based posts (which I have gathered for this dissertation) do not include eye contact or gestures, and therefore cannot be measured as communication skills in the online context for this study. There are, however, a number of interpersonal theories that provide relevant insight into the communication skills that people with depression may use. Because much interpersonal communication research is focused on one-to-one rather than one-to-many interactions (that occur online), only some of the concepts from interpersonal theories translate to the context of this dissertation. However, I will mention the ways in which these theories may be useful in helping to identify some of the communication skills that might be employed online by individuals with depression, to (more or less successfully) obtain support.

There are four interpersonal theories and frameworks that are somewhat relevant to conceptualizing communication skills in the current dissertation, including Crowley's (2016) *marshaling support typology*, Afifi and Steuber's (2009) *revelation risk model*, Greene's (2009) *disclosure decision-making model*, and Afifi and Weiner's (2004) *theory of motivated information management*. Following a review of the literature and a review of my qualitative

data, Greene's disclosure decision-making model (2009) and Afifi and Steuber's theory of motivated information management (2004) were less relevant in determining communication skills that may be used by people with depression when they post online. Greene's (2009) theory focuses on the process someone goes through when receiving a diagnosis and deciding to disclose it to others. However, this dissertation is not focused on disclosures of diagnosis or the associated perceptions of efficacy. In the case of the theory of motivated information management, the theory is focused on the uncertainty that people experience, which is related to their disclosure. This theory too is focused on the process leading up to the disclosures, which is not assessed nor was it explained in the qualitative data collected for this dissertation. Thus, these theories will not be used to assess the communication skills employed by people with depression attempting to access support online; however, these theories may be used by future researchers to investigate the process preceding the posting of depression disclosures online.

The marshaling support typology and the revelation risk model, however, demonstrated the use of direct and indirect strategies—both of which are particularly relevant to the types of communication skills that can be used in online support communities. The concept of marshaling support is central to this dissertation, as people must use communication skills in order to *marshal support* (Crowley, 2016), which is "the process by which individuals actively structure their social networks in ways that foster the achievement of relational or instrumental goals" (p. 1). Crowley's (2016) research on support marshaling was inspired by romantic partners who sought out approval or disapproval of their relationship; some romantic partners marshaled support for their relationship from others by seeking it out directly, while others sought it out indirectly. Typically, research on

marshaling support highlights the strategies people use to extract support from people when they experience opposition to the development of a romantic relationship. While the case of the current sample is not to develop a romantic relationship, per se, there are some useful marshaling concepts that can inform the way in which people with depression develop strategies to extract support from people online. The original framework highlights the ways in which people a) "seek to enhance support" and b) "limit further interference from network members" (Crowley, 2016, p.1). Based on the current dataset, however, no communication skills emerged indicating that people posting about their depression online were attempting to limit interference from network members; rather, they seemed more concerned about increasing social support to deal with their depressive symptoms. The body of marshaling social support literature also indicates that people may use multiple strategies in an attempt to fulfill their objective of social support (Crowley, 2016), including verbal and non-verbal methods (yet for this dissertation, all analyses are textual). In analyzing the online posts of people suffering from depression, it is likely that people will use both direct and indirect attempts to marshal support, including a mix of multiple methods at once. The risk revelation model also provides context for the current dissertation in that it takes into account when people are disclosing something of a sensitive nature—as is the case with a depression disclosure. Afifi and Steuber (2009) developed the risk revelation model to explain why people reveal secrets. When they do reveal secrets, they also use both direct and indirect methods to do so.

Direct Strategies. Both the marshaling support and risk revelation model frameworks indicate that people use direct strategies to reveal their secrets and elicit support of others (Afifi & Steuber, 2009; Crowley, 2016). Crowley and Faw (2014) identified a number of

direct strategies that might be used to marshal support for a romantic relationship. Namely, direct approaches included defending the relationship, negotiating (i.e., working with those opposed to the relationship to establish conditions under which the opposed would support the relationship), soliciting (i.e., directly asking those opposed to the relationship for support), and reappraisal (i.e., asking network members to reexamine their beliefs about the relationship). These examples are all quite context-specific to romantic relationships, allowing for many potential direct and indirect skills used to marshal support in mental health contexts. For instance, Pfender and colleagues (2022) attempted to understand how college students with anxiety and depression marshalled support using direct and indirect strategies. They found that people who used direct marshaling support strategies either verbally requested help from family, friends, and health professionals or found people in their network who had similar mental health struggles and asked them for support (i.e., because they knew these people could relate to their experiences). In Afifi and Steuber's (2009) study, they found that those who revealed their secrets directly initiated the disclosure and told someone else the secret directly, which they defined in the following way: "Person initiates or voluntarily discloses the secret to other person. Person may also simply blurt out the disclosure or reveal it in the heat of an argument. If asked about the secret, the individual will tell the other person directly. If the topic comes up, the person discloses it. Or, if a similar topic comes up, the person reveals the secret" (p. 156). Both of these examples indicate that direct communication strategies, then, typically necessitate that when someone is hoping for support from others, they must be willing to disclose about the topic they are seeking support for; in the case of the current study, they may need to specify that they need support for their depression.

Indirect Strategies. The marshaling support and risk revelation model frameworks

also argue that people at times use indirect strategies to both reveal information and attempt

to marshal support of others (Afifi & Steuber, 2009; Crowley, 2016). An indirect strategy

would be used when someone does not specifically request help but instead increases

interaction time with others or signals/leaves hints about their struggles (Crowley & Faw,

2014; Pfender et al., 2022). The indirect approaches that Crowley and Faw (2014)

highlighted in their theorizing included stating the positives of a relationship, fabricating

positives of the relationship, self-enhancement (i.e., appealing more attractive than the person

opposed to the relationship), other enhancement (i.e., making the partner appear more

attractive than the person opposed to the relationship), experiment (i.e., sharing hypothetical

situations with the person opposed to the relationship to gauge how that person would

respond to the romantic relationship), increasing relationship talk (i.e., bringing up the

romantic partner in conversation with the person opposed to the relationship), increasing

interaction time between the partner and the person opposed to the relationship, and

recruitment (i.e., asking others to encourage the person opposed to the relationship to be

more supportive). Similar to the direct strategies, each of these are quite specific to romantic

relationships. When marshaling support, Pfender and colleagues (2022) similarly found that

students struggling with mental health used an indirect approach to marshal support by

signaling their distress to network members (e.g., crying), increasing the amount of time they

spent with people in their network, or attempting to have physical contact with people in their

network (e.g., hugs). In the case of revealing secrets, Afifi and Steuber (2009) found that

those who used indirect strategies told secrets in ways that did not involve directly telling the

target respondent (i.e., the person they meant to tell the secret to). Instead, they used tactics

such as joking about the secret, revealing the secret over time, writing about the secret (e.g., email, letter, text message), or leaving evidence for people to discover the secret on their own. All of these examples indicate that indirect skills are indications that people would like help without a stated request for such help. Thus, for this investigation of communication skills, I will identify the types of strategies used by people with depression and evaluate how they are similar to, build upon, or deviate from previous literature.

Digital Communication Skills

The digital skills literature describes communication skills as the ability to participate in an online community (Iordache et al., 2017), including "encoding and decoding online messages, managing online contacts, online profiling, and collaboration between Internet users" (van Deursen et al., 2022, p. 1886). Hargittai and Micheli (2019) further explain that communication skills are a blend of both *social skills* and *technical skills*, and both are necessary for communicating online. They state, "to communicate effectively in a mediated environment, users need to be able to choose the communication functions and capabilities most appropriate for their purposes, that is, the ones that best match the social context in which their communication occurs" (Hargittai & Micheli, 2019, p. 111). Thus, communicating online involves not only selecting the appropriate words, understanding messages, and exchanging and sharing content online (Iordache et al., 2017), but it also requires the appropriate communication channel—be that email or an online community. Because social media platforms develop norms of their own (Masur et al., 2023), people must also learn how to behave in accordance with platform norms when they are interacting with others on those platforms. Van Deurson and colleagues (2022) explained that communication skills occur in relation to other people and require the sharing of one's

information with someone else. In order to do this, users must understand not only how the communication technology functions but also how people in that context communicate. In the case of the current dissertation, people must be able to understand the specific online community—i.e., platform on which the community congregates and the norms of the members—in order to effectively communicate their needs, such as seeking support. Communication skills, within the digital skills literature, also involve the importance of understanding channel norms. Iordache and colleagues (2017) additionally state that digital communication skills include the ability to interact online and participate in networks—this may include netiquette, which is a term that describes the "rules on the appropriate and respectful way of communicating with others when using computer networks and the internet" (p. 19). In the case of Facebook and Reddit, for instance, the aforementioned literature has highlighted that there are certain norms of communicating on each platform (Costa, 2018; Hayes et al., 2016; Seiter & Brophy, 2022). When people use Facebook, for instance, they are typically interacting with a mix of strong and weak ties, whereas those on Reddit are more likely interacting with weak ties (Andalibi et al., 2018; Andalibi, 2019). As a result of these differences, people on Facebook are more apt to post positive content that paints them in a positive light (Wang et al., 2016), whereas people (who feel more anonymous) on Reddit are willing to share more stigmatized and negative information (Balani & De Choudhury, 2015). While people may use similar communication skills on both platforms, the content of their communication may differ based on the platform affordances

Platform-Related Affordances that Relate to Comments to Online Disclosures

As stated previously, platform norms can play a role in how one applies their digital communication skills; yet these norms are in part related to the affordances of the platform on which people post—including the affordance anonymity and the network makeup of the platform. While I will not be investigating the reasons why people provide support in this dissertation, it is useful to understand the contextual affordance factors that are related to the support-giving process, given that I also collected data on the comments provided in response to the requested online depression disclosures. There has been some evidence supporting the idea that affordances such as anonymity shape support responses. For instance, when support givers have more anonymity online, they are more comfortable reciprocally disclosing sensitive information and providing support (Andalibi et al., 2018). In the case of the current dissertation, Reddit—which may be perceived as having more anonymity affordances because users use usernames and avatars (Balani & De Choudhury, 2015; Gutman-Weo, 2022)—may be useful if people wish to have commenters disclose similar experiences. Conversely, posting on Facebook—which may be perceived as having fewer anonymity affordances because it encourages use of first and last names and a profile picture (Eichstaedt et al., 2018; Michikyan, 2020)—would be beneficial to those hoping to have people close to them comment on their depression disclosures. Thus, contextual factors, such as network tie strength (closeness), in addition to platform-related affordances, may be related to comments related to online disclosures.

Research Question

Considering that there is sparse research examining the online communication skills of people with depression, I use this literature to aid me in qualitatively analyzing the online community disclosures of people struggling with depression. That is, I quantitatively analyze

people's willingness to disclose about their depression in online communities, but I also qualitatively analyze *how* people disclose—focusing on what communication skills they utilize in order to marshal support from others, both direct and. In addition, I will holistically analyze the posts in conjunction with their associated comments in order to uncover any channel or network–related factors (e.g., anonymity affordances) that may be associated with how people with depression disclose online. In sum, as an exploratory portion of this dissertation, I will analyze participants' online community depression disclosures to identify the communication skills people struggling with depression use in order to marshal support in addition to analyzing the contextual (i.e., platform and network factors) that relate to depression disclosures. I therefore present these two research questions:

RQ1: In what ways do people with depression use direct and indirect interpersonal communication skills to marshal emotional support online?

RQ2: What do the comments associated with depression-related posts reveal about the ways in which channel and network-related factors (i.e., digital communication skills) play a role in shaping depression-related disclosures?

There are benefits to collecting both quantitative and qualitative data to investigate the theorized phenomena in this dissertation. Oftentimes, qualitative data can provide more nuance to the quantitative context (Green et al., 2015). This dissertation utilizes two methods to integrate the quantitative and qualitative results and findings. First, the data is used for *triangulation*, whereby I examine multiple parts of a phenomena by using different methods—each of which has their own strengths and weaknesses (Caracelli & Greene, 1993; Greene et al., 1989). Doing so improves the validity of my findings, as the data is analyzed separately and then integrated (Caracelli & Greene, 1993; Greene et al., 1989; Woodard &

Rossouw, 2021). More specifically, I do this by studying the relationship of privacy skills

and algorithm skills with support seeking quantitatively and then perform an exploratory

qualitative analysis to understand the types of communication skills employed in the online

support seeking process. I also employ *complementarity*, which describes the use of the

qualitative data to enhance understanding of quantitative results in order to deepen

understanding of similar concepts (Bamberger, 2012; Greene et al., 1989). In the case of the

current dissertation, I use the qualitative data to dig deeper into the way anonymity

affordances might be associated with depression disclosures.

III. CHAPTER THREE: METHODS

Participants

The sample consisted of 446 participants. This number was derived based on the U.S. population of individuals who have had at least one major depressive episode in 2022 based on the National Institute of Mental Health (2022) report. This sample size was calculated based on a 95% CI, 3% margin of error, a population proportion of 6.3% (i.e., the percent of those in the U.S. who have experienced a major depressive episode compared to the whole U.S. population), and a population size of 21,000 (NIMH, 2022)—which requires a minimum of 357 participants. In addition, using Gpower, I calculated the sample size necessary for an effect size of $r = .29$, which Liu and colleagues (2018) found to be the effect size in their meta-analysis on social media support, which resulted in a necessary sample of at least 80 participants per the two platforms. After completing data collection, there were 222 responses from Facebook users and 224 from Reddit users—all of whom indicated that they have posted about their depression on their respective platforms.

The selection criteria for the survey included that participants a) must be 18 years old or older, b) have experienced at least one major depressive episode in the last year, and c) have posted (i.e., text-based) at least once about their depression in an online community in the last three months, d) on either Reddit or Facebook. I employed the use of Prolific, a research panel, to recruit participants, as has been done by other researchers, including those investigating the outcomes associated with digital skills (see De Choudhury et al., 2014; Hargittai et al., 2019; Nguyen et al., 2022). Participant ages ranged from 19 to 85 ($M = 35.74$, $SD = 10.72$). See Table 1 for other demographics.

This study was approved by the University of California, Santa Barbara IRB as exempt.

Table 1

Demographics

		N	%
Gender[5]			
	Male	165	37.0
	Female	261	58.5
	Non-binary	18	4.0
	Other	2	.4
Race			
	American Indian or Alaskan Native	5	1.1
	Asian	31	7.0
	Black or African American	77	17.3
	Hispanic or Latino	26	5.8
	Native Hawaiian or other Pacific Islander	1	2
	Multiracial	36	8.1
	White	269	60.3
	Other	1	.2
Education			
	Some high school or less	2	.4
	High school graduate or GED	44	9.9
	Some college	160	35.9
	4-year undergraduate degree	175	39.2
	Graduate or Professional degree	65	14.6
Income			
	Less than $5,000	15	3.4
	$5,000-$9,999	17	3.8
	$10,000-$14,999	0	0
	$15,000-$19,999	15	3.4
	$20,000-$29,999	37	8.3
	$30,000-$39,999	43	9.6
	$40,000-$49,999	57	12.8
	$50,000-$59,999	49	11.0
	$60-000-$74,999	43	9.6
	$75,000-$99,999	57	12.8
	$100,000-$124,999	30	6.7
	$125,000-$149,999	39	8.7
	$150,000 or more	44	9.9
Platform	Reddit	222	49.8
	Facebook	224	50.2

[5] I did not specify "cisgender" in my data collection. Rather I left gender interpretation up to the participant; however, I do not condone cisgenderism or cissexism. APA style suggests using cisgender to refer to individuals whose sex assigned as birth aligns with their gender identity (APA, 2015).

Procedure

Survey Development

In order to test the proposed model in this dissertation, I administered a cross-sectional online survey. It consisted of 111 questions and 3 attention checks. Participants were first asked a number of inclusion criteria questions—including their age, current depression symptoms, online community use, and whether they had posted about their depression in an online community in the past three months. The participants who had indicated having posted about their depression on Reddit were administered a survey referencing their activities on Reddit while the participants who had indicated having posted about their depression on Facebook were administered a survey referencing their activities on Facebook (see Data Collection Plan section for more details on how this information was ascertained). Participants were then asked to identify a post they made (on their respective platform) about their depression from the last three months and copy-and-paste the text into the survey along with all of the comments their post received. The text of this post served three purposes: a) provide the context to the questions that followed, such that participants would reflect on their experience in the online community wherein they had posted, b) reduction of memory bias, and c) data for qualitative analysis of communication skills. Then, participants answered a number of questions about the post itself, including when it was posted, the text of any comments the post received, paralinguistic digital affordances (i.e., PDAs), whether it was posted in a public or private online community, frequency of visiting the online community, and frequency of posting about depression on the online community. Thereafter, participants were asked about their perceived self-anonymity as well as the perceived anonymity affordances of the platform. Then they reported on their overall

willingness to disclose in the online community, the overall emotional support they

experience in the online community, their perceived group identification, their privacy skills,

and their algorithmic skills. Finally, they were asked questions about their stigma toward

mental illness and provided a more comprehensive measure of their depression symptoms.

Thereafter, they were asked about their age, education, race, gender, and income. At the end

of the survey, participants were thanked for their time and provided with web links that

discussed privacy and algorithm digital skills.

After the survey instrument was completed, I distributed the survey to 16 peers who

have had experiences with depression. They provided suggestions and feedback about

wording, clarity, and survey flow. The survey was modified based on their feedback.

Thereafter the survey pilot and data collection began.

Measures

Demographics & Control Variables. Participants were asked about a number of

demographics, including race, gender, age, and education, and income. There are a number

of demographic variables that are related to privacy skills and algorithm skills that were

included as controls, including age, gender, and education (see Brodsky et al., 2020; Dogruel

et al., 2022; Gran et al., 2021; Hargittai, 2008; Kezer et al., 2016; Madden & Smith, 2010;

Park, 2013; Powers, 2017; Rainie et al., 2013). See Table 1.

I also collected data for a number of other control variables. It is important to note

that in the survey, I began by referring to either Facebook or Reddit (depending on which

platform the participant had posted on) and then referred more broadly to the platform as "the

online community where you posted about your depression" for the rest of the survey.

Therefore, to allow for responses that reflected that difference in open- versus closed-forum

posting, I used broader language (i.e., "the online community where you posted about your depression") after it was established which platform the participants had posted on.

In addition, I collected the number of PDAs on the post, frequency of visiting the online community for depression-specific content (0 = *never*, 4 = *very often*), and the frequency of posting about depression in the online community (1 = *rarely*, 4 = *very often*). PDAs should be controlled for because although this study examines platform-level associations, the post they provided could prime their responses, and research has shown that PDAs can be associated with perceptions of support (Carr et al., 2016; Hayes et al., 2018; Wohn et al., 2016); however, due to a high number of incomplete responses, I was unable to include PDAs as a control in my analyses.[6] In addition, how frequently a person is visiting a website to browse can in some cases be related to the amount of second-hand (or lurking-related) support they feel (Han et al., 2014; though some studies indicate no overall perceived support differences between lurkers and posters, see Setoyama et al., 2011 and Malik & Coulson, 2011), and how often they post about their depression can also be associated with their perceptions of support (Dean et al., 2016; Deters & Mehl, 2013).

Also included as a control was depressive symptoms, which was measured using the Patient Health Questionnaire-9 (PHQ-9; Kroenke et al., 2001); this scale assessed depressive symptoms over the past two weeks. The reason this variable was controlled for is that current depressive symptoms may be associated with the perceptions of the online community as supportive; and this study was focused on the overall experience of support in an online community. The nine items mirror the symptoms of depressive disorder found in the *Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition (DSM-5; American

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[6] See the limitations section for more details.

Psychological Association, 2013). Items were answered on a 4-point scale from 0 (*not at all*) to 3 (*nearly every day*), and example items included, "Little interest or pleasure in doing things" and "Feeling down, depressed, or hopeless." Scores were summed, with higher scores indicating more severe depressive symptoms. This scale was checked for reliability using both factor analysis and Cronbach's alpha. This scale was tested for reliability by first conducting a factor analysis with an Oblimin rotation (*KMO* = .881; Bartlett's test of sphericity, χ^2 = 2057.364, *df* = 36, *p* < .001), which resulted in a 2-factor solution (factor 1 eigenvalue = 4.783, 53.147% of variance; factor 2 eigenvalue = 1.118, 12.422% of variance). Factor 1 included items 1, 2, 6, 8, and 9, and was focused on the emotional aspects of depression symptoms (loadings ranged from .536 to .809) whereas factor 2 included items 3, 4, 5, and 7 and focused on behavioral aspects of depression symptoms (loadings ranged from .413 to .589) (see Appendix for full list of measures and items). The Cronbach's alpha was .850 for factor 1; .806 for factor 2; and .886 for a single factor solution including all variables. Because this scale is well established in the psychology literature as a single-factor solution and all factor loadings for a 1-factor solution were above .4, I too chose a single-factor solution, for which internal consistency was highest. Thereafter, I performed a confirmatory factor analysis (CFA) on the single-factor solution, which had poor fit (χ^2 = 312.284 (df = 27, p < .001), CFI = .860, TLI = .814, RMSEA = .154, SRMR = .070). Based on low loading, I then removed item 8 (standard estimate = .460), which still resulted in poor fit (χ^2 = 205.879 (df = 20, p < .001), CFI = .900, TLI = .859, RMSEA = .144, SRMR = .063). Based on low loading, I then removed item 9 (standard estimate = .582), which still resulted in poor fit (χ^2 = 167.589 (df = 14, p < .001), CFI = .907, TLI = .861, RMSEA = .157, SRMR = .059). Based on low loading, I then removed item 3 (standard estimate =

.599), which resulted in sufficient fit (χ^2 = 84.729 (df = 9, p < .001), CFI = .946, TLI = .910, RMSEA = .137, SRMR = .047). Therefore, the final measure for depressive symptoms included six items (standard estimate loadings: item 1 = .859, item 2 = .885, item 4 = .643, item 5 = .586, item 6 = .807, item 7 = .645).

To clarify, the participants were asked about their depressive symptoms in the past two weeks, but asked to provide a post they created within the last 3 months. I used the PQH-9 depression measure as a control variable, as all participants had already indicated that they currently had a diagnosis of depression through the panel service. The reason they were required to use a post that they created in the last 3 months was because of memory bias and easier access to the post. Three months provided ample enough time to include more participants who may not have posted very recently, but it was not too wide of a time frame that it would be too difficult to locate the post online. Selecting the post also served another purpose of reducing memory bias, as people had a reminder of what they posted online as they went through the survey.

Anonymity. Anonymity was assessed in two ways: perceived platform (i.e., Facebook or Reddit) anonymity and perceived self-anonymity in the online community. The reason for this, as stated previously, was because an individual may not always make full use of perceived platform affordances (or they may overestimate how socially anonymous they actually are); that is, perceived platform anonymity (technical anonymity) and perceived self-anonymity (social anonymity) may not always be the same; thus, I tested my hypotheses using these two types of anonymity. This aspect of the study was exploratory.

First, participants indicated the degree to which they *perceive the online community to provide the affordance of anonymity* using the anonymity subscale of the Perceived Social

Affordances of Communication Channels Scale (Fox & McEwan, 2017). This subscale was 6 items. Participants were asked to indicate how strongly they agreed or disagreed with each statement (1 = *strongly disagree* and 7 = *strongly agree*). Example items included, "[Platform] can make me anonymous to the person I am communicating with" and "[Platform] allows people to remain anonymous or unidentifiable if they want to." The "[Platform]" was populated with the name of the online community on which the participant indicated they posted on (i.e., Facebook or Reddit). Items were averaged, with higher scores indicating that the participants perceived that a platform afforded more anonymity. This scale was checked for reliability using both factor analysis and Cronbach's alpha. This scale was tested for reliability by first conducting a factor analysis with an Oblimin rotation (*KMO* = .894; Bartlett's test of sphericity, χ^2 = 2050.645, *df* = 15, *p* < .001), which resulted in a 1-factor solution (factor 1 eigenvalue = 4.406, 73.430% of variance, loadings ranged .751 to .851). The Cronbach's alpha was .927. Thereafter, I performed a CFA on the single-factor solution, which had acceptable loadings and fit statistics (χ^2 = 126.859, df = 9, p < .001; CFI = .943; TLI = .904; RMSEA = .171; SRMR = .034). The final measure for perceived anonymity affordances includes six items (standard estimate loadings: item 1 = .859, item 2 = .871, item 3 = .766, item 4 = .874, item 5 = .833, item 6 = .741).

To measure *perceived self-anonymity*, I used Yun's (2006) self-anonymity scale. Participants were asked how strongly they agreed or disagreed with 16 statements (1 = *strongly disagree*, 7 = *strongly agree*). Example items included, "Some members can recognize my username" and "Some members may match me with pictures I posted." Items were averaged. All items were reverse-scored so that higher scores indicated that the participants perceived themselves as more anonymous in the online community. This scale

was checked for reliability using both factor analysis and Cronbach's alpha. This scale was tested for reliability by first conducting a factor analysis with an Oblimin rotation ($KMO =$ .922; Bartlett's test of sphericity, $\chi^2 = 7125.946$, $df = 253$, $p < .001$), which resulted in a 4-factor solution (factor 1 eigenvalue = 8.080, 47.530% of variance; factor 2 eigenvalue = 1.495, 8.792% of variance; factor 3 eigenvalue = 1.308, 7.694% of variance; factor 4 eigenvalue = 1.226, 7.209% of variance). Factor 1 included items 6, 7, 8, 9, 11, and 12 and represented demographics (loadings ranged from .648 to .797); factor 2 included items 3, 4, 5, and 10 and represented location and contact information (loadings ranged from .625 to .871); factor 3 included items 13, 14, and 15 and represented linguistic markers (loadings ranged from -.875 to -.914); and factor 4 included items 1, 2, 16, and 17 and represented identifying information (loadings ranged from -.587 to -.803). Factor 4 was most theoretically relevant to the current dissertation, as identifying information can be used to identify a person most accurately. Demographics, location, and linguistic markers, however, can be similar across people, and others still may not be able to identify the user by this information alone. Thus, I only used factor 4 in my models. The Cronbach's alpha was .834 for factor 4. I referred to this single-factor as perceived self-anonymity. Thereafter, I performed a confirmatory factor analysis (CFA) on the 1-factor solution, which had acceptable loadings (see table #) and fit statistics ($\chi^2 = 23.606$ (df = 2, p < .001), CFI = .970, TLI = .910, RMSEA = .156, SRMR = .039). Thus, the final self-anonymity measures 4 items (standard estimate loadings: item 3 = .851, item 4 = .900, item 5 = .612, item 10 = .541).

Perceived Online Emotional Support. Perceived emotional support was measured by two separate scales: Online Social Support scale (Zhou & Cheng, 2022; see also Nick et al., 2018) and a modified emotional support scale (Berkman et al., 1992). The reason for this

is that I used a subset of items from Zhou and Cheng's (2022) study that focused on emotional support; however, these items have not yet been tested for reliability on their own, independent of the rest of the items. Therefore, it is necessary to include another scale of social support to triangulate its validity and reliability. Thus, I conducted a factor analysis of the subset of Zhou and Cheng's (2022) items to ensure a unidimensional construct. I then used Berkman et al.'s (1992) scale of emotional support to validate the subset of Zhou and Cheng's (2022) measure. While Berkman et al.'s (1992) measure was not developed with an online perspective in mind, it has been used in a digital divide context (Read et al., 2022), and therefore was modified for the online context of this study.

To measure overall perceived emotional support in an online community, I used the emotional support items of the shortened version of the Online Social Support Scale (Zhou & Cheng, 2022; see also the 40-item version, Nick et al., 2018). The original version of the scale is a one-factor 40-item scale, and the shortened version is a unidimensional 20-item scale, both of which include multiple aspects of social support (i.e., emotional, social, instrumental, informational). This scale assesses how much support individuals feel when they are online; the scale was modified to replace the word "online" with "this online community." For this survey, I only used the 6 items that measured emotional support. Participants were told to think of the platform where they indicated they posted about their depression (i.e., Facebook or Reddit) and were asked to indicate how often they experienced the items listed from *never* (1) to *always* (5) for six items. Example items included, "People show that they care about me in this online community" and "People pay attention to me in this online community." Items were averaged with a higher score indicating more perceived online emotional support. This scale was checked for reliability using both factor analysis

and Cronbach's alpha. This scale was tested for reliability by first conducting a factor analysis with an Oblimin rotation ($KMO = .926$; Bartlett's test of sphericity, $\chi^2 = 2195.310$, $df = 15$, $p < .001$), which resulted in a 1-factor solution (factor 1 eigenvalue = 4.567, 76.119% of variance, loadings ranged from .739 to .902). The Cronbach's alpha was .936. Thereafter, I performed a CFA on the single-factor solution, which had acceptable loadings (see table #) and fit statistics ($\chi^2 = 32.861$ (df = 9, p < .001), CFI = .989, TLI = .982, RMSEA = .077, SRMR = .018). The final measure was six items (standard estimate loadings: item 1 = .863, item 2 = .905, item 3 = .863, item 4 = .839, item 5 = .734, item 6 = .858).

To further validate this measure, I tested its correlation with Berkman et al.'s (1992) measures for emotional support, which measure one's perceived emotional support that they receive from others. Three separate items are used to assess emotional support in three different ways; however, they are calculated and treated separately rather than as a single scale. The first item asked for the number of people the participant could rely on for emotional support (defined as "showing care and compassion for another person either through words or actions; for example, talking over problems with or helping you make a difficult decision"; APA, 2018). The second asked how often the participant had received emotional support (1 = *not at all,* 5 = *about 1–2 during the month*; this was recoded for analysis so that 0 = *not at all* and 5 = *at least once a day*, indicating least to most support). The third item asked how often participants received emotional support when they needed it in the past month (1 = *never*, 5 = *always*). The online emotional support scale was significantly correlated with item 1 (i.e., the number of people they can rely on online) and item 3 (i.e., receiving support when needed). See Table 2. Thus, the measure of online

emotional support (OSSS) is representative of quality of support rather than frequency, which is theoretically sufficient for this dissertation, as people may not post online regularly enough about their depression to need support as often as item 2 asks. Thus, I used the 6-item OSSS to measure emotional support.

Table 2

Bivariate Correlations between Online Emotional Support Scale and Berkman et al.'s (1992)

Measures of Emotional Support

	1	2	3	4
1. Online emotional support measure (Zhou & Cheng, 2022, modified)				
2. Item 1 (Berkman et al., 1992, modified)	.200***			
3. Item 2 (Berkman et al., 1992, modified)	.059	.153***		
4. Item 3 (Berkman et al., 1992, modified)	.440***	.428***	.064	
M(SD)	3.236(.918)	8.06(15.133)	3.28(1.338)	3.29(1.028)

Note. ***p <.001

Perceived Depth of Disclosure. To measure overall willingness to disclose personal

information in an online community (i.e., Facebook or Reddit), participants were

administered the online public disclosure scale (Yun, 2006). This scale measured the

willingness of an individual to share things that are core to the self, or things that are

personal. They were asked to reflect on how they disclose on either Facebook or Reddit

(depending on where they posted). Example items included, "I am willing to express my

most intimate feelings" and "I am willing to talk about my hurt feelings." Participants were

asked to indicate how much they agreed with eight items from 1 (*strongly disagree*) to 5

(*strongly agree*). Items were averaged, with a higher score indicating more perceived

willingness to disclose in an online community. This scale was checked for reliability using

both factor analysis and Cronbach's alpha. This scale was tested for reliability by first

conducting a factor analysis with an Oblimin rotation (*KMO* = .912; Bartlett's test of

sphericity, χ^2 = 1839.917, *df* = 28, *p* < .001), which resulted in a 1-factor solution (factor 1

eigenvalue = 4.679, 58.490% of variance, loadings ranged from .527 to .798). The

Cronbach's alpha was .891. Thereafter, I performed a CFA on the single-factor solution, which had acceptable loadings and fit statistics (χ^2 = 133.996 (df = 20, p < .001), CFI = .938, TLI = .913, RMSEA = .113, SRMR = .043). Disclosure was made up of eight items (standard estimate loadings: item 1 = .787, item 2 = .742, item 3 = .797, item 4 = .633, item 5 = .789, item 6 = .676, item 7 = .796, item 8 = .524).

Based on my research on depression and online disclosures, the scale I have chosen (i.e., "online public disclosure"; Yun, 2006) is a sufficient representation of the types of things individuals with depression may disclose. Other studies have used a scale for emotional disclosures (i.e., Distress Disclosures Index; Kahn & Hessling, 2001) to measure the disclosures of individuals with depression—which measures similar concepts to Yun's (2006) measures. Khan and Hessling's (2001) items, however, do not make sense for an online context; rather, they are focused on interpersonal, one-to-one disclosures—rather than the one-to-many disclosures that occur on social media.

Perceived Group Identification. Group identification is "the degree to which one identifies oneself to one's social group" (Yun, 2006, p. 115). In order to measure group identification, participants answered an 11-item group identification scale (Yun, 2006) in relation to their group identification with people in the online community where they posted (i.e., Facebook or Reddit). Participants were asked to indicate how much they agreed with eight items from 1 (*strongly disagree*) to 7 (*strongly agree*). Example items included, "I think of this online community as part of who I am" and "I see myself as different from other members of this online community" (reverse-coded). Items were averaged, with higher scores indicating higher group identification. This scale was checked for reliability using both factor analysis and Cronbach's alpha. This scale was tested for reliability by first

conducting a factor analysis with an Oblimin rotation (KMO = .774; Bartlett's test of sphericity, χ^2 = 1317.997, df = 55, p < .001), which resulted in a 3-factor solution (factor 1 eigenvalue = 3.569, 32.448% of variance; factor 2 eigenvalue = 1.590, 14.459% of variance; factor 3 eigenvalue = 1.298, 11.797% of variance). Factor 1 included items 1, 3, 5, 6, and 11 and represented feelings of belonging in the online community (loadings ranged from .496 to .863); factor 2 included items 2, 4, and 10 and represented pride in group membership (loadings ranged from .481 to .724); factor 3 included items 7, 8, and 9 and represented the influence of the group on one's identity (loadings ranged from -.424 to -.604). The factor that was most theoretically relevant to this dissertation was factor 1, as it focused on someone's internal connection to a group, rather than their public-facing membership (i.e., factor 2), which is not theoretically relevant, as stigma may keep people from revealing their group membership to others. Additionally, factor 1 focused on how one chose to interact with the group, rather than how the group influenced them (i.e., factor 3), which is not theoretically relevant to the current dissertation. Thus, I chose a 1-factor solution using factor 1 items. The Cronbach's alpha was .757 for factor 1. Thereafter, I performed a confirmatory factor analysis (CFA) on the 1-factor solution, which had poor fit (χ^2 = 46.504 (df = 5, p < .001), CFI = .926, TLI = .851, RMSEA = .136, SRMR = .047). Based on low loading, I then removed item 5 (standard estimate = .507), which resulted in acceptable fit (χ^2 =15.006 (df = 2, p = .001), CFI = .970, TLI = .909, RMSEA = .121, SRMR = .034). The final measure of group identity was 4 items (standard estimate loadings: item 1 = .518, item 3 = .879, item 6 = .672, item 11 = .535).

Privacy Skills. Privacy skills were asked about in a general sense (not constrained to platform) and were measured using Madden's (2017) 7-item scale of confidence in privacy

skills measure. The statement "I am confident …" preceded the items for which participants indicated how much they agreed or disagreed with each item (1 = *strongly disagree*, 5 = *strongly agree*). Example items included, "Understanding the privacy policies of the websites and applications I use" and "Managing the privacy settings for the information I share online." Items were averaged, with higher scores indicating higher privacy skills. This scale was checked for reliability using both factor analysis and Cronbach's alpha. This scale was tested for reliability by first conducting a factor analysis with an Oblimin rotation ($KMO = $ .879; Bartlett's test of sphericity, $\chi^2 = 1427.936$, $df = 21$, $p < .001$), which resulted in a 1-factor solution (factor 1 eigenvalue = 4.019, 57.408% of variance, loadings ranged from .626 to .782). The Cronbach's alpha was .870. Thereafter, I performed a CFA on the single-factor solution, which had poor fit ($\chi^2 = 158.597$ (df = 14, p < .001), CFI = .898, TLI = .847, RMSEA = .152, SRMR = .055). Based on low loading, I then removed item 1 (standard estimate = .629), which still resulted in poor fit ($\chi^2 = 148.742$ (df = 9, p < .001), CFI = .886, TLI = .810, RMSEA = .187, SRMR = .060). Based on low loading, I then removed item 2 (standard estimate = .620), which still resulted in poor fit ($\chi^2 = 72.020$ (df = 5, p < .001), CFI = .932, TLI = .864, RMSEA = .173, SRMR = .043). Based on low loading, I then removed item 4 (standard estimate = = .760), which resulted in acceptable fit ($\chi^2 = 7.375$ (df = 2, p < .001), CFI = .992, TLI = .977, RMSEA = .078, SRMR = .015). Therefore, the final measure for privacy skills is comprised of four items (standard estimate loadings: item 3 = .656, item 5 = .780, item 6 = .810, item 7 = .762).

Algorithm Skills. Algorithm skills was also asked about in a general sense (not constrained to platform) and was measured using Zarouali et al.'s (2017) 13-item Algorithmic Media Content Awareness Scale. There were four dimensions to the scale:

content filtering, automated decision-making, human-algorithm interplay, and ethical considerations. Participants were asked, "Please indicate the extent to which you are aware of the following statements about algorithms in media content (1 = *not at all aware*, 5 = *completely aware*)." Example items included, "Algorithms are used to recommend media content to me in online communities" (content filtering), "Algorithms are used to show me media content in online communities based on automated decisions" (automated decision-making), "The media content that algorithms recommend to me in online communities depend on the data that I make available online" (human-algorithm interplay), and "It is not always transparent why algorithms decide to show me certain media content in online communities" (ethical considerations). Items were summed, with higher scores indicating more algorithm awareness. This scale was checked for dimensionality and reliability using both factor analysis and Cronbach's alpha. This scale was tested for dimensionality by first conducting a factor analysis with an Oblimin rotation (*KMO* = .949; Bartlett's test of sphericity, χ^2 = 4147.157, *df* = 78, *p* < .001), which resulted in a 2-factor solution (factor 1 eigenvalue = 7.721, 59.389% of variance; factor 2 eigenvalue = 1.102, 8.476% of variance). Factor 1 included items 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10, and included all items on content filtering, automated decision-making, and human-algorithm interplay (loadings ranged from .723 to .858), whereas factor 2 included items 11, 12, and 13 and included all ethical considerations items (loadings ranged from .608 to .760). Factor 1 was most theoretically relevant to the current dissertation, as it focused on the content that is shown to a user and why, whereas factor 2 focused on ethical issues that were not relevant to social support. Therefore, I only used factor 1 in my analyses. The Cronbach's alpha was .946 for factor 1 and .733 for factor 2. The Cronbach's alpha was .946 for factor 1. Thereafter, I performed a

confirmatory factor analysis (CFA) on the single-factor solution, which had acceptable loadings and fit statistics (χ^2 = 276.455 (df = 35, p < .001), CFI = .933, TLI = .913, RMSEA = .124, SRMR = .036). The final measure was 10 items (standard estimate loadings: item 1 = .838, item 2 = .828, item 3 = .859, item 4 = .762, item 5 = .822, item 6 = .722, item 7 = .807, item 8 = .821, item 9 = .819, item 10 = .740).

Stigma. In order to measure stigma, I used Hammer and Toland's (2017) brief 9-item version of the Internalized Stigma of Mental Illness Scale (ISMI-9). This measure was validated for individuals with depression and provides context for how stigma can be related to privacy skills and disclosure online for people with depression. Specifically, the ISMI-9 measured how much stigma one holds about one's own depression. Participants were asked to indicate how strongly they agreed or disagreed (1 = *strongly disagree*, 4 = *strongly agree*) with each of the nine items. Example items included, "Nobody would be interested in getting close to me because I have depression" and "I can't contribute anything to society because I have depression." Items were averaged, with a higher score indicating more depression stigma. This scale was checked for dimensionality reliability using both factor analysis and Cronbach's alpha. This scale was tested for dimensionality by first conducting a factor analysis with an Oblimin rotation (*KMO* = .854; Bartlett's test of sphericity, χ^2 = 1326.558, *df* = 36, *p* < .001), which resulted in a 2-factor solution (factor 1 eigenvalue = 3.978, 44.195% of variance; factor 2 eigenvalue = 1.156, 12.849% of variance). Factor 1 included items 1, 3, 4, 5, 6, and 7 and represented self-stigma (loadings ranged from .469 to .754), whereas factor 2 included items 2, 8, and 9 and represented the efficacy or limitations people felt in regard to their own depression (loadings ranged from -.500 to -.865). Factor 1 was most relevant to the current theoretical argument of this dissertation, as it focused on

perception of one's own stigma associated with social rejection, whereas factor 2 related to one's ability to function with depression; thus, I only used factor 1 in my analyses. The Cronbach's alpha was .806 for factor 1. Thereafter, I performed a confirmatory factor analysis (CFA) on the single-factor solution, which had acceptable loadings and fit statistics (χ^2 = 16.755 (df = 9, p < .052), CFI = .990, TLI = .983, RMSEA = .044, SRMR = .023). The final measure was 6 items (standard estimate loadings: item 1 = .451, item 3 = .683, item 4 = .768, item 5 = .739, item 6 = .535, item 7 = .654).

Data Collection Plan

As previously stated, I collected participant data on Prolific. Prolific surveys their panel on a number of selection criteria, which researchers can then use to filter out participants; however, they are not a full service panel service in that they do not provide quality control (e.g., remove participants who failed attention checks, screen for more complicated inclusion criteria). In the case where a study has more specific inclusion criteria, such as is the case with this study, researchers must first create what Prolific refers to as a *custom sample*. Their website explains that a custom sample is necessary when you "cannot obtain the specific population you require using our existing prescreening filters . . . Instead, you can run two separate studies on Prolific to recruit your sample. Your first study would be a short study designed to filter your participants of interest. Your second study would be a longer one to actually collect the data" (Prolific, 2023, para. 1–3). Therefore, it was necessary to first collect a custom sample and then a pilot and a survey sample, for this study. The survey was created in Qualtrics and then distributed through Prolific.

To collect this data, I distributed six surveys in total in three phases: (phase one) two custom sample surveys, (phase two) two pilot test surveys, and (phase three) two final data

collection surveys (one of each for each platform). The reason I distributed two of each

survey phase is that one survey was for Reddit users and the other survey was for Facebook

users; the reason for this is to force platform variance in anonymity. Much existing research

on social media online communities has evaluated Reddit (see Andalibi et al., 2018; De

Choudhury & De, 2014; Mann & Carter, 2021; Park et al., 2018; Yoo et al., 2019) and

Facebook (see Andalibi, 2020; Christofides et al., 2009; Seiter & Brophy, 2022), and

concluded that Reddit provides more affordances of anonymity than Facebook (see Correa et

al., 2015; Triggs et al., 2021). See Table 3 for the order in which the surveys were

distributed.

During phase one of data collection, I created two custom surveys of inclusion criteria

questions. The Prolific settings indicated that only Reddit users could participate for Survey

#1. In this survey, participants were asked their age, the platform(s) they use, the number of

depressive episodes they had in the last year, the number of times they posted about their

depression on Reddit in the past three months, and whether they could find the text of

that/those post(s). Those who had indicated they had posted about their depression on Reddit

in the past 3 months were then documented and ineligible for participation in Survey #2. The

Prolific settings indicated that only Facebook users could participate for Survey #2, and the

same questions that were asked in Survey #1 were asked regarding Facebook posting. The

custom sample surveys yielded N = 293 Facebook posters and N = 307 Reddit posters that

met all eligibility criteria for the study. Participants were compensated for their time based on

Prolific's requirement of an $8 per hour minimum payment.

In phase two of data collection, I conducted two pilot tests of my final survey

instrument on 12 participants (as suggested by Sheatsley, 1983). Using the eligible

participants identified in phase one of my data collection, I had a total of six Facebook

posters and six Reddit posters review my survey instrument. The survey instrument included

all items that were to be included in the final survey; in addition, at the end of each page on

Qualtrics (i.e., after a set of questions), participants were asked an open-ended question:

"Were you confused by any of the questions you were just asked to answer in this survey?

Please explain which questions you found confusing, and then in your own words, tell us

why you were confused." The purpose of this question was to evaluate if people who met the

full inclusion criteria understood what the survey was asking of them. Once all 12 responses

were completed, I reviewed the responses to check for irregularities in responses and

qualitative feedback on the wording of the survey.[7] All participants indicated that the survey

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[7] Only one participant was confused by the purpose of the open-ended question asking, "Were you confused by any of the questions you were just asked to answer in this survey? Please explain which questions you found confusing, and then in your own words, tell us why you were confused." Here were their responses:
1. No confusion at all. It was all clear. Just make it more fun and engaging. This survey is interesting, but feels so "laboratory institutional" with the participant made to feel like we're wearing a cold, drafty mental hospital nightgown like in those horror movies. I wish I could share more, but I worry about my privacy. Good luck in your studies. Happy Holidays!
2. No confusion. It'll get boring if you keep asking this. But thank you for your level of compassion and empathy. I'm grateful.
3. No confusion. This is one of the reasons I'm quite wary of FB. Especially nowadays. I don't mind you keep asking every page. You taught me a lesson that doesn't make me feel alone during a survey. A new angle for me to look at things. I like having a sort of friendly, empathic professional ready to assist to encourage me to share my hidden insights. Very cool.
4. These were pretty clear. Now I appreciate this text box. It's like I can share my perceptions as I go along. Feels good by now if I keep an optimistic point of view. Lesson learned. Thank you for helping me realize this.
5. You've made me so curious now. I like the way you designed this survey. Intriguing. Might have some questions for you later when I'm done. I'm deeply introverted and love to learn despite my disabilities.
6. No confusion. Kinda mentally spent by now...
7. None. Fatigue stage setting in...
8. No confusions. Now I'm really curious about you, the researcher. Dunno why.

made sense; therefore, no modifications were made based on pilot study feedback. Thus, the survey was ready for phase three (see Appendix C for survey instrument).

Phase three of data collection again used the eligible participants from phase one but excluded those who had participated in the pilot test (i.e., phase two), to collect the data that would be used for analysis. All data was checked for adherence to attention checks, speeding, and straightlining. Survey completion ranged from 185 to 7299 seconds. I collected a quota sample, collecting participants for each platform until I reached approximately equal numbers of participants who had posted on Reddit and participants who had posted on Facebook. There were 128 Reddit participants and 149 of the Facebook participants that shared the text of their posts, meaning I ended up analyzing 149 Facebook posts (and 334 associated comment) and 128 Reddit posts (and 217 associated comments).

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9. No confusions. Hope I can pass all your attention checks despite my dyslexia.
10. No confusions. Hope this is over soon. Have to focus more on attention checks.
11. No confusions. Thank you for letting me try to help your studies along. I learned a lot of lessons through this experience. I'm grateful.

Table 3

Phase Distribution of Surveys on Prolific

Phase	Survey	Sample Specifics	Compensation per hour	*N*
1	#1	Custom sample to collect Reddit users that meet inclusion criteria	$8.40	1,000
1	#2	Custom sample to collect Facebook users that meet inclusion criteria	$8.40	1,100
2	#3	Pilot test of eligible participants from Survey #1 (i.e., Reddit users)	$8.01	6
2	#4	Pilot test of eligible participants from Survey #2 (i.e., Facebook users)	$8.01	6
3	#5	Final data collection of eligible participants from Survey #1 (i.e., Reddit users), excluding those who participated in Survey #3 pilot test	$8.01	223
3	#6	Final data collection of eligible participants from Survey #2 (i.e., Facebook users), excluding those who participated in Survey #4 pilot test	$8.01	229

IV. CHAPTER FOUR: DATA ANALYSIS PLAN

Because I had both quantitative data and qualitative data, I will outline the specific analysis plans for each type of data. My quantitative data was used to test hypotheses 1 through 5 (using regression, mediation, and moderation) in addition to the model introduced in Figure 3 (p. 64; path model/structural equation modeling). The subsequent qualitative data analysis thematically investigated communication skills by people with depression in online communities in addition to the channel/platform and network-related factors of digital communication skills that may play a role in online depression disclosures.

Quantitative Analysis

After data collection ended, the data was prepared for analysis. Using the codebook for the survey (i.e., question, variable name, values and instructions on creating composite scores), I cleaned the data and prepared it for analysis. Then, I checked for missing data; any variable that had more than 20% missing data were excluded from data analysis.[8] Next, I checked the data for regression analysis assumptions by checking the descriptives of the variables, normality, independence of observations, linearity, homoscedasticity, multicollinearity, and outliers; the specifics are outlined in the results.

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[8] There are many different opinions surrounding the exclusion of data (see Dong & Peng, 2013 for some of these arguments). I used 20% as a conservative benchmark, but there were only two participants with partial completion; one participant completed only 5% of the survey and the other only 45% of the survey. McNeish (2017) indicates that when there is 50% of data missing with a 250 sample size, there is a .375 Type-I error rate when using ML methods. Thus, I follow Dong and Peng's (2013) suggestions for reporting missing data and a) acknowledge missing data and context, b) explain my approach and methods, and c) document them in my dissertation. In light of transparency, as I cannot know why two participants did not complete at least 50% of the survey, I prefer to exclude the data from my analyses.

Statistical tests were analyzed using SPSS, R, and MPlus. I conducted a series of analyses, starting with descriptive statistics of each variable, followed by univariate inferential statistics (i.e., Pearson correlations), moderations and mediations, and finally, structural equation modeling using path analysis. I used an alpha level of .05 to determine significance.

The full model (see Figure 3, p. 64) is analyzed using structural equation modeling path analysis with observed variables only[9], which yielded the best fit following the use of various methods employed to improve model fit, though the fit was still unsatisfactory for interpretation (see Results). Before running an SEM, I investigated the structure of the measures by running an EFA, followed by a confirmatory factor analysis (CFA) to ensure that all items loaded properly onto each conceptual factor (Levine et al., 2006). Each measure should include at least three variables for statistical identification of a factor within SEM— though more are preferred (Watkins, 2018)—as fewer than three variables provides imprecise results (Child, 2006; Fabrigar et al., 1999). In order for an SEM to be interpretable, it must meet certain fit statistics criteria. I used the following fit statistics cut-off criteria: RMSEA < .06 (Hu & Bentler, 1999), CFI > .90 (Fan et al., 1999), TLI > .90 (Byrne, 1994), and SRMR < .08 (Hu & Bentler, 1999).

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[9] I take a more conservative and confirmatory approach to structural equation modeling (Jöreskog, 1993; Kline, 2016), meaning "the researcher has a single model that is either retained or rejected based on its correspondence to the data" (Kline, 2016, p. 11). Before choosing to reject a model for poor fit, however, I will use a number of methods used to improve fit (see below for methods used); however, I do not endorse respecifying the model by removal of variables post-hoc. In the case of a poor fitting model, future researchers may contribute to science by using the results of this dissertation to test other predictions about theoretical models that might employ similar variables with different relationships.

Initially, I had planned to run the model using latent variables and latent variable interactions. While latent variable interactions can technically be coded and estimated, "The proper estimation of interactions between latent variables remains highly controversial, and there are many methods available that require various (and sometimes different) assumptions" (Hayes et al., 2017, p. 80). Muthén (2015), one of the researchers responsible for the MPlus software (which can handle many SEM analyses), noted that they have not yet developed a suitable method for providing useful fit statistics for latent variable interactions. However, in the spirit of scientific inquiry and challenge, I attempted to run the model in Figure 3 by including latent variable interactions. Unfortunately, the model either would not converge or provided unsatisfactory fit statistics.

Thereafter, I attempted to run the model with latent variables an observed interaction variable (i.e., single item indicator calculated by multiplying the independent variable by the moderator) for the interactions. Similarly, the model provide unsatisfactory fit statistics.

In attempting to improve the model fit in both of the aforementioned cases, I used a number of methods. I attempted to run the model with all items (though this was not expected to improve fit), the removal of lower loading items, parceling (i.e., random selection of a subset of items for each latent variable; Matsunaga et al., 2008)[10], MLR for more robust estimates, bootstrapping, Monte Carlo simulation, and the use of theoretically relevant mod indices. I consulted code in the MPlus user manual (Muthén & Muthén, 2017), MPlus forum (*MPlus discussion*, n.d.), and manual PROCESS code (Stride et al., 2015). I

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[10] Note, one committee member endorsed the use of parceling while another did not, demonstrating the disagreements over statistical principles that are common in the social sciences.

attempted to run these models using both Mplus and R (using the sem and lavaan packages).[11] None of these methods improved the model fit to the point of satisfactory fit.

Then, I used a path model using observed variables, or the means as the constructs. Path analysis is based on ordinary least-squares (OLS) regression and is defined by Pearl (2012) as a causal inference method that uses quantitative data in a structural equation model that tests theoretical models. The data are cross-sectional and thus correlational, meaning that though the structure implies a causal, directional model, results must be interpreted as correlational (Kline, 2016). While the ideal data for SEM is longitudinal data, researchers still employ SEM to test cross-sectional data that is theoretically causal in nature, though Kline (2016) emphasizes the importance of specifying the possibility of "reciprocal causation" (p. 455) in these cases. To obtain more robust estimates, I employed the use of maximum likelihood with robust standard errors (MLR) as my estimation method. In addition, I used bootstrapping methods to improve estimation of standard errors. Of the various methods, this method of running the model in Figure 3 produced the best fit of the data (though still unsatisfactory for interpretation) and thus the theoretical implications will be reported in the Results section.

I used OLS regression to test H1. I examined the R and R^2 values to understand how much of the variance in the dependent variable was explained by the independent variable

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[11] It was suggested that a multi-group analysis may be useful for my data, as PROCESS analyses indicated platform-related differences; however, the theorizing of the relationships between my variables was not informed by hypotheses predicting differences in paths of the groups, as the use of quota sampling by platform was imposed as a way to create variance in *anonymity* rather. Yet, this suggestion is interesting and would build upon the findings of this dissertation; thus, future researchers should consider hypothesizing about platform differences as they relate to the emotional support seeking process.

and control variables; thereafter, I examined the degrees of freedom, F-value, and significance of the model prior to examining the significance of any variables.

Then, to test H2 and H3, I conducted mediation analyses using the PROCESS macro for R (Hayes, 2013). All mediations were run using model 4 and 5,000 bootstrapped samples to obtain confidence intervals for the indirect effect (see Preacher & Hayes, 2004). To test H4 and H5, I conducted moderation analyses using the PROCESS macro for R (Hayes, 2013). All moderations were run using model 1 and 5,000 bootstrapped samples. Both moderation analyses and mediation analyses provide answers to the "how" and "when" of "understanding the mechanism(s) by which an effect operates and establishing its boundary conditions or contingencies" (Hayes, 2012, p. 1). In other words, moderation and mediation help explain the relationship between two variables, where "how" is approached with a mediation analysis, and "when" is answered by moderation analyses (Hayes, 2012; Igartua & Hayes, 2021). Both moderation and mediation use the assumptions of OLS regressions (Hayes, 2012; Hayes & Rockwood, 2017; Igartua & Hayes, 2021). In both PROCESS moderation and mediation models, the observed (i.e., manifest) variables are used. I will examine the model statistics (R, R^2, degrees of freedom, F-value, and significance); if the model is significant, I will then examine the significant direct relationships. For mediations, I will also examine the indirect effects, which will provide an estimate, error term, and confidence intervals. For moderations, I will examine the significance of the interaction term (which is created by multiplying the independent variable by the moderating variable); if the term is significant, I will examine the simple slopes for significance and visualize the interaction in order to interpret the interaction. I test each of these hypotheses using PROCESS moderation and mediation models as one statistical method in order to investigate

the relationship of my variables, as Igartua and Hayes (2021) explain, "Statistical methods are mathematical tools that enable us to discern order in the chaos of our data and detect signs of processes that can explain the relationship between variables" (p. 16).[12]

I opted to test H2–H5 using PROCESS as Hayes, the researcher who developed PROCESS, has explained that PROCESS and SEM differ in a couple of ways. SEM provides more flexibility than PROCESS in terms of model specification and handling missing data and accounting for random measurement error in cases of using latent variables (Hayes et al., 2017; Kline, 2016). Yet, when SEM models use only observed variables the "results will be substantively identical. The choice [between the two methods], in that case, is inconsequential" (Hayes et al., 2017, p. 81).

It is of note that the final sample used for these analyses did not include missing data, and hypotheses were generated separately, informed by multiple theories (i.e., Büchi & Hargittai's [2022] model, only some elements of SIDE [Lea et al., 2001], and Luo & Hancock's [2020] model) rather than testing only one previously established theory or framework, indicating that there is likely a chance of misspecification in the model presented in Figure 3. Therefore, I tested my original hypotheses using PROCESS to test the individual relationships after rejecting the model in Figure 3 as a viable theoretical model; yet, these relationships cannot be interpreted as representing the entire online community and support process but rather act as only portions of truth within a representation of reality.

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[12] For an in-depth discussion on the use of PROCESS moderations and mediations and the history of moderation and mediation practices, see Hayes and Rockwood (2017).

Qualitative Analytic Plan

Using the posted text and related comments provided by the participants, I performed a qualitative analysis to identify emergent codes related to the online communication skills employed by individuals with depression. I used Nowell et al.'s (2017) and Braun and Clarke's (2006) approach to thematic analysis: a) familiarize yourself with the data, b) generate initial codes, c) search for themes, d) review themes, e) define and name themes, f) produce the report. This model allows for a systematic approach to data analysis in which researchers can identify, analyze, organize, describe, and report themes in a data set (Braun & Clarke, 2006). The analysis process is an iterative and reflective process between the phases.

During phase one (i.e., familiarize yourself with the data), I read through all of the qualitative responses and took notes on my theoretical thoughts, compared the results to existing research, and noted potential codes or themes. A code is a word or short phrase that describes a concept or idea, whereas a theme is a larger pattern that is seen in the data (Tracy, 2013). There were no predetermined codes; rather I assigned codes as concepts emerged in the data to ensure I was not missing any concepts in the data that did not fit into an existing framework; however, there were some codes that I identified in the data that were also concepts from the existing literature (e.g., *narrative* was identified in previous literature as a way people self-disclosed about their depression online, which was met with support from others [Andalibi et al., 2017]; it was also present in the current dataset).

Themes can be generated inductively (i.e., from the data) or deductively (i.e., informed by prior theory) (Boyatzis, 1998). With inductive coding, the researcher identifies themes without attempting to fit the data to an existing framework or theory, whereas the

deductive approach does attempt to fit them to an existing framework or theory. While there are existing frameworks onto which an analysis of this data will likely fit, I used a combination of both inductive and deductive analysis in an attempt to make sense of the data. I based some of my coding on existing literature, but I was also open to any emergent themes that were specific to the sample of individuals with depression. I used tables and mind maps (Braun & Clarke, 2006) to make connections between themes that were inductively and deductively determined. In determining codes, I employed both a semantic approach (i.e., analyzing the explicit content) and a latent approach (i.e., examining the subtext and assumptions). I also chose to read the Facebook posts and comments separately from the Reddit posts and comments to establish whether there were codes that appeared specific to one platform over another; I did this in each phase of analysis and then compared codes across both platforms.

In phase two (i.e., generating initial codes), I went through the data and codes and began establishing an audit trail of code generation; I compared these to my own reflexive journaling (see definition below). As I coded, I took notes on potential themes and patterns that seemed to be occurring, but none of these notes were treated as final themes, as final themes were determined in phase 3.

Phase three (i.e., searching for themes) consisted of examining the codes and diagramming to make sense of how the codes were connected to possible themes. I started by re-reading all the notes I had taken about potential themes, notes from phases one and two, my audit trail, and reflexive journaling to determine potential communication skills exhibited on each platform along with explanations about each theme. A theme is defined as "an abstract entity that brings meaning and identity to a recurrent experience and its variant

manifestations. As such, a theme captures and unifies the nature or basis of the experience into a meaningful whole" (DeSantis & Ugarriza, 2000, p. 362). A theme is developed by finding patterns among codes, or "bringing together components or fragments of ideas or experiences, which often are meaningless when viewed alone" (Nowell et al., 2017, p. 8). In the case of this data, a theme referred to a type of *communication skill* that was used by the poster or a response of a commenter. Thereafter, I separated my data (i.e., the themes, meaning the communication skills and comment themes) into five lists: a) overall depression disclosure (i.e., the post) communication skills, b) Reddit disclosure post communication skills, c) Reddit comments associated with depression disclosure posts, 4) Facebook disclosure post communication skills, and d) Facebook comments associated with depression disclosure posts. Following that analysis, I stratified the posts and comments by the number of paralinguistic digital affordances (i.e., PDAs—likes, favorites, upvotes) associated with each post in order to ensure that there were no clear thematic differences in communication skills based on the number of PDAs that were received. Most researchers have used a continuous variable to measure the number of PDAs a post received; however, Tiggemann and colleagues (2018) performed an experiment to gauge what social media users defined as a low number versus a high number of likes. They determined that up to 10 PDAs is considered low, and 100 or more PDAs is considered high; thus, I separated the posts into low (0-10 PDAs), medium (11-99 PDAs) and high (100+) PDAs. Among the Facebook posts, 62 were low, 75 were medium, and 12 were high; among the Reddit sample, 72 were low, 36 were medium, and 20 were high, and one did not indicate the number of PDAs. I then read through the posts again, noting any differences between those with low, medium, and high posts; however, no clear qualitative patterns emerged.

During phase four (i.e., reviewing themes), the themes—which were the communication skills and the comment themes identified in this dataset—were compared back to the raw data, and those that were redundant were collapsed (Braun & Clarke, 2006). Additionally, themes that could not be classified as a communication skill or were "substantially overlap[ped] with other codes" were dropped per King (2004) such that the final "data within themes should cohere together meaningfully, with a clear and identifiable distinction between themes" (Nowell et al., 2013, p. 10; see also Braun & Clarke, 2006). A strong theme is "specific enough to be discrete and broad enough to capture a set of ideas contained in numerous text segments" (Nowell et al., 2017, pp. 9–10). Upon comparing my themes to the existing interpersonal literature, I found that the communication skills I identified could fit neatly into the two previously identified categories of communication skills: direct communication skills and indirect communication skills. These two categories were informed by previous interpersonal scholarship on indirect and direct communication (see Afifi & Steuber, 2009; Crowley & Faw, 2014) reviewed earlier. There were four direct communication skills identified: hypothetical questions, requests for advice, requests for friendship, and requests for relating. There were three indirect communication skills identified: metaphor, narrative, and venting. These specific communication skills are outlined in the qualitative findings section of this dissertation in more detail.

In phase five (i.e., defining and naming themes), the themes (i.e., communication skills and comment themes) were named, and the definitions were documented. At this point, I re-reviewed the data and ensured that the themes were sufficiently representative of the data.

And finally, in phase six (i.e., producing the report), the themes were described in the dissertation along with examples from the raw data along with reasoning for theoretical choices that were made during the course of the analysis. In doing so, I "attempt[ed] to theorize the significance of the patterns and their broader meanings and implications, often in relation to the literature" (Nowell et al., 2017, p. 11). While I provided the text of the depression disclosure posts, as I received consent from the participants to do so, I did not receive consent to use the commenter responses, and as such, I did not use the exact wording from the comments. I did, however, provide examples of the type of wording that was used in comments.

To increase the trustworthiness of my data, I ensured *dependability of my data, kept an audit trail, utilized reflexive journaling,* and *participated in peer debriefing*. I increased the dependability of my data (Nowell et al., 2017) by keeping notes on my research and analytic process (Tobin & Begley, 2004). Additionally, I provided an audit trail, which included evidence of the choices made regarding theoretical and methodological issues (Koch, 1994). The records included keeping notes I took regarding codes and themes. I also incorporated reflexivity (i.e., reflexive journaling), whereby I recorded the logistics of the research, methodological decisions, and rationales, as well as my own personal reflections on my own "values, interests, and insights information about the self" (Nowell et al., 2017, p. 3). Finally, I participated in peer debriefing by consulting a psychologist about the emergent themes found in my qualitative analysis of online communication skills of people with depression to ensure that "themes are sufficiently clear and comprehensive" (Nowell et al., 2017, p. 10). These debriefings were recorded. To ensure that the interpretation accurately

depicted depression, the psychologist read through the report and confirmed that the report correctly addressed the subject.

Data Cleaning & Preparing

Before data cleaning, I received 522 responses. Of those, three did not give consent and were removed from analysis. Thereafter, I found that there were 69 participant duplicate responses, 55 of which had no data. The remaining 14 participants with duplicate surveys had completed the survey twice; I suspected they forgot to copy the code at the end of the survey, which would qualify them for payment on Prolific. In these cases, I removed the more recent survey and maintained the participants' first survey attempt. I did, however, review the responses of the duplicates to see if data was consistent. In two cases, the responses were extremely different, including demographic information, so I chose to delete both duplicates. Thereafter, I removed one participant for speeding (i.e., completing the survey in only 80 seconds), one for failing one of the three attention checks, one for answering only five questions, and one for only completing 45% of the survey. Therefore, 446 participant responses completed 100% of the survey and were viable for analysis.

Once composites of the measures were calculated, they were checked for normality. Their skew and kurtosis were all within the acceptable range of -2 to 2 (Byrne, 2010; Hair et al., 2010), indicating no need for transformation (see Table 4). Thereafter, I ran all bivariate correlations (see Table 4).

Table 4

Overall Bivariate Correlations

	1	2	3	4
1. Anonymity affordances				
2. Self-anonymity	.50***			
3. Depression	-.01	.07		
4. Online emotional support	.02	-.14**	-.23***	
5. Self-disclosure	.34***	.30***	.14**	.11*
6. Group identification	.11*	-.06	-.13**	.44***
7. Privacy skills	.07	-.01	-.16**	.22***
8. Algorithm skills	.08	.07	.08	.02
9. Stigma	.05	.003	.46***	-.08
M(SD)	5.02(1.42)	3.84(1.63)	12.27(6.19)	3.24(.92)
skew	-.78	.30	.16	-.19
kurtosis	.11	-.99	-.37	-.75

Note. * $p < .05$, ** $p < .01$, *** $p < .$

Table 4 Cont.

Overall Bivariate Correlations Cont.

	5	6	7	8
1. Anonymity affordances				
2. Self-anonymity				
3. Depression				
4. Online emotional support				
5. Self-disclosure				
6. Group identification	.18***			
7. Privacy skills	.11*	.30***		
8. Algorithm skills	.18***	.12*	.13**	
9. Stigma	.19***	-.19***	-.15**	-.02
M(SD)	4.74(1.15)	5.36(.96)	4.05(.72)	41.85(7.32)
skew	-.41	-.66	-.85	-.86
kurtosis	.83	.63	1.10	.75

Note. * $p < .05$, ** $p < .01$, *** $p < .$

Table 4 Cont.

Overall Bivariate Correlations Cont.

	9
1. Anonymity affordances	
2. Self-anonymity	
3. Depression	
4. Online emotional support	
5. Self-disclosure	
6. Group identification	
7. Privacy skills	
8. Algorithm skills	
9. Stigma	
M(SD)	2.49(.59)
skew	-.23
kurtosis	.03

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Though the collection of data from two separate platforms was intended as a way to build in variation in anonymity, it is possible that doing so also resulted in platform-related differences. Given this assessment of support on two distinct platforms, I ran a number of independent samples t-tests. The predictor variable was platform (i.e., Reddit or Facebook), and the dependent variables were all key variables of interest in the model. There were significant differences between platforms (see Table 5) for perceived anonymity affordances (i.e., Reddit was higher), perceived self-anonymity (i.e., Reddit was higher), online emotional support (i.e., Facebook was slightly higher), and depth of disclosure (i.e., Reddit was higher). The test for difference in stigma was also close to significance ($p = .053$) such that stigma was higher for Reddit users than Facebook users. Given these differences, and the lack of theoretical motive for testing interactions by platform, I have tested all hypotheses first across all responses and then separately by platform. Bivariate correlations by platform can be found in Tables 6 and 7.

Table 5

Independent Samples T-Tests between Platforms

	F	p	t	df	Reddit M(SD)	Facebook M(SD)
Anonymity affordances	50.53	<.001	13.37	382.85	5.79(.925)	4.27(1.427)
Self-anonymity	9.59	< .001	17.18	432.74	5.08(1.46)	2.86(1.26)
Online emotional support	.47	.01	-2.46	443.68	3.13(.92)	3.34(.91)
Self-disclosure	.18	< .001	6.79	444	5.10(1.09)	4.39(1.11)
Group identification	.26	.17	-1.37	444	5.32(1.03)	5.45(.97)
Stigma	.04	.05	1.94	444	2.55(.58)	2.44(.59)

Table 6

Reddit Bivariate Correlations

	1	2	3	4
1. Anonymity affordances				
2. Self-anonymity	.37***			
3. Depression	.04	.14*		
4. Online emotional support	.22	0.17**	-.30***	
5. Self-disclosure	.36***	.16*	.18**	.08
6. Group identification	.30***	.04	-.14*	.36***
7. Privacy skills	.23***	.10	-.14*	.23***
8. Algorithm skills	.34***	.17**	.09	.78
9. Stigma	-.003	-.04	.43***	-.06
M(SD)	5.79(.93)	4.84(1.39)	12.28(6.38)	3.13(.92)
skew	-.70	-.37	.32	-.19
kurtosis	.53	-.63	-.40	-.77

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 6 Cont,

Reddit Bivariate Correlations Cont.

	5	6	7	8
1. Anonymity affordances				
2. Self-anonymity				
3. Depression				
4. Online emotional support				
5. Self-disclosure				
6. Group identification	.25***			
7. Privacy skills	.18**	.26***		
8. Algorithm skills	.20**	.17**	.08	
9. Stigma	.22***	-.14*	-.14*	-.04
M(SD)	5.10(1.09)	5.31(.96)	4.02(.72)	42.35(6.97)
skew	-.59	-.79	-.77	-.69
kurtosis	1.78	1.21	.82	-.20

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 6 Cont,

Reddit Bivariate Correlations Cont.

	9
1. Anonymity affordances	
2. Self-anonymity	
3. Depression	
4. Online emotional support	
5. Self-disclosure	
6. Group identification	
7. Privacy skills	
8. Algorithm skills	
9. Stigma	
M(*SD*)	2.55(.58)
skew	-.18
kurtosis	.08

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 7

Facebook Bivariate Correlations

	1	2	3	4
1. Anonymity affordances				
2. Self-anonymity	.19**			
3. Depression	-.05	.02		
4. Online emotional support	.13	.01	-.15*	
5. Self-disclosure	.13	.15*	.11	.24***
6. Group identification	.08	-.10	-.12	.53***
7. Privacy skills	.03	-.06	-.18**	.19**
8. Algorithm skills	-.12	-.11	.07	.04
9. Stigma	-.01	-.10	.50***	-.09
M(*SD*)	4.27(1.43)	2.84(1.18)	12.26(6.01)	3.34(.91)
skew	-.44	1.17	-.02	-.18
kurtosis	-.58	1.89	-.33	-.78

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 7 Cont.

Facebook Bivariate Correlations Cont.

	5	6	7	8
1. Anonymity affordances				
2. Self-anonymity				
3. Depression				
4. Online emotional support				
5. Self-disclosure				
6. Group identification	.16*			
7. Privacy skills	.08	.33***		
8. Algorithm skills	.15*	.08	.18**	
9. Stigma	.12	-.23***	-.14*	-.02
M(SD)	4.39(1.11)	5.42(.97)	4.08(.72)	41.35(7.64)
skew	-.34	-.54	-.94	-.96
kurtosis	.67	.08	1.45	1.28

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 7 Cont.

Facebook Bivariate Correlations Cont.

	9
1. Anonymity affordances	
2. Self-anonymity	
3. Depression	
4. Online emotional support	
5. Self-disclosure	
6. Group identification	
7. Privacy skills	
8. Algorithm skills	
9. Stigma	
M(SD)	2.44(.59)
skew	-.27
kurtosis	-.03

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Control Variables

For the purpose of my analyses, I treated education, income, online community

posting frequency, and online visiting frequency as scale variables. Additionally, due to the

small sample size of nonbinary and other genders, my analyses only included female

(dummy code = 0) and male (dummy code = 1). See Tables 8 and 9 for the frequency of visiting and frequency of posting on the online communities. Platform was also dummy coded (0 = Reddit, 1 = Facebook).

There were some significant differences in control variables by platform. In this sample, Facebook users ($M = 33.59$, $SD = 9.33$) were older than Reddit users ($M = 37.87$, $SD = 11.57$), $t(426.56) = -4.30$, $p < .001$. However, there was no significant difference in education, income, or the frequency of platform visiting between Reddit and Facebook users. Yet there was a significant difference in platform posting such that users posted to Facebook ($M = 1.83$, $SD = .70$) more often than users posted to Reddit ($M = 1.64$, $SD = .70$), $t(444) = -2.75$, $p = .01$. In addition, there is a significant gender difference by platform, such that there were more female Facebook users ($N = 147$) than female Reddit users ($N = 114$) and more male Reddit users ($N = 98$) than female Reddit users ($N = 67$) in this sample, $\chi^2(3) = 9.99$, $p = .02$, Cramer's $V = .15$. There are no significant race differences between platforms, however.

Table 8

Frequency of Visiting Online Community

	Facebook	Reddit	Overall
M(SD)	2.16(.89)	2.29(.79)	2.23(.84)
Skew	.45	.26	.34
Kurtosis	-.46	-.28	-.41
Frequencies			
Rarely	$N = 53$ (23.7%)	$N = 31$ (14.0%)	$N = 84$ (18.8%)
Sometimes	$N = 102$ (45.5%)	$N = 110$ (49.5%)	$N = 212$ (47.5%)
Often	$N = 49$ (21.9%)	$N = 66$ (29.7%)	$N = 115$ (25.8%)
Very Often	$N = 20$ (8.9%)	$N = 15$ (6.8%)	$N = 35$ (7.8%)

Table 9

Frequency of Posting on Online Community

	Facebook	Reddit	Overall
M(*SD*)	1.83(.70)	1.64(.70)	.74(.70)
Skew	.41	.78	.58
Kurtosis	-.29	.01	-.25
Frequencies			
Rarely	*N* = 75 (33.5%)	*N* = 106 (47.7%)	*N* = 181 (40.6%)
Sometimes	*N* = 115 (51.3%)	*N* = 91 (41.0%)	*N* = 206 (46.2%)
Often	*N* = 32 (14.3%)	*N* = 23 (10.4%)	*N* = 55 (12.3%)
Very Often	*N* = 2 (.9%)	*N* = 2 (.9%)	*N* = 4 (.9%)

V. CHAPTER FIVE: QUANTITATIVE RESULTS

Structural Equation Modeling Path Analysis

Following attempts to analyze the model in Figure 3 (p. 64) using latent variables and multiple methods to improve model fit, which resulted in either nonconvergence or poor model fit, I used MPlus to test the model using path analysis with observed variables. I ran the model a total of 6 times: a) Figure 3 with the full sample and only affordance anonymity, b) Figure 3 with the full sample and only self-anonymity, c) Figure 3 with the Reddit subsample and only affordance anonymity, d) Figure 3 with the Reddit subsample and only self-anonymity, e) Figure 3 with the Facebook subsample and only affordance anonymity, f) Figure 3 with the Facebook subsample and only self-anonymity. None of the models met the required satisfactory fit statistics criteria (see quantitative analysis section within the Methods chapter). See Table 19 for fit statistics of the models. It is common practice in structural equation modeling to review *modification indices* that may improve model fit (Lei & Wu, 2007). Modification indices provide suggestions about possible relationships between variables that will improve model fit; however, modification indices should only be adopted into the model if they make theoretical sense. After adding five additional relationships from the modification indices to my model, fit was still unacceptable, indicating that the full model was uninterpretable and therefore rejected.

Table 19

Fit Statistics of Full Model Figure 3 Path Analyses, Overall and for Each Platform

Platform	Anonymity type	χ^2 (df, p)	RMSEA	CFI	TLI	SRMR
Both	Affordance	2098.70 (54 ***)	.30	.11	-.24	.15
	Self	2093.49 (54 ***)	.30	.12	-.23	.15
Reddit	Affordance	1126.90 (54 ***)	.31	.12	-.23	.21
	Self	1287.43 (54 ***)	.33	.07	-.29	.22
Facebook	Affordance	1208.74 (54 ***)	.32	.09	-.27	.15
	Self	903.64 (51 ***)	.27	.14	-.19	.14

*** $p < .001$

There are a number of reasons for poor model fit. A lack of model fit indicates a poor model of the data itself, indicating that the relationship between the variables may not be correct, the measurement of the variables is incorrect, variables were left out of the model that should be included, or the sample was not representative (Christensen, 2013; Ruczinski, n.d.). When there is a lack of fit, it is recommended that instead the researcher "look for simpler versions [of the model] that still fit the data adequately" (Christensen, 2013, p. 181). Additionally, Cole and Preacher (2013) state that researchers should "test simpler models containing fewer variables" (p. 300). They explain that simpler models may be favored for a number of reasons: "(a) although simple models are still susceptible to measurement error, these effects often are more easily recognized and corrected in simple models than in more complex models; (b) simpler models are easier to specify, estimate, and interpret; and (c) as simple laws tend to operate under a wider variety of circumstances, more parsimonious models are likely to be more replicable and generalizable" (p. 313). In the case of this dissertation, I will therefore interpret only the regression, mediations, and moderations previously hypothesized.

Relevant to my current study, it is possible that there was measurement error that would not allow for satisfactory model fit. For example, Zarouali et al.'s (2017) measure validation study indicated that the algorithm skills measure should be a 4-factor model; yet my data indicated that there was only a 2-factor model. This is one example of possible measurement error within my data. When there is measurement error, it will be more influential in a more complex model, according to Cole and Preacher (2013).

It is quite also possible that the model is not indicative of a true theoretical model. As I was attempting to test aspects of multiple theories and frameworks in one model, it is possible that the result did not accurately reflect reality and included misspecification or lacked essential variables (such as norms). Kline (2016) explains that "the point of SEM is to *test a theory* by specifying a model that represents predictions of that theory among plausible constructs measured with appropriate observed variables (Hayduk et al., 2007). If such a model does not ultimately fit the data, this outcome is interesting because there is value in reporting models that challenge or debunk theories" (p. 10). Because the model in Figure 3 is not an exact replication of Büchi and Hargittai's (2022) model (i.e., digital skills as a moderator) nor Luo & Hancock's (2020) model (i.e., social media support seeking) nor SIDE (Lea et al., 2001) theory (i.e., anonymity and deindividuation when identity is salient) nor Naslund and colleagues' (2016) model (i.e., stigma as a catalyst for going online for peer support), there is much room for misspecification and missing variables. Thus, the rejection of the model in Figure 3 indicates that the model as it stands is not a sufficient representation of reality, and future researchers may improve upon scientific and theoretical thinking of this model by incorporating aspects such as identity salience (i.e., from SIDE), motivations (i.e., from Luo and Hancock [2020]), different digital skills (i.e., from Büchi and Hargittai [2022]

and the digital skills literature), or stigma reduction (i.e., from Naslund and colleagues [2016]).

Stigma as a Predictor of Anonymity

In order to test whether stigma positively predicted perceived anonymity in an online community of people struggling with depression (H1), I conducted linear regressions using two different dependent variables: a) anonymity affordances regressed on stigma and b) self-anonymity regressed on stigma. Before running any models, all data were checked for normality, independence of observation, linearity, homoscedasticity, and multicollinearity. All assumptions were met for all variables, and stigma was centered.

All Users

The regressions were run first only with control variables (model 1); then with the control variables and stigma (model 2); and then finally with the control variables, stigma, and platform (model 3). Stigma did not significantly predict any type of anonymity (See Tables 10 and 11). There were, however, significant relationships between the platform and the types of anonymity; therefore, I split the data by platform and reran each regression (see the APPENDIX for subsample Table results). For all users, stigma was not a significant predictor of either anonymity affordances or self-anonymity. Thus, across the sample, H1 was not supported.

Table 10

Stigma Predicting Anonymity Affordances for All Users

	Model 1	Model 2	Model 3
Constant	4.92(.34)***	4.85(.34)***	5.52(.30)***
Age	-.02(.01)***	-.02(.01)**	-.01(.01)
Education	.15(.09)	.15(.09)	.08(.08)
Gender	-.02(.14)	-.03(.14)	-.23(.12)
Income	.05(.03)	.05(.03)	.03(.02)
Stigma		.14(.12)	.02(.10)
Platform			-1.53(.12)***
	$R = .190$, $R^2 = .036$, $F(4, 421) = 3.93$, $p = .004$	$R = .198$, $R^2 = .039$, $F(5, 420) = 3.42$, $p = .005$	$R = .548$, $R^2 = .300$, $F(6, 419) = 29.97$, $p < .001$

$B(SE)$; * $p < .05$, ** $p < .01$, *** $p < .001$

Table 11

Stigma Predicting Self-Anonymity for All Users

	Model 1	Model 2	Model 3
Constant	4.52	4.52(.39)***	5.40(.32)***
Age	-.03	-.03(.01)***	-.01(.01)*
Education	.11	.11(.11)	.02(.09)
Gender	.01	.02(.16)	-.25(.13)
Income	.01	.01(.03)	-.01(.02)
Stigma		-.02(.14)	-.18(.11)
Platform			-1.99(.13)***
	$R = 205$, $R^2 = .042$, $F(4, 421) = 4.63$, $p = .001$	$R = .205$, $R^2 = .042$, $F(,5 420) = 3.70$, $p = .003$	$R = .619$, $R^2 = .383$, $F(6, 419) = 43.28$, $p < .001$

$B(SE)$; * $p < .05$, ** $p < .01$, *** $p < .001$

Reddit

With the subset of Reddit users, stigma did not significantly predict either type of

anonymity (see Appendix B for Tables 23 and 24 with full results). Thus, H1 was not

supported in the Reddit subsample.

Facebook

With the subset of Facebook users, the relationship between stigma and self-anonymity was approaching significance ($p = .09$) such that an increase in stigma was associated with a decrease in self-anonymity (see Appendix B for Tables 32 and 33 with full results). There was, however, no significant relationship between stigma and affordance anonymity. Thus, there was weak support for H1 for the Facebook subsample.

Self-disclosure Mediating Anonymity and Online Emotional Support

I then ran a number of mediations to test if disclosure fully mediated the relationship between anonymity and online emotional support (H2). Before running any models, all data were checked for normality, independence of observation, linearity, homoscedasticity, and multicollinearity. All assumptions were met for all variables. Then, I ran mediations using the Hayes (2017) PROCESS macro model 4 and 5,000 bootstrapped samples. All continuous predictor variables were centered.

All Users

I ran a series of two mediation analyses to test the mediating relationship of self-disclosure on each type of anonymity and online emotional support across all users. The analyses were as follows: a) anonymity affordances and online emotional support mediated by self-disclosure and b) self-anonymity and online emotional support mediated by self-disclosure. First, I ran the data with the predictor and controls and thereafter added platform as a predictor to show significant platform differences (model 2).

In models for both types of anonymity, disclosure fully mediated the relationship between anonymity and online emotional support (see Tables 12 and 13), yielding support for H2. In addition, as the frequency of visiting an online community increased, so too did

self-disclosure. Also, as the frequency of posting on and visiting an online community

increased, so too did perceptions of online emotional support. Depression was also

consistently a predictor of online emotional support; however, this relationship was weak.

There were also consistent platform differences in both self-disclosure and online emotional

support; therefore, I split the data by platform and reran each model.

Figure 4

Self-Disclosure Mediating Anonymity Affordances and Online Emotional Support on All
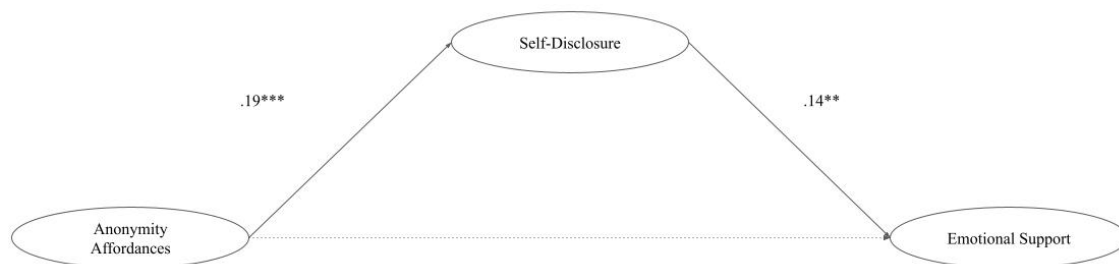
Users

Note. **p < .05, ***p < .001*

Figure 5

Self-Disclosure Mediating Self-Anonymity and Online Emotional Support on All Users
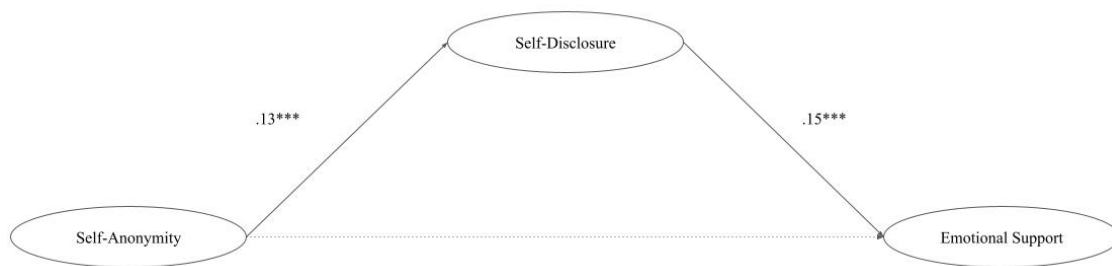
Note. ***p < .001*

Table 12

Self-Disclosure Mediating Anonymity Affordances and Online Emotional Support on All

Users

	Model 1	Model 2
Outcome variable: Self-disclosure	$R = .4304$, $R^2 = .1852$, $F(8, 417) = 11.85$, $p < .001$	$R = .4508$, $R^2 = .2032$, $F(9, 416) = 11.79$, $p < .001$
Constant	.59(.29)*	.72(.29)**
Anonymity affordances	.26(.04)***	.19(.04)***
Depression	.01(.01)	.01(.01)
Post frequency	.06(.08)	.09(.09)
Visit frequency	.17(.07)*	.16(.07)*
Age	-.02(.01)**	-.01(.01)**
Education	-.12(.07)	-.13(.07)
Gender	.08(.11)	.02(.11)
Income	-.02(.02)	-.02(.02)
Platform		-.38(.13)**
Outcome variable: Online emotional support	$R = .4162$, $R^2 = .1732$, $F(9, 416) = 9.6857$, $p < .001$	$R = .4434$, $R^2 = .1966$, $F(10, 415) = 10.15$, $p < .001$
Constant	2.11(.23)***	1.98(.23)***
Anonymity affordances	-.03(.03)	.03(.04)
Self-disclosure	.12(.04)**	.14(.04)***
Depression	-.03(.01)***	-.03(.04)***
Post frequency	.32(.07)***	.29(.07)***
Visit frequency	.04(.06)	.05(.06)
Age	.003(.004)	.002(.004)
Education	.01(.06)	.02(.06)
Gender	.08(.09)	.13(.09)
Income	.04(.02)*	.04(.02)*
Platform		.35(.10)***
Indirect effect	.03(.01); CI[.01, .06]	.03(.01); CI[.01, .05]

B(*SE*); * $p < .05$, ** $p < .01$, *** $p < .001$; 5000 bootstrapped samples

Table 13

Self-Disclosure Mediating Self-Anonymity and Online Emotional Support on All Users

	Model 1	Model 2
Outcome variable: Self-disclosure	$R = .4082$, $R^2 = .1666$, $F(8, 417) = 10.42$, $p < .001$	$R = .4310$, $R^2 = .1858$, $F(9, 416) = 10.55$, $p < .001$
Constant	.33(.29)	.56(.30)
Self-anonymity	.20(.03)***	.13(.04)**
Depression	.01(.01)	.01(.01)
Post frequency	.10(.09)	.11(.09)
Visit frequency	.22(.07)**	.20(.07)**
Age	-.02(.01)**	-.01(.01)**
Education	-.11(.07)	-.12(.07)
Gender	.07(.11)	.01(11)
Income	-.01(.02)	-.01(.02)
Platform		-.42(.13)**
Outcome variable: Online emotional support	$R = .4363$, $R^2 = .1903$, $F(9, 416) = 10.87$, $p < .001$	$R = .4463$, $R^2 = .1992$, $F(10, 415) = 10.33$, $p < .001$
Constant	2.17(.23)***	2.04(.23)***
Self-anonymity	-.08(.03)**	-.05(.03)
Self-disclosure	.14(.04)***	.15(.04)***
Depression	-.03(.01)***	-.03(.01)***
Post frequency	.28(.07)***	.28(.07)***
Visit frequency	.05(.06)	.06(.06)***
Age	.002(.004)	.001(.004)
Education	.02(.06)	.02(.06)
Gender	.09(.08)	.12(.09)
Income	.04(.02)*	.04(.02)**
Platform		.23(.11)*
Indirect effect	.03(.01); CI[.002, .05]	.02(.01); CI[.01, .04]

B(*SE*); * $p < .05$, ** $p < .01$, *** $p < .001$; 5000 bootstrapped samples

Reddit

I also ran a series of two mediation analyses to test the mediating relationship of self-disclosure on each type of anonymity and online emotional support across on Reddit. The analyses were as follows: a) anonymity affordances and online emotional support mediated by self-disclosure and b) self-anonymity and online emotional support mediated by self-

disclosure. There were no significant mediations (see Appendix B for Tables 25 and 26 with full results). There were, however, a number of direct effects. Anonymity affordances strongly and positively predicted self-disclosure on Reddit. And depression (weakly and negatively) and post frequency (moderately and positively) consistently predicted online emotional support. Thus, there was no support for H2 within the Reddit subsample.

Facebook

Thereafter, I ran a series of two mediation analyses to test the mediating relationship of self-disclosure on each type of anonymity and online emotional support across on Facebook. The analyses were as follows: a) anonymity affordances and online emotional support mediated by self-disclosure and b) self-anonymity and online emotional support mediated by self-disclosure.

There was one significant mediation such that self-disclosure fully mediated the relationship between self-anonymity and online emotional support on Facebook (see Appendix B for Tables 34 and 35 with full results). Self-disclosure did not, however, significantly mediate the relationship between affordance anonymity and perceived online emotional support. In addition, across both models, there was consistency in that self-disclosure moderately and positively predicted online emotional support, depression weakly and negatively predicted online emotional support, and post frequency moderately and positively predicted online emotional support. Thus, there was partial support for H2 within the Facebook subsample.

Group Identity as a Mediator of Anonymity and Self-disclosure

To test the third hypothesis, I ran a number of mediations to test if perceived online group identification partially mediated the relationship between each type of perceived

anonymity and disclosure in an online community of people struggling with depression (H3). Before running any models, all data were checked for normality, independence of observation, linearity, homoscedasticity, and multicollinearity. All assumptions were met for all variables. Then, using the composite measures, I ran mediations using the Hayes (2017) PROCESS macro model 4 and 5,000 bootstrapped samples. All continuous predictor variables were centered.

All Users

I ran a series of two mediation analyses to test the mediating relationship of group identification on each type of anonymity and self-disclosure across all users. The analyses were as follows: a) anonymity affordances and self-disclosure mediated by group identity and b) self-anonymity and self-disclosure mediated by group identity. First, I ran the data with the predictor and controls (model 1) and thereafter added platform as a predictor to show significant platform differences (model 2).

There was one significant partial mediation: the relationship between affordance anonymity and self-disclosure was partially mediated by group identification on online communities after controlling for platform, suggesting some support for H3, as group identification did not fully mediate self-anonymity and self-disclosure (see Tables 14 and 15). Depression (weakly and negatively) and frequency of posting on the online group (moderately and positively) predicted group identification consistently. Additionally, group identification (moderately and positively) and depression (weakly and positively) predicted self-disclosure. Self-disclosure did not, however, significantly mediate self-anonymity and self-disclosure. Yet, platform was a significant predictor of both group identification and self-disclosure; therefore, I split the data by platform and reran each model.

Figure 6

Group Identification Mediating Anonymity Affordances and Self-Disclosure on All Users
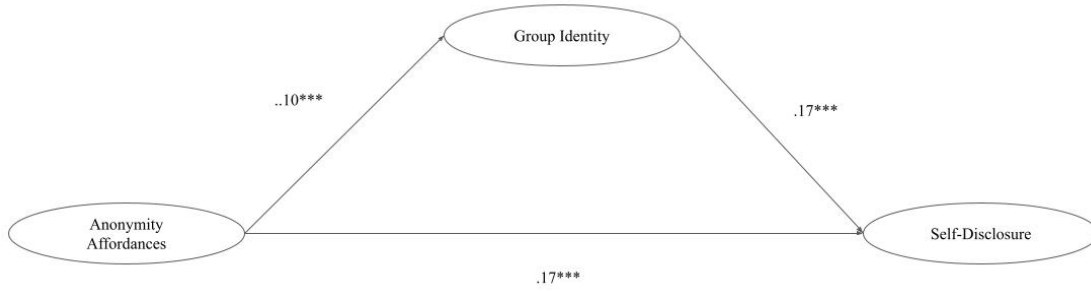
Note. ***p* < .001

Figure 7

Group Identification Mediating Self-Anonymity and Self-Disclosure on All Users
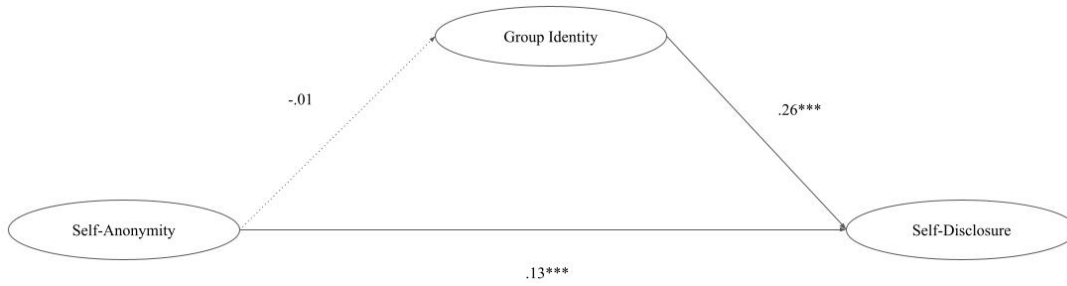
Note. ***p* < .001

Table 14

Group Identification Mediating Anonymity Affordances and Self-Disclosure on All Users

	Model 1	Model 2
Outcome variable: Group identification	$R = .3332$, $R^2 = .1110$, $F(8, 417) = 6.51$, $p < .001$	$R = .3488$, $R^2 = .1217$, $F(9, 416) = 6.40$, $p < .001$
Constant	-.58(.25)*	-.67(.25)**
Anonymity affordances	.06(.03)	.10(.04)**
Depression	-.02(.01)**	-.02(.01)**
Post frequency	.02(.07)	.01(.07)
Visit frequency	.21(.06)***	.22(.06)***
Age	.01(.01)*	.01(.01)
Education	-.09(.06)	-.09(.06)
Gender	-.28(.09)**	-.24(.09)**
Income	.02(.02)	.02(.02)
Platform		.24(11)*
Outcome variable: Self-disclosure	$R = .4580$, $R^2 = .2098$, $F(9, 416) = 12.46$, $p < .001$	$R = .4827$, $R^2 = .2330$, $F(10, 415) = 12.75$, $p < .001$
Constant	5.45(.29)***	5.62(.29)***
Anonymity affordances	.24(.04)***	.17(.04)***
Group identification	.20(.06***	.23(.06)***
Depression	.02(.01)*	.02(.01)*
Post frequency	.06(.08)	.09(.08)
Visit frequency	.13(.07)	.11(.07)
Age	-.02(.01)***	-.02(.01)**
Education	-.10(.07)	-.11(.07)
Gender	.14(.11)	.08(.11)
Income	-.02(.02)	-.02(.02)
Platform		-.44(.12)***
Indirect effect	.01(.01); CI[-.002, .03]	.02(.01); CI[.004, .05]

$B(SE)$; * $p < .05$, ** $p < .01$, *** $p < .001$; 5000 bootstrapped samples

Table 15

Group Identification Mediating Self-Anonymity and Self-Disclosure on All Users

	Model 1	Model 2
Outcome variable: Group identification	$R = .3260$, $R^2 = .1063$, $F(8, 417) = 6.20$, $p < .001$	$R = .3274$, $R^2 = .1072$, $F(9, 416) = 5.55$, $p < .001$
Constant	-.60(.25)*	-.64(.25)*
Self-anonymity	-.03(.03)	-.01(.03)
Depression	-.02(.01)**	-.02(.01)**
Post frequency	-.002(.07)	-.004(.07)
Visit frequency	.24(.06)***	.24(.06)***
Age	.01(.01)	.01(.01)
Education	-.08(.06)	-.08(.06)
Gender	-.27(.09)**	-.26(.09)**
Income	.02(.02)	.02(.02)
Platform		.07(.11)
Outcome variable: Self-disclosure	$R = .4518$, $R^2 = .2041$, $F(9, 416) = 11.85$, $p < .001$	$R = .4744$, $R^2 = .2250$, $F(10, 415) = 12.05$, $p < .001$
Constant	5.23(.29)***	5.47(.29)***
Self-anonymity	.21(.03)***	.13(.04)***
Group identification	.25(.06)***	.26(.06)***
Depression	.02(.01)	.02(.01)
Post frequency	.10(.08)	.11(.08)
Visit frequency	.16(.07)*	.13(.07)
Age	-.02(.01)***	-.02(.01)**
Education	-.09(.07)	-.10(.01)
Gender	.14(.11)	.08(.11)
Income	-.01(.02)	-.02(.02)
Platform		-.44(.13)***
Indirect effect	-.01(.01); CI[-.02, .01]	-.003(.01); CI[-.02, .01]

B(*SE*); * $p < .05$, ** $p < .01$, *** $p < .001$; 5000 bootstrapped samples

Reddit

I ran a series of two mediation analyses to test the mediating relationship of group identification on each type of anonymity and self-disclosure across Reddit users. The analyses were as follows: a) anonymity affordances and self-disclosure mediated by group

identification and b) self-anonymity and self-disclosure mediated by group identification. Group identification partially mediated anonymity affordances and self-disclosure on Reddit (see Appendix B for Tables 27 and 28 with full results). In addition, depression (weakly and negatively) and frequency of posting on the online group (moderately and positively) predicted group identification consistently. Group identification also moderately and positively predicted self-disclosure consistently. Self-disclosure did not, however, significantly mediate self-anonymity and self-disclosure. Thus, there was also some support for H3 within the Reddit subsample.

Facebook

I ran a series of two mediation analyses to test the mediating relationship of group identification on each type of anonymity and self-disclosure across Facebook users. The analyses were as follows: a) anonymity affordances and self-disclosure mediated by group identification and b) self-anonymity and self-disclosure mediated by group identification. There were no significant mediations (see Appendix B for Tables 36 and 37 with full results), indicating no support for H3 within the Facebook subsample. In addition, depression (weakly and negatively) and frequency of posting on the online group (moderately and positively) predicted group identification consistently.

Privacy Skills as a Moderator of Anonymity and Self-Disclosure

Next, I ran two moderation analyses for all users to test whether privacy skills moderated the relationship between each type of perceived anonymity and disclosure in an online community of people struggling with depression such that those high in privacy skills disclosed more as perceived anonymity increased, and those low in privacy skills had no significant change in disclosure as perceived anonymity increased (H4). Before running any

models, all data were checked for normality, independence of observation, linearity, homoscedasticity, and multicollinearity. All assumptions were met for all variables. Then, using the composite measures, I ran moderations using the Hayes (2017) PROCESS macro model 1 and 5,000 bootstrapped samples. All continuous predictor variables were centered.

All Users

I ran a series of two moderation analyses to test the moderating relationship of privacy skills on each type of anonymity and self-disclosure across all users. The analyses were as follows: a) anonymity affordances and self-disclosure moderated by privacy skills and b) self-anonymity and self-disclosure moderated by privacy skills. I ran the data with the predictor and controls (model 1) and thereafter added platform as a predictor to show significant platform differences (model 2).

There was no significant moderation of privacy skills on anonymity affordances and self-disclosure in online communities (see Table 16 and Figure 8). There was, however, a significant, moderate and positive relationship between privacy skills and self-disclosure. Depression also weakly and positively predicted self-disclosure. Platform was also a significant predictor of self-disclosure; therefore, I split the data by platform and reran each model.

Table 16

Anonymity Affordances and self-Disclosure Moderated by Privacy Skills for All Users

	Model 1	Model 2
Constant	5.35(.29)***	5.51(.29)***
Anonymity affordances	.26(.04)***	.18(.04)***
Privacy skills	.16(.07)*	.19(.07)**
Interaction	-.04(.05)	-.03(.05)
Depression	.02(.01)	.02(.01)*
Posting frequency	.05(.08)	.08(.08)
Visiting frequency	.16(.07)*	.15(.07)*
Age	-.02(.01)**	-.01(.01)*
Education	-.10(.07)	-.01(.07)
Gender	.08(.11)	.01(.11)
Income	-.02(.02)	-.02(.02)
Platform		-.42(.13)***
	$F_{(10, 415)} = 10.12, p < .001$, $R = .4428$, $R^2 = .1961$	$F_{(11, 414)} = 10.43, p < .001$, $R = .4658$, $R^2 = .2170$

$B(SE)$; * $p < .05$, ** $p < .01$, *** $p < .001$; 5000 bootstrapped samples

Figure 8

Model 2: Anonymity Affordances and Self-Disclosure Moderated by Privacy Skills for All

Users
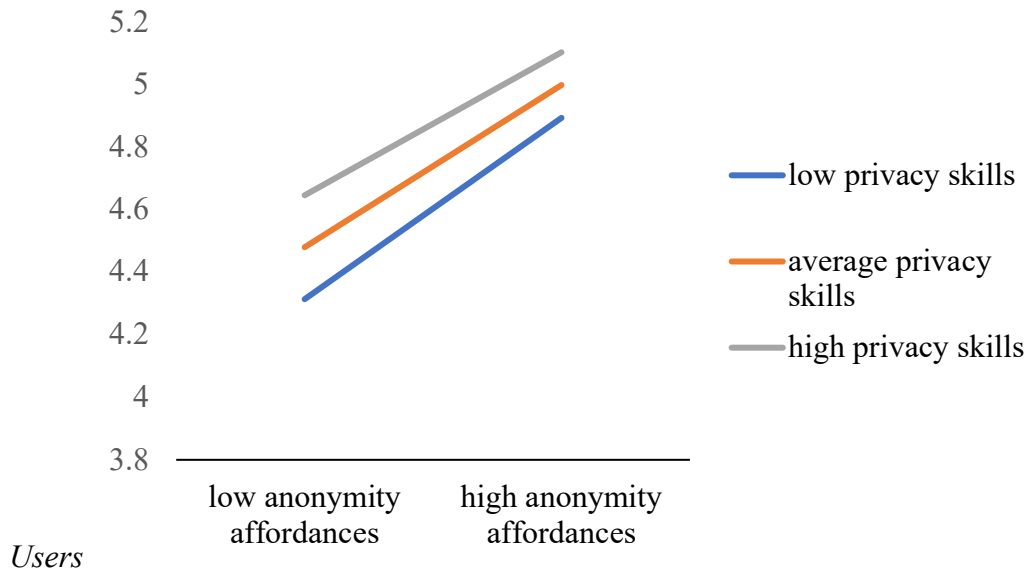
The moderation of privacy skills on self-anonymity and self-disclosure on online communities was approaching significance ($p = .08$) for model 2.[13] For model 2, conditional effects indicated significance at average privacy skills ($B = .11$, $SE = .04$, $p = .01$) and high privacy skills ($B = .17$, $SE = .05$, $p < .001$), but not at low privacy skills ($p = .29$). Thus, those with high privacy skills, had the highest self-disclosure on online communities when there was high self-anonymity (see Figure 9). Thus, there was some support for H4, such that the measure of privacy skills was approaching significance as a moderator of self-anonymity and self-disclosure in online communities (see Table 17).

Table 17

Self-Anonymity and Self-Disclosure Moderated by Privacy Skills for All Users

	Model 1	Model 2
Constant	5.12(.29)***	5.38(.30)***
Self-anonymity	.20(03)***	.11(.04)**
Privacy skills	.17(.08)*	.19(.07)*
Interaction	.07(.04)	.08(.04)
Depression	.01(.01)	.02(.01)
Posting frequency	.10(.09)	.11(.08)
Visiting frequency	.19(.07)**	.16(.07)*
Age	-.02(.01)**	-.01(.01)*
Education	-.09(.07)	-.10(.07)
Gender	.07(.11)	.001(.11)
Income	-.02(.02)	-.02(.02)
Platform		-.46(.13)***
	$F(10, 415) = 9.40$, $p < .001$, $R = .4297$, $R^2 = .1847$	$F(11, 414) = 9.87$, $p < .001$, $R = .4558$, $R^2 = .2078$

B(*SE*); * $p < .05$, ** $p < .01$, *** $p < .001$; 5000 bootstrapped samples

[13] Note that the p-value is above .05, which is a commonly chosen alpha p-value used in social sciences, though of course there are many arguments against using this significance level as well, as there is no one "correct" alpha level (Miller & Ulrich, 2019; Trafimow et al., 2018). In some cases, researchers may set their alpha level to .10 to determine significance, but this is highly contextual. As such, some researchers may choose not to accept this result due to worries about an increase in Type I error.

Figure 9

Model 2: Self-Anonymity and Self-Disclosure Moderated by Privacy for All Users
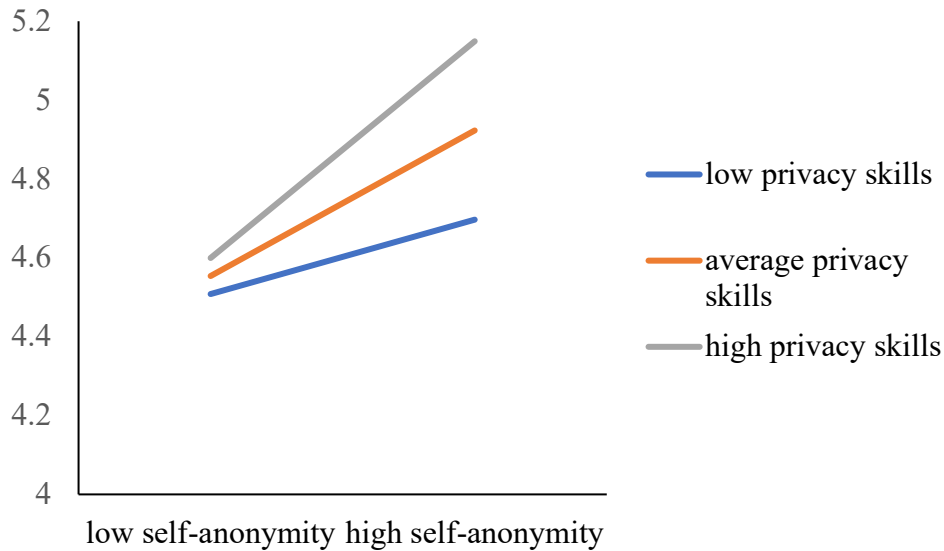
Reddit

Next, I ran two moderation analyses for the Reddit subsample. The analyses were as follows: a) anonymity affordances and self-disclosure moderated by privacy skills and b) self-anonymity and self-disclosure moderated by privacy skills.

There was no significant moderation of privacy skills on anonymity affordances and self-disclosure on Reddit (see Appendix B for Table 29 with full results). There was, however, a significant, moderate and positive relationship between privacy skills and self-disclosure.

There was a significant moderation of privacy skills on self-anonymity and self-disclosure on Reddit (see Appendix B for Table 30 with full results). The conditional effects indicated significance at high privacy skills ($B = .18$, $SE = .07$, $p = .01$), but not at low privacy skills ($p = .56$) or average privacy skills ($p = .23$). Thus, there was some support for H4 in the Reddit subsample.

Facebook

I also ran two moderation analyses for Facebook. The analyses were as follows: a) the relationship between anonymity affordances and self-disclosure moderated by privacy skills and b) the relationship between self-anonymity and self-disclosure moderated by privacy skills. There were no significant moderations of privacy skills on either type of anonymity and self-disclosure on Facebook (see Appendix B for Tables 38 and 39 with full results). Thus, there was no support for H4 within the Facebook subsample.

Algorithm Skills as a Moderator of Self-Disclosure and Online Emotional Support

Before running any models, all data were checked for normality, independence of observation, linearity, homoscedasticity, and multicollinearity. All assumptions were met for all variables. Then, using the composite measures, I ran moderations using the Hayes (2017) PROCESS macro model 1 and 5,000 bootstrapped samples. All continuous predictor variables were centered.

All Users

Finally, I ran one moderation analysis for all online community users to test whether algorithm skills moderated the relationship between self-disclosure and perceived emotional support from others, such that algorithm skills amplify the benefits of disclosure for perceived emotional support (H5). First, I ran the data with the predictor and controls (model 1) and thereafter added platform as a predictor to show significant platform differences (model 2). Neither model had a significant interaction, thus indicating no support for H5 among all users (see Table 18 and Figure 10). Platform was, however, a significant predictor of self-disclosure; therefore, I split the data by platform and reran each model.

Table 18

Self-Disclosure and Online Emotional Support Moderated by Algorithm Skills on All Users

	Model 1	Model 2
Constant	2.09(.23)***	1.93(.23)***
Self-disclosure	.10(.04)*	.12(.04)***
Algorithm skills	.01(.01)	.01(.01)
Interaction	.001(.004)	.001(.004)
Depression	-.03(.01)***	-.03(.01)***
Posting frequency	.34(.07)***	.30(.07)***
Visiting frequency	.04(.06)	.07(.06)
Age	.004(.004)	.001(.004)
Education	.01(.06)	.03(.06)
Gender	.09(.09)	.14(.09)
Income	.04(.02)	.04(.02)*
Platform		.31(.09)***
	$F_{(10, 415)} = 8.93, p < .001,$ $R = .4208, R^2 = .1771$	$F_{(11, 414)} = 9.48, p < .001,$ $R = .4486, R^2 = .2013$

$B(SE)$; * $p < .05$, ** $p < .01$, *** $p < .001$; 5000 bootstrapped samples

Figure 10

Model 2: Self-Disclosure and Online Emotional Support Moderated by Algorithm Skills on

All Users
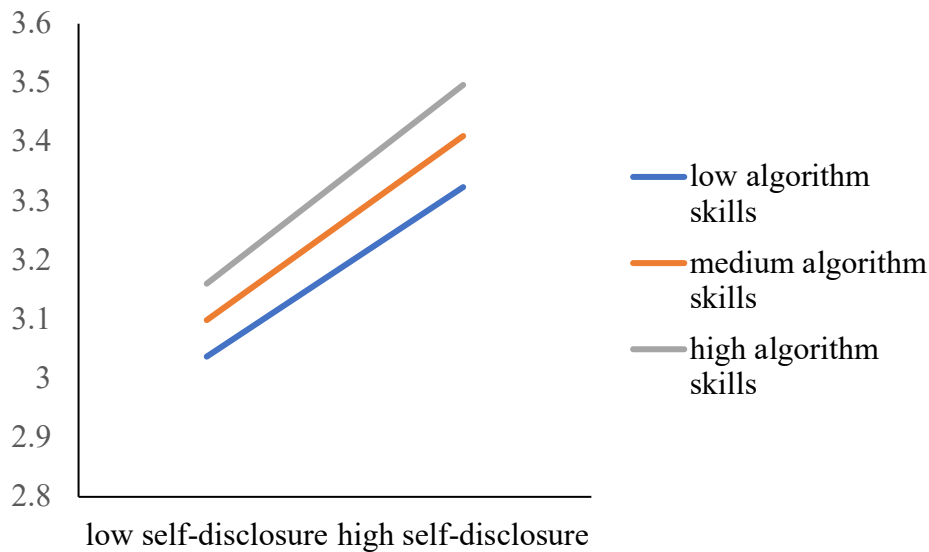
Reddit

Next, I ran one moderation analysis for the Reddit subsample. The interaction between self-disclosure and online emotional support was not significantly moderated by algorithm skills on Reddit (see Appendix B for Table 31 with full results). Thus, there was no support for H5 within the Reddit subsample.

Facebook

Next, I ran one moderation analysis for the Facebook subsample. The interaction between self-disclosure and online emotional support was not significantly moderated by algorithm skills on Facebook (see Appendix B for Table 40 with full results). Thus, there was no support for H5 within the Facebook subsample

VI. CHAPTER SIX: QUALITATIVE RESULTS

The research questions that guided my qualitative analysis were a) (RQ1) *In what ways do people with depression use direct and indirect interpersonal communication skills to marshal emotional support online?* and b) (RQ2) *What do the comments associated with depression-related posts reveal about the ways in which channel and network-related factors (i.e., digital communication skills) play a role in shaping depression-related disclosures?* I first describe the different communication techniques that people employ when disclosing about depression, which reflects different interpersonal skills. I then explore platform differences in the disclosures, which may be a reflection of variation in digital skills. It is within this exploration of platform differences that I also probe further into the comments associated with the depression disclosure posts. In this section, I will refer to the participants who provided their post as *posters* and the people who commented on their posts as *commenters*.

First, I found that, consistent with interpersonal literature (see Afifi & Steuber, 2009; Crowley, 2016), people with depression used a number of direct strategies and a number of indirect strategies to marshal support online. While past research on marshaling indicated that people marshal support to both enhance support and limit interference from others (Crowley, 2016), this specific sample only included support for the former—likely due to the limited constraints of the data (i.e., it included only one post and the comments given to the post rather than a back-and-forth interpersonal dialogue). In this sample, more specifically, they used direct communication skill strategies such as hypothetical questions, requests for advice, requests for friendship, and requests for relating. While some of the existing literature on marshaling and communication skills is context specific and therefore not as applicable to

the current dataset, there were some themes that overlapped with the depression disclosures in this sample. For instance, Crowley and Faw (2014) indicate that people directly solicit support from people who oppose their relationship, which could be similar to how people with depression directly solicited friendship, advice, or relating from others. Similar to Pfender and colleagues' (2022) findings, the participants with depression in this sample also requested help from friends (i.e., requests for friendship) and asked for support from those who they felt could relate to them through shared experiences (i.e., requests for relating). The direct strategies demonstrated *voluntary* disclosures of their depression status, which mirror's Afifi and Steuber's (2009) definition of a direct communication skill strategy. Thus, the use of hypothetical question and requests for advice, while likely relevant to and alluded to in other literatures are presented here as specific communication skills used by people with depression online to directly marshal support.

In addition, the participants in this sample also used indirect communication skills such as narrative, metaphors, and venting. As indicated by marshaling literature (Crowley & Faw, 2014; Pfender et al., 2022), an indirect strategy occurred when the depression was alluded to or hinted at in a disclosure. The relationship-specific support seeking indirect strategies previously outlined by Crowley and Faw (2014) were not very relevant to the current sample; however, Pfender and colleagues' (2022) study indicated that people signaled depression distress by crying, which is an emotion-laden action just as venting is. In addition, it is interesting that Afifi and Steuber (2009) determined that writing about a secret could be considered an indirect strategy (they purport this in an interpersonal context); however, on social media—and specifically in the case of this data that is comprised of textual disclosures—writing about a secret may not automatically be indicative of an indirect

strategy. Thus, to build on marshaling research, the use of narrative, metaphors, and venting may be other useful forms of marshaling support—especially in an online context.

While these communication skills were found across both platforms examined in this dissertation, I also observed platform-related differences that were informed by the details of the poster disclosures as well as the types of commenter responses that accompanied the depression-related posts. While there was some overlap in the type of responses one could receive on Facebook and Reddit, there were clear platform-related norm differences that were apparent from the commenter responses. For instance, Facebook comments, in general, appeared warmer and more intimate compared to those on Reddit—likely due to the presence of more strong ties on Facebook (Costa, 2018; Hayes et al., 2016; Seiter & Brophy, 2022). Additionally, the combination of reading the poster disclosures along with the commenter responses showed that Facebook disclosures were often vaguer and pithier, whereas Reddit disclosures were more explicit and substantive, encouraging more reciprocal disclosure. Research has confirmed previously that Reddit encourages reciprocal disclosure in part because of its heightened anonymity (Andalibi et al., 2018).

In total, these findings show that digital communication skills necessitate a combination of both interpersonal support-related communication skills as well as channel-specific knowledge in order to interact effectively online. As Hargittai and Micheli (2019) explained, "to communicate effectively in a mediated environment, users need to be able to choose the communication functions and capabilities most appropriate for their purposes, that is, the ones that best match the social context in which their communication occurs" (p. 111). Thus, in order for people with depression to access the type of support they hope for, they

must understand the channel differences and norms. I elaborate further on these findings below.

Online Communication Skills of People with Depression

Based on my first research question (*In what ways do people with depression use direct and indirect interpersonal communication skills to marshal emotional support online?*), I found that there were two types of communication skills that people with depression were using to marshal support online in this sample: direct and indirect. These skills are umbrella terms, as each describes a group of specific communication skills. The direct and indirect communication disclosure techniques are well documented in the interpersonal literature—especially related to the revealing of information (Afifi & Steuber, 2009; Afifi & Weiner, 2004; Crowley, 2016; Crowley & Faw, 2014; Pfender et al., 2022). In the case of the current dissertation, I focus on these communication skills as the way in which people with depression attempt to marshal support. For direct techniques, people used hypothetical questions, made requests for advice, made requests for friendship, and made requests for others to relate to them. For indirect techniques, people used metaphors, told narratives, and vented. See Table 20 for definitions of these communication skills.

While some posts only contained one direct or one indirect strategy, others used multiple strategies in the same post—including both direct and indirect strategies in the same post. Additionally, all of these strategies appeared in both Reddit and Facebook posts. In this section, I explain how each communication skill was used online by people with depression.

Table 20

Definitions of Communication Skills Used by People With Depression to Marshal Support

Online

Communication Skill	Definition	Exemplars
Direct	"Strategies that seek to enhance support and are known by the [recipient(s) of the disclosure]" (Crowley & Faw, 2014, p. 243).	"I've been struggling with depression for a while now, and it feels like things are just getting worse. I feel tired all the time, even when I sleep for hours. It's hard to find the motivation to do anything, even things I used to enjoy. I feel like I'm letting everyone down, and I don't know how to make it stop. I know I'm not alone in this, but it still feels so isolating. I don't want to burden my friends and family with my problems, but I don't know who else to turn to. I'm just reaching out in the hope that maybe someone else who is going through something similar will see this and know that they're not alone either." (Reddit user) "I think i need help. Feeling kind of depressed." (Facebook user)
Hypothetical questions	"Hypothetical questions are a special class of 'conditional' question that seek a response by proposing a 'what-if' situation" (Speer, 2012, p. 352).	"Honestly, what's the point of life? You fight and struggle, and for what?" (Reddit user) "My mom is stressing me out so much. I'm honestly depressed at this point. How can she ignore the work I have put into her life?" (Facebook user) "Last year I wanted to die, I still kind of do. but the consequences are stopping me. Namely, my family and friends, i want to see them succeed and be happy and i can't be sure i will if i die because what if there's no afterlife. However, what if I'm... holding them all back?" (Reddit user)
Request advice	Requests for advice are questions or requests for	"Does anyone have advice for how to find a good therapist or psychiatrist? Sometimes I feel like the only people who get it, who can commiserate at least, are people who feel the

	advice or opinions.	same. But we're all stumbling in the dark, looking for a way out." (Reddit user)
		"The time I have had off for surgery as really aggravated my depression, sitting around and healing gives me a lot of time to sit and despair. Does anybody have any tips of beating the blues when there's not much I can do for 6 weeks?" (Facebook user)
		"grappling with deep family issues. The fractures run deep, and it feels like I'm losing parts of myself. Anyone been through something similar? Share your wisdom or a virtual shoulder to lean on? #FamilyStruggles #SeekingAdvice" (Reddit user)
Request friendship	Requests for friendship are questions or requests for friendship or companionship.	"Depression has been kicking my butt lately! I'm searching for different methods of coping and maybe even some new friends. Always open to PMs" (Reddit user)
		"would anyone want to hang out? i'm just in a really bad headspace right now and would like the company :(((" (Facebook user)
		"Is There Anyone in This City As Lonely As I Am? I caught the bus to the short north, walked in and out of shops...tried to strike up conversations and I failed. . . . I pride myself on kindness and I love having fun, so I promise you won't regret your time with me. I'm so lonely it hurts and I'm afraid what prolonged loneliness will do to me considering the fact that I already deal with major depressive disorder. I am literally crying out for someone." (Reddit user)
Request relating	Requests of relating are questions or requests for someone to relate to what the poster has experienced, where relating	"Is it just me or is everybody start feeling more depressed and sad when it comes to holidays and or winter time?" (Reddit user)
		"Do you ever just feel lost in your life?" (Facebook user)

	can be described as "to be known and to share what it feels like to be them" (Eriksen et al., 2014, p.111)	"Anybody else sometimes feel like they just aren't going anywhere in life? Like they're just stuck in a never ending loop. Hate this feeling man" (Reddit user)
Indirect	"Strategies that seek to enhance support but are done without the [recipient(s) of the disclosure]'s awareness" (Crowley & Faw, 2014, p. 243).	"I know I need to get over it and just go out and live my life and be better for myself." (Reddit user) "It's hard always being seen as a "strong" person. Don't forget to always check on your "strong" friends." (Facebook user) "feeling lost lately. The weight of expectations, constant comparison, It's suffocating. Despite the smiles, darkness lingers." (Reddit user)
Metaphor	"Metaphors in language invite people to understand one thing in terms of another, and this involves various forms of analogy, similarity, and comparison in thought" (Steen, 2008, p. 213).	"I feel like I am consistently drowning." (Reddit user) "The sadness comes over me like a raincloud. No umbrella can stop the impact" (Facebook user) "every step feels like a struggle against the weight of your own shadows" (Reddit user)
Narrative	"Narratives are considered a universal mode of expressing and construing identity, whether that be in daily life, in therapy, or as a social group: narratives organize spatial events into temporal orders for people to	"In April it will be 3 years since my TL, and if it does take a village, then I understand why I still do not have a handle on this. Unfortunately I do not have a partner, or a bunch of friends, my parents passed 20+ years ago, and I do not live near any of my extended family. I have essentially been on this journey by myself, and progressing very slowly. I am depressed, I feel defeated, and sometimes I am resigned to what happened and other times it pisses me off that I have not yet picked myself back up. I have had my share of struggles in my life, most of my life really. But I always had a smile on my face and geniunely took most things in stride and did

relate to and understand" (Wentzer & Bygholm, 2013, p. 389).

whatever it was I had to do to get to the other side. But this, this has broken my spirit. That is how it feels anyway. I can't do life alone anymore. I just mean, that I have always carried the weight, ya know, but this one, this one has taken me for a loop. I am not doing anything to help myself. I wish I had someone kicking me out the door to go learn how to talk with the electrolarynx, or go talk to a therapist, and babysit me to make sure I get online and attend a support meeting. Usually, I just don't think about any of it at all, and other times, I cry because I feel very alone. And those of you who might be reading this and are still new to being a Lary, or about to go through getting surgery, do not despair. I am just one of a few that is not thriving after almost 3 years. And honestly I am making this all harder on myself than it needs to be. Thank you all for listening. Tomorrow is another day. Lary on!" (Facebook user)

"60 days and struggling. I (27F) have noticed a sudden drop in my motivation toward my recovery. I did 30 days in rehab and am now in a PHP program, and in a couple of weeks will drop to IOP and return to work. I had a horrible summer. I went to detox twice as well as the psych ward. You would think I would never want to touch alcohol again after what I've been through, My brain is romanticizing the old times. I genuinely miss drinking with my friends and I'm jealous that they still get to. I have honestly felt awkward and out of place since leaving rehab. Drinking was a big part of my life and I don't feel like my life has gotten any better. I thought I would feel so much better. I thought I would be like one of those influencer girls with a super clean apartment, healthy eating, and exercise. That losing weight would somehow make this all worth it. At the end of the day and even by the weekend I'm too tired to do anything. I'm treatment fatigued. I was once excited to start working the steps and now I just don't even care about any of it. I'm just going through the motions. Getting to meetings has started feeling like a chore. It's

hard after the day to want to travel 30+ minutes to a meeting, it ends up being your whole night. It's even harder now that it's getting cold and dark early. I was really hoping to make cool sober friends and form a community, that hasn't happened. I'm confident I'm not going to relapse but I'm still miserable. I read about PAWS and am wondering if this is that. I was once so excited about recovery and this week the pink cloud suddenly lifted. If anyone has any tips, advice, or shared experience that would be helpful. Thanks." (Reddit user)

"2023. This year was literally about survival by the skin of my teeth. I started the year with a brand new tiny human and had to navigate motherhood. I ended up with PPD and thankfully hopped on medication early to help it with support of REDACTED, my doctor, and my therapist. Yet, while the medication helped with leveling the depression, it leveled all other emotions out and I felt nothing. Not even joy in moments I should have. But the doctor gave me a minimum amount of time to be on it before I stopped it. Then, REDACTED ended up in the hospital in March, then physical therapy, then skilled nursing, then assisted living, in and out of hospitals and emergency rooms, and eventually she will be going to a nursing home, she's had too many brushes with death in one year. All the while going back to working nearly full time, house hunting, going to a million appointments and making/taking a million phone calls to take care of REDACTED's assets and finances and to make duplicate documents, moving REDACTED around from facility to facility, I'm sure I'm missing stuff. I tried to enjoy the first year of our daughter's life, but a lot of it got overshadowed by outside stuff and immense amount of guilt and resentment towards situations that broke me. I felt like I was failing my daughter, my partner, and myself. And I pushed everyone away, dropped conversations and avoided talking about it on Facebook because I didn't have the energy and I didn't

want to be just another person lamenting their woes to their friends and on social media, Things got dark. However, I finally got off of the Zoloft. I'm working with my therapist to regain myself a little. As much as the situation with REDACTED sucks and the eventual nursing home is not how we thought things would be, things are starting to fall into place slowly but surely, and acceptance is settling in. I'm still at a job that I love with an amazing, forgiving, and understanding boss (thanks REDACTED). We bought an adorable home. And REDACTED is thriving, healthy, happy, very much loved, and has a loving home. I can't begin to thank REDACTED enough for all the love, patience, support, understanding, and being an amazing dad to our little banshee. There aren't enough words for how grateful and in love I am with you. Thank you. Thank you. Thank you. And thank you REDACTED for being an amazing Mamaw to our REDACTED, for coming in early at times and allowing me to get to my appointments to take care of things, and for helping our munchkin be safe and grow. Thank you to the friends that understood when I fell off the face of the earth to emerge days later and showed grace upon returning to conversations left on read, Before I keep rambling, here's to 2024. To homeownership. To good health, physical and mental. To fortune. To friendships. To love. To toddlerhood. To hailing thyself." (Facebook user)

Venting	Venting is "the expression of emotion [that] is uninhibited and referring mostly to feelings about oneself or a personal situation experience" (Rodríguez-Hidalgo et al., 2017, p. 640).	"still feeling lost out here and no one hears me" (Facebook user) "I think I'm just not built for life. Some people are amazing at life.. I'm just not one of them. They say if you're not good at something then you shouldn't do it anymore.. well I've never been good at living and I don't know how to get better at it no matter how hard I try. I just feel so pathetic and embarrassed at myself. I don't want to be a burden on this earth anymore." (Reddit user)

"Lately haven't been feeling like myself and more of a burden to anyone that has to accompany me as if its cumbersome to do so. I apologize that I can't fulfill the expectations that people set for me as I'm evidently a failure and it needs not to be mentioned. I understand that I don't even deserve my family's time and energy and the ignored communication efforts speak volumes. I apologize that I dont have it all figured out and im ashamed to display my vulnerabilities as its likely to be overlooked per usual." (Facebook user)

Direct Communication Skills

Hypothetical Questions. Hypothetical questions are defined as "a special class of 'conditional' question that seek a response by proposing a 'what-if' situation" (Speer, 2012, p. 352) and were posed by posters as a way for the poster to self-reflect—but commenters can interpret them as questions that are meant to be answered. This is a direct communication skill because both the poster and the commenter understand the interpersonal request through the use of a question mark (Crowley & Faw, 2014). As an example, one person on Reddit posted, "*So what's next? I can't cope with being a failure [sic] with not a single good quality anymore.*" While this question may have been posed as the poster's feeling about life, it could be interpreted by commenters as a question that they could answer with something specific. In this case, one commenter responded by challenging the poster, and helping them reframe their thinking.

Another participant used a question to marshal support from their Facebook network: "*My mom is stressing me out so much. I'm honestly depressed at this point. How can she ignore the work I have put into her life?*" This is another example of a hypothetical question that may be posed out of distress but is not necessarily meant to be answered; yet commenters appear to still read this question as an invitation to provide an answer. Similarly, someone posted to Reddit, "*I have not accomplished anything in years, at least it feel like that. But I'm going to be blunt, and I've never been before but I am so mentally not okay??? For no fucking reason??*" In this case, the question was again posed as a feeling frustration, but the question marks could imply that they were possibly asking people to respond to their post. Thus, while hypothetical questions in and of themselves are direct requests, in this sample they were often responded to by commenters as requests for

marshaling support. While social support literature suggests that active feedback from network ties can be an effective form of improving well-being (Burke & Kraut, 2016; Sandstrom & Dunn, 2014), there does not appear to be much literature discussing the specific benefits of hypothetical questions on marshaling support, indicating that there is a need for communication researchers to investigate the role of hypothetical questions in the support process.

Request for Advice. Requests for advice from posters are questions or requests for advice or opinions. This communication skill is a direct request, in which both the poster and commenter were aware of the request (Crowley & Faw, 2014). This skill requires online users to encode and decode messages (van Deursen et al., 2022). These requests came as questions or statements, both of which with the intent to receive something in return. For instance, one person on Facebook posted, "*Sharing a piece of my heart. I'm dealing with complex family issues. The weight is heavy, and I'm seeking solace in the shared struggles of this community. Any advice or words of comfort?*" In this example, the participant specifically asked for advice. Others used statements: "*Honestly I kind of feel pathetic asking this, but I need some encouragement or something to keep going. The existential dread is almost too heavy to handle right now*" (posted to Facebook).

One pattern that emerged among Reddit posters in particular was that when people requested advice in their post, they were often met with advice in their comments. Some examples of requests for advice that were met with advice include, "*Hi everyone, I've always suffered with depression but it's gotten pretty bad recently. I started binge eating and have no motivation for anything. I'm looking for ideas how others dig themselves out of this? Please let me know how you are healing as anything helps*" and "*Nothing bad especially happened*

to me, but I've found myself glued to my bed all week. Haven't left my apartment. Haven't

seen any friends or family all week. I need some advice for getting back on my feet." In both

of these cases, people explained a bit about what they were experiencing before asking for

advice so that others would understand the context of their experience and the type of advice

that might be beneficial. Thus, similar to people seeking advice online for health-related

issues (De Choudhury & De, 2014; Eysenbach et al., 2004; Greene et al., 2011; Swan, 2009),

people with depression also seek advice in online communities (see also Smit et al., 2021)

Request for Friendship. Requests for friendship was another direct communication

skill (Crowley & Faw, 2014) that required users to decode a message online (van Deursen et

al., 2022), which described questions or requests for friendship or companionship. When

these participants were posting online about their depression, they were typically expressing

feeling lonely or isolated and seeking people to help assuage those feelings. On Facebook,

people were likely seeking out companionship from their strong ties (Costa, 2018; Hayes et

al., 2016; Seiter & Brophy, 2022; Xu et al., 2021). For example, "*Would anyone want to*

hang out? i'm [sic] just in a really bad headspace right now and would like the company."

On Reddit, however, people do not know those they are attempting to connect with (Balani &

De Choudhury, 2015; Seiter & Brophy, 2022), so they may be more comfortable requesting

virtual friendships: "*Depression has been kicking my butt lately! I'm searching for different*

methods of coping and maybe even some new friends. Always open to PMs." However, it is

not always the case that people are seeking virtual friendships on Reddit. One participant

posted,

> "*I caught the bus to the short north, walked in and out of shops...tried to strike up*
>
> *conversations and I failed. For the past 8 years I was wrapped up on a toxic*

relationship, and when I came out of it I looked around and no one was there. I've

been craving friendship and human interaction so bad that I want to cry. I am

literally posting this hoping to find someone to hang out with today."

That participant then followed-up with a self-description, list of interests, and a request for

someone to pick them up so that they could explore the city together—indicating the desire

for a new and in-person friendship. This phenomena of requests for friendship online among

people with mental illness has been corroborated by other research that indicates people with

mental illness particularly, seek out friendships with people with shared interests online—

more so than those without mental illnesses (Gowen et al., 2012). Thus, one direct strategy

people with depression can use to marshal support online is to request friendship.

Request for Relating. Another common direct strategy was a request for other

people to relate. Relating can be described as "to be known and to share what it feels like to

be [you]" (Eriksen et al., 2014, p.111), where posters asked something along the lines of

"does anyone relate?" This direct communication skill (Crowley & Faw, 2014) is another

example of an interpersonal digital skill that requires that platform users decode posters'

depression disclosures (Afifi & Steuber, 2009; Crowley & Faw, 2014; van Deursen et al.,

2022). In this way, they were seeking to know that they are not alone in what they are

experiencing. One Reddit poster, for example, posted, "*Does anyone ever feel like no one is*

paying attention to what you're saying and you're almost invisible or is it just me..?" In this

case, and in others, participants posted about something broad that many people might be

able to relate to. But in other cases, they posted about something more specific:

"*I just turned 28 back in October and like always things never work out to me when it*

matters. I might just need to accept that in life things will never workout for me. This

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realization has made me very sad, painful and disappointed in myself. I try so hard

too. Does anyone else feel this way as well?" (posted Reddit).

Similar requests for relating appeared on Facebook as well. For instance, one person posted

on Facebook, "*Do you ever just feel lost in your life?*" while another posted, "*Does anyone*

else want to go scream in the woods or is it just me." Many times—though not always—the

poster used the term "anyone" as a way to marshal relating-related support and feedback

from others. According to previous scholars, relating is a way people connect with others

online, typically tied to an identity or experience that resonates with a commenter or poster

(Barta et al., 2023; Nardon et al., 2015). Specifically for people with depression in this

dataset, requests for relating also appeared to be a very common strategy for marshaling

support online.

Indirect Communication Skills

Metaphor. Metaphors, or "language [that] invite[s] people to understand one thing in

terms of another" (Steen, 2008, p. 213), are figures of speech that were applied to how a

poster was feeling about their depression, typically using imagery to refer to depression.

Because there was no specific ask associated with a metaphor, the use of metaphor could be

considered an indirect communication skill (Crowley & Faw, 2014). One participant posted

the following on Reddit: "*Sometimes, I find myself lost in a sea of dark emotions, grappling*

with a silent battle against depression. Each day is a journey in search of light and hope to

dispel the clouds that obscure my mind." They described depression as a sea, a battle, and

clouds. Another participant posted on Facebook, describing depression as a twisty road:

"*depression feels like a dark and twisty road that never ends. It gets twistier [sic] and longer*

every day, no end in sight, no light." The imagery was often associated with darkness or

something that was difficult to endure. In some cases, people even shared a poem with metaphorical imagery to express their depression. For example, one person posted a poem on Facebook:

"Words, worms, gone off their edges,

Haunting the gassy bubbles,

The evaporating breath,

The colorless, pulped flowers."

The use of metaphor—generally or in a poem—allowed people to share how they felt in an indirect manner. Other research has found evidence of people using metaphors to describe their depression in online communities, perhaps as a way to express emotion and normalize depression (Jing & Jiang, 2024; Love et al., 2012; Shi & Khoo, 2023). While the posters in this dataset were not directly requesting help from others, commenters saw these posts and—likely because they related to the feelings expressed—understood the meaning behind the metaphors and commented on the post (Jing & Jiang, 2024). In other words, because the posters and the commenters often shared some common experience, commenters appeared to understand these metaphors as the poster's attempt to marshal support.

Narrative. Previous research has also found that people use narratives—or a series of events, told as a story—as a way to marshal support online for their depression (Andalibi et al., 2017), which was also relevant for the current sample. Narratives can be defined as "a universal mode of expressing and construing identity . . . narratives organize spatial events into temporal orders for people to relate to and understand" (Wentzer & Bygholm, 2013, p. 389). Thus, narratives are another indirect communication skill that invites commenters to relate to in order to marshal support (Crowley & Faw, 2014). Posters typically recounted

stories about a specific difficult moment or gave a narrative as a way to provide more context

to their experiences with depression. While narratives do not have to be long, many of the

ones in this sample were. The following is a narrative posted on Reddit:

"I am a 30 year old male. Since i was a kid i have been very shy. growing up and at

school i had no friends. so after school i would just stay home and watch tv or play

video games. and besides school i really did not leave my house often. After high

school is when i isolated myself for a long time. Around people i had very bad anxiety

and instead of facing my fear i just hide and had no encouragment from family.

Noone seemed to care. When i was 28 i got my first job and my anxiety is bad but i

have to work to help with the finances. But still have bad social skills and do not talk

unless i have to. Me living this reclusive life used to not bother me that bad until a

few years ago. The realization hit me of how much behind i am in life. Also how

boring my life has been. my grandparents who raised me did not have much money

and we rarely went anywhere exciting or fun. So pretty much most of my life has been

spent at home. I turned 30 months ago. And just can not believe how much i screwed

up my life. Most of my coworkers are teenagers or young adults and seem to have fun

lifes. They talk about plans after work or relationships or trips etc. I do have a few

online friends that are also reclusives or former reclusives. When im at home i mostly

just lay around and do nothing. I feel like quitting my job and just hiding like i used

to. that i am too far gone. I have dreams but feel like they will never happen. lately i

have just been feeling very depressed and hopeless. No moviation to do anything but

sleep and nothing brings me joy."

From this narrative, there is a clear character (i.e., the poster), a story (i.e., progression through time from when the poster was a child until now), and some kind of conflict (i.e., struggling with mental health and relationships). People posted similar narratives on Facebook as well:

> *"My Christmas tree has been up for 4 years straight for reasons I won't get into. There have been many times I've wanted to take it, ornaments and all, and toss it out in my backyard and watch the elements destroy it over time but something hasn't let me. Most days I avoid eye contact with it all together because it's a reminder of a much happier time and sometimes thats hard to deal with. Christmas has always been my happy place. The past few years have tested that in ways I cannot describe. My inner child who believes in the magic of the season is hanging on by a thread. This morning, I lit the lights on the tree for the first time in four years. And as I sat looking at it through tears, I remembered so many memories I've tucked away. After a while, I wiped my eyes and thought to myself 'this is stupid' and got up to shut the lights back off and drag the tree out the backdoor once and for all but instead I stopped and sat back down, leaving the lights on. I guess my inner child is stronger than I thought she is. Merry Christmas."*

In this narrative, the imagery was extremely clear and read like a specific situation of internal conflict. In this narrative, however, there was also some sense of resolve, where the poster (i.e., character) seemed to feel some sense that they had overcome a difficult situation.

While neither of these narratives included a specific request or question, other people provided comments, likely because—according to other research—narratives elicit comments providing emotional support (Andalibi et al., 2017), and when posts include more

details, potential commenters find that there is more they can respond to (Andalibi & Forte, 2018).

Venting. Venting was the most common type of communication skill used to marshal support within this sample. Venting is "the expression of emotion [that] is uninhibited and referring mostly to feelings about oneself or a personal situation experience" (Rodríguez-Hidalgo et al., 2017, p. 640). Based on this data, venting was a free expression of emotion, and in this case, often included negative emotions and experiences. While some participants vented and also provided a direct request or question, that was not always the case in this sample. Even when posters did not ask directly for support, they still received supportive comments, indicating that the norms of the platform established venting as an accepted form of marshaling support—though indirectly (Crowley & Faw, 2014). People venting often mentioned feeling tired, exhausted, or fed up with their depression and the side effects. Some common topics people vented about included disconnection with others (i.e., social and emotional isolation), letting others down or feeling like a burden, feeling they could not relate to others, feeling stuck (e.g., in life, in their depressive symptoms, etc.), feeling bad about their life, and desiring death. This Reddit poster, for instance, vented about feeling bad about themselves:

> *"I am 46. I feel like a failure, I am a failure. I have been trying to accept the fact that I screwed up, made wrong choices and on top of that I was unlucky. I try to be happy with bare minimum, try to lead a simplistic life. I do ok but it affects my dreams. It's hard being middle aged and disappointed in yourself."*

On Facebook, people also vented. This Facebook poster, for instance, vented about feeling stuck: "*LIFE IS NOT GETTING BETTER FOR ME AND ITS SAD*." In general, venting was

negatively valanced. Other research has found evidence of venting in online support forums (Kim et al., 2022; Liu et al., 2017) and that in some cases, venting can be an adaptive coping response (Trần et al., 2023), as may be the case for the participants posting about their depression by venting online.

Venting, like any of the other skills, was at times used in combination with other communication skills used for marshaling support. This Reddit poster used venting along with other direct and indirect strategies:

"I'm so tired. I'm just tired. It's worse, knowing who I used to be. Before I started rotting from the inside out. I've read that being depressed robs you of your ability to recall happy memories. Maybe that's just pseudoscience, but it doesn't totally miss the mark. For me, depression robbed me of my ability to remember happiness itself. I can remember moments when I was happy. I can remember what I did, what I said, where I was. I can remember it in technicolor detail, but I can't feel anything. I can't remember how to be that person. It's like watching someone else's life. Months of being normal, being good, go by so fast. Months of wandering through miasmatic fog go past like years. I forget who I'm supposed to be, what I'm supposed to do, why I'm still breathing. Going through life like an echo of myself. Does it get better? I've talked to therapists, but there's only so many renditions of "that must be tough" before you give up even trying. Yeah, I get that it's tough. I live it every day and I wish I didn't have to, one way or another. I might be broken, in some way, but I'm not stupid. I didn't pay you for empty platitudes, my dude. Give me a workbook or a treatment plan or medication or whatever, but at least something. Does anyone have advice for how to find a good therapist or psychiatrist? Sometimes I feel like the only

people who get it, who can commiserate at least, are people who feel the same. But

we're all stumbling in the dark, looking for a way out."

In this example, the person was venting about their depression in addition to using a number

of other strategies, such as using metaphor (i.e., "*wandering through the miasmatic fog*"),

posing a hypothetical question (i.e., "*Does it get better?*"), using some narrative (i.e., about

the therapist and workbooks), and requesting advice (i.e., "*Does anyone have advice for how*

to find a good therapist or psychiatrist?"). Thus, people can employ one or multiple

communication skills when attempting to marshal support.

Platform-Related Differences

Taking a holistic analysis of the posts along with their associated comments, I

attempted to answer my second research questions (*What do the comments associated with*

depression-related posts reveal about the ways in which channel and network-related factors

(i.e., digital communication skills) play a role in depression-related disclosures?). I found

that disclosures seemed to differ by platforms and their affordances. As previously stated,

digital communication skills involve not only interpersonal elements, but they also include

platform-related elements (Hargittai & Micheli, 2019; Iordache et al., 2017; van Deursen et

al., 2022). In order to identify these platform and affordance–related differences, I conducted

a holistic analysis of the posts and their associated comments. Taking this approach, I

attempted to uncover how people consciously and subconsciously conceptualize these two

platforms (i.e., Reddit and Facebook) as online spaces of support.

This analysis revealed that there were clear distinctions in the communication of

depression on Reddit versus Facebook that could be explained by the differences in the

features or nature of the platforms, whether that be due to the strength of network ties or the

affordances of the platform. More specifically, both posters and commenters on Reddit engaged in deeper disclosures with more substantive and explicit details regarding their depression, which is likely due, at least in part, to the anonymity afforded to Reddit users, as established in existing literature (Andalibi et al., 2018a; Joinson, 2001; Pavalanathan & De Choudhury, 2015; Wright, 2000a). On the other hand, posters on Facebook were much vaguer in their posts, which elicited more pithy platitudes from commenters, which could be explained by the lack of anonymity on Facebook; yet, these platitudes were often warmer and more intimate (e.g., messages of love) than comments on Reddit posts, which may be attributed to stronger ties on Facebook (Costa, 2018; Ellison et al., 2007; Hayes et al., 2016; Krämer et al., 2021; Seiter & Brophy, 2002; Xu et al., 2021). A review of commenter responses will aid in elaborating these platform patterns.

Commenter Responses to Depression Marshaling Communication Skills. While I did not receive consent to share the comments associated with the posts about depression, providing general information about the types of responses the posters received will provide helpful context about platform-related differences.

In general, I identified 19 different commenter types of responses to the posts about depression. They were advice, challenging, compliments, encouragement, "here for you" messages, hope, hugs, invitations to DM, love, offers to help, personal experiences, questions, normalizing, reciprocal disclosures, relating, sympathy, validation, and "you're not alone" messages. See Table 21 for definitions and examples of the types of comments people made.[14]

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[14] These are not exact quotes, as I did not have permission to share the direct quotes from the commenters.

While the majority of support studies categorize the types of responses into categories such as emotional and informational support (Andalibi et al., 2017), I chose to identify specific topics in order to understand the more specific support that commenters provided. Many of the messages found in this dataset, however, mirror results that have been found other studies that conducted a textual analysis of online support forums (Andalibi et al., 2017; Andalibi & Forte, 2018; Andalibi et al., 2018; De Choudhury & De, 2014). For example, comments on support forum posts are often positively valanced and generally include positive feedback to the poster (Andalibi et al., 2017), use person-centered language (De Choudhury & De, 2014), include validating messages (Andalibi et al., 2017), and show warmth of responses from closer network ties (Andalibi et al., 2018). In addition, commenters have provided reciprocal disclosures when they felt they could relate with the posters due to similar personal experiences (Andalibi & Forte, 2018). Thus, commenters in general appear to be supportive on online support forums, as was also the case in the current dataset.

Table 21

Commenter Response Types and Examples

Response type	Definition	Example
Advice	Advice is guidance or recommendations or opinions of what the poster could or should do—sometimes solicited, sometimes unsolicited.	Take time to heal because that will help your children. Lean on others. A therapist could help you. Push through it! Don't give up. Do what is best for you. Focus on the good in life.

		See a therapist.
		Be kind to yourself.
		Find an outlet or hobby.
Challenging	Challenging occurs when the poster is self-blaming or self-deprecating and a commenter challenges—or reframes—what was said to give a different or more positive perspective/mindset on a situation or concern or way of thinking.	Don't be hard on yourself because we all face setbacks.
		I shifted my mindset, and it helped me.
		It sounds like the issue may be the other person, not you.
		There's a reason we're here, right?
		What you have seems pretty good.
Compliments	Compliments are expressions of admiration or praise.	You're amazing the way you are.
		I'm proud of you.
		You're courageous and inspiring.
		You are strong.
Encouragement	Encouragement occurs with messages attempting to cheer on, motivate, or inspire the poster.	Keep your head up!
		You've got this. Hang in there.
		You'll get through this.
Here for you	"Here for you" messages convey a sense that the commenter is available physically or emotionally to the poster.	I'm here for you.
		Here for you if you want to talk.
Hope	Hope messages include language that highlights an	It will get better.
		I hope things will improve for you.

	expectation that things will improve. The term "hope" may or may not be used.	
Hugs	Commenters send virtual hugs and mention the term.	Sending hugs.
Invite to DM	Commenters tell the poster to direct message (DM) or private message (PM) them.	Message me. DM me.
Love	Expression of love for the poster.	I love you. Sending you love.
Normalizing	Reassurance that a behavior, thought, or feeling is normal.	It's normal to feel that way. That's common.
Offer to help	An offer to help the poster in some way, including that they will call the poster or say they are available to help the poster in some way.	How can I help? I'll call you later. I'm always here to talk. I'll pray for you. Let's go out.
Personal experiences	Personal experiences are shared when the commenter discloses their own mental health status in some way.	In my personal experience… I feel depressed when…
Question	A question may be a clarifying question (i.e., asking for clarity about the poster's disclosure) or a question posed to get the poster to think through their	Are you okay? What's wrong? What kinds of things are you doing? What happened? Would you like suggestions?

	experience with depression.	What's that experience like?
Reciprocal disclosure	Reciprocal disclosures occur when a poster discloses about their depression and then the commenter discloses something of a similar depth—typically a deep disclosure is met with a deep disclosure.	I find it difficult to work through my own addiction.
Relating	Relating occurs when commenters shared that they related to what a poster wrote.	This is relatable. Same. Sounds familiar. I struggle with this too. I feel you. I understand how it feels. I know the feeling.
Sympathy	Sympathy is the expression of feeling pity or condolences for a poster's experiences or situation.	I'm sorry to hear you're going through that. My sympathies. My heart goes out to you.
Validation	Providing recognition or affirmation that the commenter's feelings or opinions are valid.	What you're thinking is valid. You're right.
You're not alone	"You're not alone" messages declare that the poster is "not alone" in how they feel.	You're not alone.

There were some differences between commenter responses on the two platforms and some similarities (see Table 22). On both Reddit and Facebook, posts elicited responses of advice, challenging, encouragement, hope, questions, reciprocal disclosures, messages of relating, validation, and "you're not alone" messages. However, when looking at the types of responses that were most common by platform, the responses to depression posts on Facebook were far warmer and more intimate—or showing more relational intimacy—than those on Reddit. Responses that appeared more common on Reddit included personal experiences and normalizing, while common responses on Facebook included compliments, "here for you" messages, hugs, invite to DM, love, offers to help, and sympathy.

One plausible explanation for these platform-based differences in comments is that responses were manifestations of the types of network ties on each platform. On Facebook, people are often connected to stronger ties—people they know, some of which they are close to—who are probably more likely to send messages of love, which are more reserved for intimate or close relationships such as family or friends (Ellison et al., 2007; Krämer et al., 2021; Seiter & Brophy; Xu et al., 2021). On the other hand, Reddit is comprised of weak ties because many people are anonymous on the platform, meaning the responses are more likely to be responses that are less warm—though still supportive (Andalibi et al., 2018; Andalibi, 2019; Seiter & Brophy). For example, someone who does not know the poster may not offer to help a poster because the platform to some extent encourages anonymity; rather, they may instead respond by sharing personal information about their own experiences as a reflection of the original post (Andalibi & Forte, 2018). Or else, they may help the poster by normalizing the feelings of the poster, which is a bit more removed emotionally than an offer for a virtual hug or expression of love. Thus, the commenter responses provided insight into

the platform–related differences associated with digital communication skills used for

exchanges of social support for people with depression.

Table 22

Common Responses to Communication Skills Used by People with Depression Online by

Platform

Reddit	Both	Facebook
Personal experiences	Advice	Compliments
Normalizing	Challenging	Here for you
	Encouragement	Hugs
	Hope	Invite to DM
	Questions	Love
	Reciprocal	Offer to help
	Relating	Sympathy
	Validation	
	You're not alone	

Holistic Poster & Commenter Analysis.

Facebook: Vague Terms and Pithy Platitudes. In general, posts on Facebook

appeared to discuss depression in vaguer terms with less depth, thereby inviting pithy

platitudes in return from commenters. Vagueness in wording meant less specificity and fewer

details about the depression itself or the person's circumstances or experiences with

depression. At times, it seemed as if the poster was alluding to depression or an experience

that was depressing without giving the full details. An example of this is a post that said, "*It's*

hard always being seen as a 'strong' person. Don't forget to always check on your 'strong'

friends." In this post, the poster appears to ask for help, but it was not clear what they were

struggling with. They instead indirectly alluded to the fact that they were considered a

"strong" person and that people should check on them—but they did not directly state,

"*Check on me because I'm not as strong as I may seem because I have depression.*" It is

likely that the reason people were generally vaguer on Facebook was that people wanted to withhold some personal information about their depression due to stigma (Greene, 2009) because the people on Facebook may know them or could be able to identify them by their profile (i.e., name and picture). While some people did directly mention depression, in general, it seemed that people were not providing as much sensitive stigmatized information (e.g., suicide, self-harm, addiction) on Facebook compared to Reddit, as is consistent with other research showing that Reddit encourages deeper disclosures about stigmatized information (Balani & De Choudhury, 2015; Pavalanathan & De Choudhury, 2015).

In addition, on Facebook, there was a pattern of shorter, pithier disclosures—compared to disclosures on Reddit. It could be that this was because people were following the status update norms or possibly that the text box for a Facebook post is smaller in size (i.e., compared to the text box for a Reddit post). These pithier disclosures invited similar commenter responses; that is, possibly in response to a pithier post, commenters also appeared to share less substantive responses. Many commenter responses on Facebook were shorter and less specific, sometimes seeming like empty platitudes because so many of the responses across posts in the sample were so similar. The disclosure research explains a concept called reciprocal disclosures, which states that when one person discloses, their conversation partner will likely disclose a similar amount or to a similar depth (Halversen et al., 2022). Alternatively, it is also possible that commenters did not want to share as much about their own struggles in return because they did not want people on Facebook to know about their depression (DeAndrea, 2015; Naslund et al., 2016; Seiter & Brophy, 2002; Wright & Rains, 2013), and instead they opt for simple messages of support. Yet another

possible explanation is that commenters and potential commenters move the depression conversation to a direct message platform to ask for more details.

  Reddit: Explicit Language and Substantive Reciprocal Disclosures. By comparison, Reddit posts typically involved deeper, more explicit disclosures, which invited more substantive reciprocal disclosures. In the Reddit posts in this dataset, the language was more specific, and sensitive stigmatized information was more freely shared—as has been common among Reddit research on mental health topics (Andalibi et al., 2018; De Choudhury & De, 2014; Haberstroh & Moyer, 2012; Malik & Coulson, 2008). People more freely mentioned suicide or a desire for death (e.g., "*I feel passively suicidal and wish that someone would shoot me or I'd die in an accident or something.*"), self-harm (e.g., "*im getting that nagging feeling to self harm again and i hope i can find the strength to not give in.*"), and issues related to addiction (e.g., "*I (27F) have noticed a sudden drop in my motivation toward my recovery . . . I went to detox twice as well as the psych ward.*"). Because Reddit is anonymous, it is likely that the anonymity allowed people to feel more comfortable sharing what they would not want friends and family to read (De Andrea, 2015; Balani & De Choudhury, 2015; Gutman-Wei, 2022; Naslund et al., 2016; Wright & Rains, 2013). In the case of self-harm or suicide, people may feel ashamed or fearful of how others may react if they shared this information (De Andrea, 2015; Naslund et al., 2016; Wright & Rains, 2013). Similarly, Reddit posters also appeared to be more open about discussing feeling disconnected to others or feeling like a burden—which may have felt "safer" to do on a platform where the people they were referring to would not know who was disclosing those feelings of isolation (related to the greater anonymity and weaker ties on Reddit). Thus,

people's depression disclosures appeared to be associated with the platform on which they post.

Because posters disclosed about depression with more substance on Reddit, doing so may have invited more reciprocal disclosures (Halversen et al., 2022)—all of which could be due to the anonymity Reddit afforded them (Pavalanathan & De Choudhury, 2015). Research has indicated that anonymity—which is afforded on Reddit—is especially important for reciprocal disclosures of commenters (Ammari et al., 2019; Andalibi et al., 2018; Mann & Carter, 2021). The posts in the Reddit sample were far more detailed, specific, and deeper rather than pithy. For instance, people shared about their self-harm and addiction:

> "*I took a pencil to my wrist. It's small and not bad. The thing is I'm almost a year sober. Do I have to reset all the that time. Are we as recovering addicts allowed a day to mess up without resetting it all please help me and let me know. Thanks*."

Because people on Reddit were willing to share more sensitive stigmatized issues like the one just mentioned, commenters may have felt more comfortable sharing substantive and sensitive information that matched the depth of disclosure (De Choudhury & De, 2014). Along those same lines, there were a substantial number of "relating" comments on Reddit indicating that it may have been easier for commenters to identify or relate with the poster because there were more specifics about how the poster felt (Andalibi & Forte, 2018). In sum, there appears to be a platform difference in the depth of a disclosure of both the posters and commenters, likely due to how much anonymity a platform affords (Balani & De Choudhury, 2015; Pavalanathan & De Choudhury, 2015; Seiter & Brophy, 2002).

VII. CHAPTER SEVEN: DISCUSSION, IMPLICATIONS, FUTURE DIRECTIONS

Existing literature has shown that those with high digital skills are those who experience more positive well-being–related outcomes and consequences from their online activities (Büchi & Hargittai, 2022; Büchi et al., 2017b, 2018; Hofer et al., 2019). Building on this literature, this dissertation highlighted the experience of people with depression seeking emotional support online. The intended theoretical contribution of this dissertation was threefold: a) validate and extend Büchi and Hargittai's (2022) model of how digital skills relate to perceptions of online social support, b) expand upon the benefit of online anonymity for people with stigmatized health concerns by exploring how different conceptualizations of anonymity might be related to online disclosure practices, and c) extend theoretical understanding of how people with depression utilize communication skills in an attempt to gain support online.

Because depression is sometimes experienced as a stigmatized disorder (Cheng et al., 2018; Yee et al., 2020; Yin et al., 2020), similar to other research, my data revealed that some people have sought out support from others online, where they could find people with shared experiences and reach more people who might be willing to provide them with support (Andalibi & Flood, 2021; Naslund et al., 2014). Further, being online allowed some people to conceal their identity (i.e., be anonymous) in various ways (Andalibi et al., 2017; Andalibi et al., 2018a, 2018b). They utilized platforms that were designed to enhance anonymity (i.e., affordance-based anonymity, as mentioned in Evans et al., 2017; Fox & McEwan, 2017; Rice et al., 2017), such as Reddit, and also made themselves more anonymous by altering their profiles (i.e., self-anonymity, as mentioned in Scott, 1998; Yun,

2006). This dissertation has provided a more nuanced understanding of different forms of anonymity as it is related to disclosure.

Once online, they had the capacity to build a sense of community and identification with others, which, combined with their anonymity, increased the amount of information they were willing to share about their depression, which corroborated existing literature (Andalibi & Flood, 2021; Lea et al., 2001; Wentzer & Bygholm, 2013). However, how participants shared depended on their level of privacy skills (i.e., as suggested by other scholars such as Dienlin & Metzger, 2016; Masur, 2019), such that those with high privacy skills disclosed more about their depression, presumably with less concern that unwanted others would find out about their depression struggles. Although Masur (2019) predicted that privacy skills could be related to how comfortable people were with disclosing, this claim had not been empirically tested.

Though some literature suggested the possibility that algorithm skills could also be related to the online support process—such that more algorithm skills would result in greater perceived emotional support (Bucher, 2017; Siles et al., 2022)—this finding was not supported by the current data. And finally, the increase in depression disclosure was then associated with their perceived emotional support, as previously theorized (Luo & Hancock, 2020; Park et al., 2016; Weber et al., 2004).

In addition, people's communication skills could also be related to their ability to encode messages of support seeking, allowing others to decode their need for support for their depression. These communication skills are both interpersonal and context-specific, related to the platform differences in affordances and network ties (for more on network associations, see Hargittai & Micheli, 2019; Iordache et al., 2017; van Deursen et al., 2022).

However, the specific experiences of people with depression may be related to the types of communication skills that were employed, thus indicating the need for an exploratory qualitative perspective on the types of communication skills utilized online by people with depression. While existing researchers have investigated the depression communication skills of people offline (Coyne & Calarco, 1995; Kahn & Garrison, 2009; Kahn & Hessling, 2001), to my knowledge they have not done so in an online context, as was done in this dissertation.

While this dissertation found support for some of the aforementioned claims among people with depression, some hypotheses were not supported or only supported in certain circumstances (e.g., the platform on which someone disclosed their depression). Hereafter, I will elaborate on each of the findings of this dissertation as well as their theoretical implications.

Measurement of Anonymity

The affordance literature clearly indicates that anonymity is a common affordance of some technologies (Evans et al., 2017; Fox & McEwan, 2017; Rice et al., 2017)—thus, in this dissertation, I investigated the relationship of such anonymity with a number of outcomes (i.e., disclosure and group identification). Yet, perceptions of different internet platform norms and actual use of those platforms may at times be at odds. In this case, one's perceived anonymity affordances could differ from a user's self-anonymity (i.e., the users' manipulation of their profile to make themselves more or less anonymous; Yun, 2006; or, technical vs. social anonymity, Hayne et al., 2013). Thus, this dissertation tested two types of anonymity—perceived affordance anonymity and self-anonymity—in an attempt to understand how someone may take steps to make themselves more anonymous online.

Arguably, some platforms, such as Reddit, have more norms and affordances that allow for user anonymity (Balani & De Choudhury, 2015; Gutman-Wei, 2022), but the results of this dissertation demonstrated that people can make themselves more or less anonymous on these platforms as well. On Facebook, for instance, normatively, people are identifiable by their name and photos and therefore less anonymous (Eichstaedt et al., 2018; Michikyan, 2020); yet participants still reported making themselves more anonymous on this platform. Thus, the two types of anonymity (i.e., affordances and self-anonymity) were not only conceptually but empirically different. While some models revealed significant results for both anonymity affordances and self-anonymity, in other cases only one type of anonymity acted as a significant predictor. A case can therefore be made that the anonymity affordances of a platform are not necessarily representative of how people use the affordances available to them (as argued by Hayne et al., 2013, though they show further that others may perceive a user as less anonymous—i.e., socially less anonymous—than the technical anonymity of the system might imply). Theoretically then, people's perceived affordances of a platform are conceptually different from the actions they take to increase or decrease their anonymity online. These data suggest that future researchers should be aware that in some contexts, it is necessary to measure self-anonymity rather than platform anonymity because users may not use a platform—or affordance of a platform—in the way it was intended by designers.

Platform Differences in the Online Emotional Support Seeking Process

While I did not set out to find platform differences or hypothesize about these differences, I chose two platforms that would impose variation in anonymity affordances. My initial exploratory analyses indicated consistent significant differences in multiple variables

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across platform, indicating the need to not only test my hypotheses with the platform as a control variable but also run separate models with a subset of data for Reddit users and a subset of data for Facebook users. Additionally, in these data, anonymity was operationalized in two ways: a) anonymity affordances and b) self-anonymity provided by the online community (i.e., Reddit or Facebook). Both types of anonymity were on average higher for the Reddit users than the Facebook users. This finding supports the literature that indicates that Reddit as a platform encourages more anonymity through the use of usernames and avatars rather than legal names and photos (Balani & De Choudhury, 2015; Gutman-Weo, 2022). Similarly, willingness to self-disclose about depression was on average higher for Reddit users than Facebook users, which corroborates the idea that more anonymity allows people to disclose stigmatized information (De Andrea, 2015; Naslund et al., 2016; Wright & Rains, 2013). Reddit users also reported significantly higher stigma about depression compared to Facebook users, which further supports their higher self-disclosures on Reddit. However, perceived online emotional support was higher for people who posted on Facebook compared to those who posted on Reddit. In this case, it appears that online emotional support is stronger when it comes from stronger ties on Facebook (Xu et al., 2021). Interestingly, in my qualitative analysis, I found that Reddit disclosures were typically more detailed and deeper and included more intimate information, whereas Facebook disclosures were generally less intimate and less personal. Combined, these findings suggest that the Reddit poster who provides greater depth in their disclosure may not perceive as much online emotional support from other Redditors compared to those who post something less personal on Facebook. And finally, group identification did not significantly differ across platforms,

indicating that neither platform was necessarily superior in creating an environment suitable

to create a sense of group belonging among users.[15]

As a result of these initial findings of platform differences, I proceeded to test my

hypotheses (H1-H5) among all participants and then within platforms.

Role of Stigma in Online Anonymity

Because of the stigma associated with depression, people may be more motivated to

seek out anonymity online (Andalibi et al., 2016; Andalibi et al., 2018a; Balani & De

Choudhury, 2015); however, in the case of the current study, this only appeared to be the

case when people altered their identifying information on Facebook. That is, I tested the role

of stigma on each form of anonymity (H1) and found that overall, stigma did not

significantly predict either type of anonymity (i.e., affordance anonymity or self-anonymity).

There was, however, some evidence that for Facebook users only, the more

depression stigma someone experienced, the less likely they were to put their identifying

information on Facebook. This finding is consistent with some previous research. In Naslund

and colleagues' (2014) conceptual theorizing on peer-to-peer support on social media, for

example, they argued that mental health–related stigma would be related to someone's

decision to visit an online peer network for others struggling mental illness. Similarly, I

hoped to find a link between mental health stigma and anonymity choices in online peer

support networks—which included Facebook and Reddit in the case of the current study; yet

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[15] Concerning group identification on large, even anonymous online communities, see
Mikal, J. P., Rice, R. E., Kent, R., & Uchino, B. (2014). Common voice: Analysis of content
convergence on a website characterized by group identification and social attraction.
Computers in Human Behavior (special issue on Social Media, part 3), *35*, 506-515. Also see
Mikal, J. P., Rice, R. E., Kent, R., & Uchino, B. (2015). 100 million strong: A case study of
group identification and deindividuation on Imgur.com. *New Media & Society,18*(11), 2485-
2506.

I found that stigma was only significantly associated with Facebook users in that the more mental health stigma someone reported, the less likely they were to make themselves identifiable on Facebook. In addition, while Naslund and colleagues (2014) did not investigate online anonymity, other literature suggests the benefit of anonymity for disclosing sensitive or stigmatized information (De Choudhury & De, 2014). Indeed, my findings indicate that there are some cases in which stigma shapes privacy-related self-presentation (i.e., name or pictures). Because Facebook's platform norms involve using one's name and picture (Andalibi & Forte, 2018; Haimson & Hoffmann, 2016), posting on Facebook would typically make people more susceptible to possible discrimination from social contacts. The results of this study, however, indicate that people with higher depression stigma are attempting to obscure their identity (e.g., creating fake accounts or obscuring their face in their profile picture) in order to post about their depression without being as identifiable—but especially on platforms that are not typically built with anonymity affordances in mind. Thus, stigma may be associated with the way people enact anonymity (i.e., self-anonymity) online if the platform on which they post has fewer anonymity affordances.

Disclosure As a Mediator of Anonymity Online and Perceived Emotional Support

In order to receive support online, previous literature has established that people must disclose, signaling the need for support (Luo & Hancock, 2020; Park et al., 2016; Weber et al., 2004). Thus, I attempted to validate the mediating relationship of self-disclosure on online anonymity and perceived emotional support using different operationalizations of anonymity (H2). When I analyzed the data from all participants, self-disclosure fully mediated the relationship between anonymity (i.e., both types) and online emotional support. More specifically, the more anonymous someone was or the more anonymous the platform

was perceived to be, the more people were willing to disclose about their depression; and the more people disclosed about their depression, the more emotional support they perceived from others in the online community. This finding further corroborates the existing research that explains that more anonymity—in this case what that platform afforded or self-manipulated anonymity—encourages more willingness to disclose personal information about oneself (Andalibi et al.., 2016; Dai & Shi, 2022; Joinson, 2001; Ma et al., 2016; Tanis, 2008). In sum, while others have found that individuals must disclose in order to access such support (Luo & Hancock, 2020), existing research had not measured the mediating role of disclosure on the relationship between anonymity and emotional support. As such, data from this dissertation demonstrates that disclosure is a key mechanism through which both types of anonymity online are linked to perceived emotional support.

Luo and Hancock's (2020) model of online self-disclosure stated that disclosure leads to perceived support, and explained that there are certain motivations that encourage the disclosure that are either interpersonal (e.g., social motivations, such as relational maintenance or social validation) or intra-personal (e.g., internal motivations, such as self-expression). In the case of the current dissertation, self-anonymity acts as an intra-personal motivator because it is used to manipulate self-presentation . Luo and Hancock's (2020) model's strength is in its differentiation of internal and social motivators, yet this dissertation also points out the need to incorporate contextual elements related to the technology on which people disclose—including the affordances, in particular anonymity (Evans et al., 2017; Norman, 1999; Rice et al., 2017). In the case of the current dissertation, platform anonymity was a significant predictor of disclosure, indicating that motivations to disclose are not only intrapersonal or interpersonal but also context or channel–related; as such, this

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dissertation demonstrates that it is necessary that researchers not only think about the psychological elements (Bazarova & Choi, 2014; Luo & Hancock, 2020; Pennebaker, 1997) related to disclosure but also the contextual, platform-related factors that are associated with self-disclosure online and employ both in their investigations of online disclosures.

More generally though, these results demonstrate the benefits of either type of anonymity for enhancing perceived support. These results indicate that people with depression who seek emotional support online do not necessarily need to post on a more normatively anonymous online community (e.g., Reddit) to access support. Whether people post on an online community that is already normatively anonymous or they use less identifying information on a normatively identifiable community, they will still have access to support from others. In either case, people with depression can benefit from anonymity when it is associated with greater disclosure, and, as a result greater perceived emotional support.

Also noteworthy is that Luo and Hancock's (2020) model highlights the importance of the type of action people must take to access support from others online, something that Büchi and Hargittai's (2022) framework fails to clearly do. Büchi and Hargittai's (2022) model only states that "social media use (diverse activities)" predicts "positive and negative outcomes (e.g., connectedness, stress, knowledge, losing money)" (p. 5), as moderated by digital skills; in doing so, they conflate the social media itself with actions taken on social media. Rather, the model should specify the role of psychological factors (e.g., self-anonymity), platform-related contextual factors (e.g., platform affordances), and actions taken within the platform (e.g., self-disclosure), as the current dissertation suggests. These three concepts are independent of each other, as both self-anonymity (i.e., psychological

factor) and anonymity affordances (i.e., platform-related contextual factors) are predictors of disclosure (i.e., action taken on social media). Thus, future researchers should separate out "social media use" and "diverse activities" rather than treat them as the same concept, as suggested by Büchi and Hargittai's (2022) model.

Interestingly, when the data was split by platform, self-disclosure fully mediated self-anonymity and online emotional support only on Facebook—where an increase in self-anonymity was associated with an increase in self-disclosure, and an increase is self-disclosure was related to an increase in perceived emotional support. Again, this is likely the case because normatively, Facebook encourages identifiability with usernames and profile pictures (Andalibi & Forte, 2018; Haimson & Hoffmann, 2016). Since the self-anonymity measure specifically asked questions about being recognized by name or photo (i.e., "some members can recognize my name", "some members can recognize my username", "some members may imagine how I look (my appearance) based on my profile", "some members may match me with pictures I posted"), it could be that those who are increasing their self-anonymity are those who are using fake names or profile pictures (Pollack & Yanoshevsky, 2022), or at least reducing the amount of identifiable information provided. There are many reasons people create fake Facebook accounts, including catfishing, scamming, harassing, entertainment, and stalking (Wani et al., 2017). Increasing anonymity allows users to disclose more on Facebook without fear that those who know them offline will find out about their depression. By increasing their peace of mind disclosing about depression on Facebook, users were able to access more support from others on Facebook.

Group Identity as a Mediator of Online Anonymity and Perceived Emotional Support

Because anonymity is core to stigmatized disclosures (De Choudhury & De, 2014), I also used elements of SIDE theory to investigate the moderating role of group identification on anonymity (both affordance-related and self-related) and self-disclosure (H3). SIDE theory posits that when people are anonymous online (i.e., their personal identity is less salient), they often forego their individual identity for a group identity (i.e., the group identity becomes more salient) (Lea et al., 2001; Spears et al., 2007). When this occurs, they may be willing to share information more freely online—be that positive or negative—because of depersonalization and conformity to group norms (Spears et al., 2007; Suler, 2004; Venner et al., 2012). In other words, once people deindividuate, they begin to create and adopt group norms (Huang & Li, 2016; Reicher, 1984; Wentzer & Bygholm, 2013), including those that encourage disclosure and support in online communities (Venner et al., 2012). For all participants in this sample, group identification partially mediated affordance anonymity and self-disclosure. More specifically, the more anonymity affordances people perceived a platform to have (i.e., Reddit or Facebook), the more group identification people perceived; as their group identification increased, so too did their willingness to self-disclose about their depression in the online community. Future research should also measure perceived group norms toward disclosure and identity salience in order to test SIDE more fully.

These results support the research that explains that anonymity can encourage group identification (Huang & Li, 2016; Reicher, 1984; Sherblom, 2019; Spears et al., 2007) and can encourage people to more willingly share online (Suler, 2004; Wentzer & Bygholm, 2013) for positive benefits (De Choudhury & De, 2014; Venner et al., 2012). Yet affordance anonymity also directly predicted self-disclosure. Thus, while the anonymity affordances of a

platform encourage depression disclosure, revealing one's depression is in part related to how much someone feels they are part of and belong to the online community where they post. The results of this study then, reinforce the idea that platform-related anonymity (i.e., affordances) can act as a positive aspect of creating a sense of group belonging online, such that people are encouraged to share personal, stigmatized information with others in their online community. In other words, when the norm of a platform is that users are anonymous, the platform encourages more deindividuation and, as a result, more intense group connections—though this finding is not specific to the SIDE literature.

Also interesting is that in the case of this dissertation, group belonging appears to act more as a function of the platform's perceived anonymity affordances rather than as of self-anonymity. As such, this dissertation highlight the benefits of building anonymity affordances into mental health platforms to encourage deindividuation (while also reinforcing a group norm toward disclosure, and toward support)—and therefore group identification and belonging (Lea et al., 2001). In addition, these results reveal that the more group identification someone feels within an online community, the more they are willing to share personal information—meaning that there is something about group membership and group identification that encourages disclosing. From existing literature (Andalibi & Flood, 2021; Andalibi et al., 2018b; Malik & Coulson, 2008; Wentzer & Bygholm, 2013) and the qualitative findings of this dissertation, it may be that people feel that they can relate to others in the online community, which encourages them to share, with the expectation that others who share their group identity will understand their depression experiences.

Additionally, for Reddit users only, group identification mediated anonymity affordances and self-disclosure such that an increase in perceived anonymity affordances was

associated with an increase in group identification. Reddit not only normatively encourages

anonymity (Balani & De Choudhury, 2015)—thereby encouraging deindividuation (Lea et

al., 2001)—but it also highlights group identification quite strongly. For instance, Reddit is

divided into subreddits, or forums specifically devoted to a particular topic such as

r/depression,[16] r/alcoholism, r/anxiety, r/SuicideWatch (De Choudhury & De, 2014; Park et

al., 2018). Users can *join*[17] a subreddit, thereby becoming a *member*[18] of the subreddit

(Reddit, n.d.b, "What are communities or 'subreddits'?"). After joining a subreddit, people

will then receive updates from the subreddit on their home feed, but they can also go directly

to the subreddit to view group-specific content and interact with others' posts in the

subreddit. Thus, especially on Reddit, group identification in part explains the relationship

between perceived platform anonymity and self-disclosure, meaning that people who

perceive that Reddit allows for more anonymity will also report greater group identification

on Reddit (likely within a subreddit), which will then encourage more willingness to disclose

about their depression. In this case, when the platform itself is built to allow for anonymity,

that normative anonymity can be associated with people's beliefs about their group

identification when they are using the platform. This idea is interesting in the context of

SIDE theory (Lea et al., 2001) because SIDE does not traditionally distinguish the difference

between the types of anonymity that can occur online, but the type of anonymity that people

experience online may—as this dissertation indicates—is related to not only their disclosure

but also the way they deindividuate and develop a sense of group identity or belonging.

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[16] *r/* is the notation used to specify a subreddit (Reddit, 2020).

[17] Users can click a button on the subreddit that says "Join."

[18] Users who have joined a subreddit are referred to by Reddit as "members."

Privacy Skills as a Moderator of Online Anonymity and Depression Disclosure

Büchi and Hargittai's (2022) model argued that digital skills can moderate the relationship between social media use and well-being related outcomes, yet they did not specify the specific types of digital skills that may act as moderators. I argued that privacy skills may be one such moderator.

Past research has demonstrated inconsistent effects of privacy concerns and efficacy on disclosure—at times, privacy significantly predicts disclosure (Chen & Chen, 2012; Stutzman et al., 2012), but in other cases it does not (Dienlin & Metzger, 2016). Perhaps due to these incongruent findings, Masur (2019) argued that privacy skills may be used by some people in order to feel comfortable disclosing, indicating that privacy skills may have a moderating role such that high privacy skills—compared to low skills—will result in greater disclosure. To my knowledge, however, this claim had not been tested. Thus, this dissertation attempted to test that assertion that different levels of privacy skills could result in different levels of disclosure—which had not been tested prior. I therefore predicted that privacy skills would moderate the relationship between online community anonymity and willingness to self-disclose (H4). In doing so, I found some evidence (i.e., marginal significance) that privacy skills had a moderating role such that for all users, privacy skills significantly moderated the relationship between self-anonymity and self-disclosure; more specifically, when people had high privacy skills, they were willing to disclose about their depression the most when they made themselves more anonymous (i.e., modifying their name and photos online). For those with low privacy skills, however, their disclosure did not significantly change regardless of how anonymous they made themselves online. Thus, according to these findings, those with high privacy skills appear to care about how much they disclose about

their depression on online communities depending on how anonymous they make themselves online. These findings appear to support the literature that explains that people desire anonymity when disclosing stigmatized information (Andalibi et al., 2016; Dai & Shi, 2022; Joinson, 2001; Ma et al., 2016; Tanis, 2008), and privacy skills can be related to someone's willingness to disclose online (Masur, 2019). Together, these results indicate that those with higher privacy skills are able to disclose more because they understand how to preserve their privacy.

In addition, these results indicate that there is some support for Büchi and Hargittai's (2022) assertion that digital skills can act as a moderating variable in the support process. However, Büchi and Hargittai (2022) constructed their model with general "digital skills." These findings expand on Büchi and Hargittai's (2022) model by specifying one type of digital skill that may be relevant. This contrasts with previous scholarship that operationalized digital skills more broadly (Büchi & Hargittai, 2022; Hofer et al., 2019; Yang & Jang, 2024).[19] My findings provide some support for Masur's (2019) untested assertion that online privacy skills in part determine amounts of disclosure. The research on this model is nascent, however, and as such there is a wide opportunity to test the role of various types of digital skills as moderators in the online–well-being process.

Additionally, it is interesting to note that privacy skills only interacted with self-anonymity, in which a user was actively manipulating their identification (i.e., name,

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[19] Büchi and Hargittai (2022) is a theoretical piece; Hofer and colleagues (2019) asked people's understating of six Internet-related terms (e.g., advanced search, phishing); Yang and Jang (2024) asked about receptive skills (e.g., "I am able to select useful information on the Internet" and "I can assess how reliable the information I find on the Internet") and participatory skills (e.g., "I am able to upload photos and videos on the Internet" and "I am able to participate in online discussions on social agendas").

username, photos). Privacy skills did not, however, interact with anonymity affordances, indicating that those with high privacy skills are those who might be most confident manipulating their anonymity to stay private online rather than simply choose a platform that builds in enhanced privacy. This finding is particularly interesting because perceived affordances are defined as "the degree to which users feel their real names or true identities can be concealed in a channel regardless of how public or private their communication may be" (Fox & McEwan, 2017, p. 303), meaning that people with depression may not always select a platform for its ability to conceal their identity. Rather, they may instead rely on or at least prioritize their knowledge of privacy skills to guide their disclosures over the platform anonymity affordances. In other words, while Reddit is considered to provide more privacy for depression disclosures (Andalibi et al., 2018b; Andalibi & Flood, 2021; Wright, 2000a), it seems too that one's self-efficacy in maintaining their privacy supersedes the privacy afforded by a platform (i.e., social anonymity may bypass some technical anonymity); yet, it seems that there is still some influential role of platform in disclosure decisions because the interaction between privacy skills and self-anonymity was only significant for Reddit but not Facebook—this will be further discussed below. These results then further support my previous contribution that there are conceptual differences between platform–related anonymity affordances and self-anonymity—such that that one's perceptions about platform norms of anonymity do not always mirror the actions they take on such a platform, and people's perceived affordances of a platform are conceptually different from the actions they take to increase or decrease their anonymity online.

For Reddit users only, privacy skills moderated self-anonymity and willingness to self-disclose in similar ways as it did for all users. There are a number of studies that

investigate *throwaway* accounts on Reddit, which are accounts that are used to post only once[20] (Andalibi et al., 2016); researchers have defined these accounts as being *more* anonymous than non-throwaway accounts on Reddit. They found that throwaway accounts use more indirect and direct support seeking compared to non-throwaway accounts, disclose more with more personal details, and are more emotional (Andalibi et al., 2016; De Choudhury & De, 2014; Pavalanathan & De Choudhury, 2015). Thus, taken together with my results, people on Reddit who increase their anonymity on Reddit, perhaps through using a throwaway account, who have high privacy skills, are those who are most willing to disclose about their depression. This may be because those who post about mental health online desire extra anonymity online, as evidenced by previous scholarship that found that Reddit users posting on mental health communities are six times more likely to use throwaway accounts than users in other Reddit communities (Pavalanathan & De Choudhury, 2015). Thus, people with depression may feel most comfortable sharing about their depression when they have multiple layers of anonymity—being that of the platform (i.e., more normatively and technically anonymous platform) in addition to having skills to protect one's privacy in addition to creating an even more anonymous profile (i.e., throwaway account). Because disclosure is so essential to someone experiencing support from others, it may be of benefit to people with depression to maximize the amount they disclose by increasing digital privacy skills as well as one's perception and enactment of online anonymity.

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[20] Reddit tracks the activity of an account, including posts, comments, and deleted content; user activity is publicly visible via a user's profile. Thus, it is possible to track if an account has been used to post only one time.

Algorithm Skills as a Moderator of Depression Disclosure and Perceived Emotional Support

To test my fifth hypothesis, I analyzed the survey data in an attempt to understand how algorithms might moderate the relationship between self-disclosure and online emotional support (H5). This analysis was exploratory, as the relationship has not been clearly defined in previous literature, though some research has found that higher algorithm skills are associated with various outcomes (see Eslami et al., 2015; Hu & Wang, 2023; Siles et al., 2022). However, in the case of the current dissertation, there were no significant moderation of algorithm skills in any of the analyses. This means that regardless of one's awareness of algorithms, when people disclose more about their depression, they are more likely to perceive that they receive emotional support from others. As a result, this data reveals that Büchi & Hargittai's (2022) model may not be supported for all types of digital skills. As such, it is necessary to continue investigating which types of digital skills are influential in which contexts or populations.

Communication Skills for Marshaling Online Emotional Support for Depression

Finally, I also qualitatively explored what communication skills people with depression employ to marshal support in online communities (RQ1)—taking both an interpersonal perspective and a digital skills perspective to communication skills. The digital skills literature has defined communication skills as being interpersonal and technical. More specifically, communication skills are both a function of encoding and decoding information (van Deursen et al., 2022) and also require a contextual understanding of the online environment (i.e., norms and affordances) (Hargittai & Micheli, 2019; Iordache et al., 2017). As such, I examined channel and network-related factors as well as the interpersonal aspects

of online support for people with depression. Acts of support seeking, or marshaling, fell into two categories: direct and indirect strategies. The concept of direct and indirect communication strategies comes from the interpersonal literature (Afifi & Steuber, 2009; Crowley, 2016) such that that people were directly (i.e., outright requesting support of some sort or asking a question) soliciting support from others but also indirectly doing so (i.e., using language that obfuscates their depression). The direct communication skills included hypothetical questions, requests for advice, requests for friendship, and requests for relating whereas the indirect communication skills utilized were metaphors, narratives, and venting. None of the communication skills were mutually exclusive; a disclosure could include any combination of communication skills. Indeed, this exploratory analysis showed that people with depression use various strategies to attempt to gain support from others online; all of these types of disclosures elicited some type of response from commenters, indicating the utility of each of the communication skills. In addition, these findings also corroborate the existing definitions of communication skills (i.e., encoding/decoding and technical context)—identifying both interpersonal and contextual factors that comprise digital communication skills (Hargittai & Micheli, 2019; Iordache et al., 2017; van Deursen et al., 2022).

Based on a holistic analysis of the depression-related disclosures and their associated comments, it also became clear that the platform on which someone posts their disclosure is influential in a) the way someone discloses and b) the types of comments one receives for a disclosure. Previous evidence, in addition to my data, reveals that there are platform differences related to both types of anonymity, disclosure, and support. The digital skills literature, for instance, explains that communication skills are in part related to one's ability

to appropriately communicate within a channel or platform (Iordache et al., 2017). More specifically, a number of studies have shown that Facebook and Reddit have different platform norms (Costa, 2018; Hayes et al., 2016; Seiter & Brophy, 2022), based in part on their network differences such that Facebook users are interacting with strong ties and Reddit users are interacting with weak ties (Andalibi et al., 2018; Andalibi, 2019; Ellison et al., 2007; Krämer et al., 2021). In addition, Reddit is viewed as more normatively anonymous, which encourages stigmatized disclosures (Balani & De Choudhury, 2015).

Based on my holistic analysis of participants' depression-related disclosures and their associated comments, this data appears to confirm the existing research. For instance, on Reddit, disclosures were overall much more explicit and intimate in content, covering topics such as death; because of the depth of the disclosure, the posters were often met with more substantive, reciprocal disclosures from commenters. On the other hand, Facebook posts about depression were overall vaguer in their content and as such received pithy platitudes from commenters. Though the Facebook post commenters were often posting shorter platitudes, the comments were often warmer and more intimate—using language such as "I love you"—which is evidence for relational intimacy and strong ties that exist on Facebook (Costa, 2018; Hayes et al., 2016; Seiter & Brophy, 2022). In contrast, despite the more substantive responses on Reddit, the commenter responses were not as often as warm or intimate. Rather commenters opted to share their own personal stories, which would be a more appropriate response from weak ties or people who can relate due to a shared identity (Andalibi et al., 2018; Andalibi, 2019; Antheunis et al., 2013; Greene et al., 2011; Maloney-Krichmar & Preece, 2005).

These findings ultimately provide insights into the types of support one might receive in certain online communities. For people with depression who are seeking warmer, more intimate emotional support, they may benefit from posting on Facebook, where they are less anonymous and have more strong ties. For those who are seeking emotional support and wish to hear about the experiences that others have gone through, they may attempt to seek support by posting on a platform that is more anonymous and made up of more weak ties.

Practical Implications

There are a number of practical implications associated with these data. A number of studies have already established the benefit of online forums for health-related issues (Naslund et al., 2014; Sharma & De Choudhury, 2018), and this dissertation further emphasizes the benefits associated with these online communities. Thus, mental health practitioners and medical professionals should continue to encourage people suffering from depression to seek out online communities for support. In particular, these findings suggest that those who face mental health stigma may benefit from making themselves more anonymous on Facebook if they worry about other people finding out about their depression. For those who wish for more anonymity, they should post on Reddit where they can use a username and avatar that can obscure their identity. For those who wish for warmer, more intimate message of support, they should post on Facebook. On both platforms, posters will be able to elicit supportive comments from others—regardless of the type of communication skills they employ in their requests for support (i.e., indirect or direct metaphors, narratives, hypothetical questions, requests for advice, etc.).

In addition, people with low privacy skills may benefit more from their online support seeking interactions by seeking to build their privacy skills (Walker & Hargittai, 2021).

Because high privacy skills can be related to how much someone discloses, it may be helpful for online communities and platforms to provide privacy-related content that helps people with depression build their privacy skills. While some people, unfortunately, develop privacy skills as a result of having previously experienced a privacy breach (Büchi et al., 2017a), others have developed privacy skills in a number of ways. Four methods by which people have built privacy skills in the past include personal experiences (e.g., experimenting online and noticing when websites are tracking online behavior), social experiences (e.g., learning about other people's negative privacy invasions online), institutional requirements or communications (i.e., acknowledging email security policies or trainings), and privacy-related new articles (Walker & Hargittai, 2021). Thus, online communities may provide targeted privacy skills literacy materials to people with depression. A number of researchers have developed algorithms and machine learning techniques that can detect depression symptoms in users' social media post language (Guntuku et al., 2017; Mahdy et al., 2020; Malhotra & Jindal, 2022; Shrestha & Spezzano, 2019); online community-based platforms and forums may integrate these algorithms into their code to flag individuals who appear at risk for depression. Once those individuals are flagged, the online community can strategically suggest content and notifications that encourage improvement in and learning of privacy skills; however, it would be important for online communities to consider the privacy and liability issues related to storing data related to possible medical diagnoses and consult legal counsel before doing so. If targeted notifications are not possible, online communities could institute a system-wide yearly email or notification containing information that would improve privacy skills. Specifically, the user could receive an email containing simple platform-related privacy information or a notification that encourages users to review their

privacy settings so that the user becomes aware of their privacy options. For example,

Facebook might highlight their informational content about privacy (see

https://www.facebook.com/help/213802165366955), which focuses on platform-specific

privacy settings. In addition to static webpages, platforms may also integrate regular

reminders in the form of pop-ups or notifications that lead users to platform-specific privacy-

related settings. Doing so may improve the privacy skills of people with depression, which

would encourage more disclosure and therefore more perceived emotional support when they

are posting about their depression in the online community. Integrating platform-wide

reminders, may however, play a negative role in user experience and should therefore be

tested for effectiveness and intrusion on the user experience.

Finally, anonymity appeared to have a strong relationship with depression

disclosures. Hence, it is important that online communities—and particularly health support

communities—maintain an option for users to post anonymously. It could be beneficial for

platforms with fewer anonymity affordances to implement optional anonymous group

settings to allow for deeper disclosures of more stigmatized information; however, there are

also existing solutions and other platforms that allow for more anonymity that individuals

could use to disclose more sensitive information. Thus, it may be more effective to guide

individuals with depression to use the platform that will best meet their needs. In this

dissertation, for instance, Facebook afforded more warm responses; thus, if people with

depression are seeking messages of love from people they know, they should be encouraged

to post about their depression on Facebook. On the other hand, if people are seeking more

substantive responses where others reciprocally share their similar experiences, they should

be guided to post about their depression on Reddit.

Limitations

This study included a number of strengths, including the inclusion of a recent post to reduce memory bias and triangulation of the data to provide richer findings and theoretical implications; yet there were a number of limitations that must also be discussed.

For the quantitative analysis, there were a number of difficulties I encountered. First, I attempted to control for how public or private the online community was because the experience within a closed group may elicit stronger in-group ties than a more public, dispersed network—and people may engage in the group differently depending on the publicness of the channel (Bar-llan et al., 2020; Choi & Lee, 2017). Participants indicated whether the group was a) private/closed (i.e., only members of the group can see and make their own posts), b) semi-public/semi-open (i.e., anyone can see the posts but only members can make their own posts), or c) public/open (i.e., anyone can see the posts and make their own posts). Yet, upon reviewing participants' responses in conjunction with the posts they provided, it was not clear that their interpretation of public or private matched the definitions provided them. For that reason, I decided to remove this variable from analysis. In addition, I could not use PDAs as a control in my analysis due to the high number of incomplete responses. During phase 3 of data collection, a number of participants withdrew their participation from the survey; because I had a limited pool of participants that met the study criteria, I messaged the participants who had withdrawn from the study to ask why they did so. Many of those who had withdrawn expressed their concerns about privacy and did not want to provide their post; for that reason, I allowed for all the participants who were comfortable providing their post to complete the survey. At that point, I recreated the survey without the requirement to include a post, and the rest of the participants who did not want to

provide their post text completed the survey. Thus, there were a high number of incomplete responses for the PDA variable, so I decided to remove it from the analysis. These two variables may have been associated scores of online emotional support or self-disclosure and should be taken into account in future studies.

In addition, there were a number of limitations with my analyses. Due to the very specific sampling criteria, it was difficult to find a large number of participants; thus, the sample size for each of the platforms was smaller, which may have accounted for a lack of power in the subsample analyses. In addition, due to the complexity of the model, possible measurement error, and possible conceptualization error, the SEM analysis could not provide satisfactory model fit, meaning it was necessary to interpret simpler models.

Further, survey data only provides estimates of a true population rather than exact measurements, meaning there is always some error when calculating the descriptives (Salant & Dillman, 1994); this issue, however, is a well-documented issue that occurs with all sample-based statistical analysis. Making sure a sample is randomized, representative, and large enough (Kwak & Kim, 2017) can theoretically absorb some of this error; however, due to the nature of the current study, randomization was not possible. However, I did control for demographics as a way to take into account some error. In addition, some participants may have been untruthful in their responses, which could compromise the quality of the data; they could have done so to downplay their negative attributes—termed the *social desirability bias* (Krumpal, 2013). Making the survey anonymous and online, however, hopefully encouraged respondents to respond more honestly. And lastly, it is possible that some participants responded inaccurately because they could not assess their own behavior properly or had poor recall of their experiences regarding a behavior (i.e., *recall bias*; Bell, 1996). To help

reduce this error, I asked participants to reflect only on a post from the last three months (Story & Tait, 2019).

Because this study employed an online panel, I will speak to the issues with using panel data. There are a number of companies that retain a database of panelists who participate in a wide range of research. These participants, however, are self-selected, meaning that they choose to be panelists and participate in the research studies that the panel company sends to them (e.g., by email) or provides to them (e.g., by a company portal). This creates self-selection bias (i.e., people who take the surveys are more likely to complete the survey than those not registered on the panel; Wright, 2005). In exchange for participating in surveys, the panel company pays the survey takers for their time and participation. This means that some people may be professional survey takers, which may compromise the quality of the data with straightlining or speeding. Because of this possible issue, I checked the quality of my data before analyzing it by checking the time it took for participants to complete the survey and evidence of straightlining. Participants who finished the survey too quickly or answered using straightlining were removed from the dataset before analysis.

In addition, because the surveys was administered online, there were people who were excluded from the population—those who did not have access to the internet (Berry, 2005; Story & Tait, 2019). This issue, however, is only an issue depending on the research questions and the intended audience. For the current study, I investigated people who use the internet, so similar to research by Nguyen and colleges (2022) who studied how older folks use the internet, I could exclude those without access to the internet in the sampling because they were not the target participants. However, it was clear that I should have attempted to

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stratify the sample by either education or internet use in an attempt to find more variance in algorithm skills.

The qualitative analysis also had some limitations. For instance, I did not ask the exact location (e.g., subreddit, Facebook group, Facebook wall, etc.) where they posted their disclosure, which may have played a role in how many people saw their post, as some forums or groups are more popular than others. In addition, I analyzed the comments associated with the posts, but I do not know much about the commenters, including their goals for providing support (as Brashers et al. 2002 mentions) or if they held a shared identity, unless they specified that they did in their comment.

There were a number of strengths to this study, however, that reduced bias. First, conducting a survey online allowed for the possibility of having a broader distribution that could more easily reach difficult to reach populations or groups focused on a niche topic or interest (Berry, 2005; Wright, 2005). In addition, due to the survey being online and easily accessible, online survey research has a much quicker turnaround time, lower costs, and a higher response rate (Berry, 2005; Wright, 2005). Anonymity of online (compared to in-person or telephone) surveys is also a way to avoid nonresponse and desirability bias (i.e., selecting responses that make one appear more favorable than they are) that could compromise the quality of the data. Another benefit to online survey research is that computer-administered surveys elicit fewer mistakes and item non-response than paper surveys (Berry, 2005; Nayak & Narayan, 2019). All of these various factors contribute to more trustworthy, higher quality data. Also, to further reduce bias, I conducted pilot testing of my survey. I did this to ensure clarity in the wording of the items in addition to fixing technical issues that could easily be remedied with a pilot test of the survey instrument

(Berry, 2005). And finally, confidentiality concerns may be an issue with online surveys, as personal data such as IP addresses may automatically be collected by survey programs; however, this information was removed and destroyed before the data was analyzed (Story & Tait, 2019).

Future Research Directions

The results of this dissertation also revealed possibilities for a number of avenues for future research. First, because this dissertation investigates the factors related to people with depression disclosing online, I did not explore the experiences of those who do not post online, which could be especially interesting as people with depression may lack motivation to post online; this may be an area of future investigation. Second, existing literature seemed to indicate that stigma would predict online anonymity (Naslund et al., 2016), yet it only did so in the case of predicting self-anonymity on Facebook. Thus, future studies may find it more useful to test how stigma is related to how anonymous people *wish* to be online—rather than how currently anonymous they are—to accurately capture the experience of people going online to seek out mental health network support. Relatedly, if researchers conceptualize stigma not as a catalyst, but rather a factor that influences disclosures, stigma may instead have a direct association with disclosure, where more stigma is related to less disclosure. Alternatively, anonymity could moderate the relationship between stigma and self-disclosure, whereby having low anonymity compared to high anonymity would indicate a stronger negative relationship. Scholars often make different predictions about the relationship between the same variables based on different theorizing, literatures, and assumptions, including to build on research that produced non-significant results. To that end, the models in this dissertation can be improved upon by future research.

Additionally, as the focus of this dissertation was to take a digital skills perspective, I did not investigate the topics covered in the depression disclosures in any depth. Future researchers may conduct a content analysis of depression disclosures and investigate the ways in which disclosures of certain topics may be related to disclosure, perceived emotional support, group identification, or other online outcomes.

Thereafter, it might also be interesting to qualitatively understand the belongingness people feel on different platforms or in different online communities, and how factors such as group norms, platform norms, and identifying information are related to people's perceptions about group identification. This dissertation drew on the assumption that people experience group belonging in online communities but did not investigate the factors that contributed to a feeling of belongingness beyond anonymity; however, in future work, it may be intriguing to understand how people interpret the creation of community and platform norms, and why people *think* anonymity influences their online activity in prosocial situations—such as when people provide others with support. As the results of this dissertation seemed to indicate, the platform itself may make a difference in the support seeking process; future studies might propose hypotheses about differences in paths based on platforms and use multigroup analyses to determine such differences.

Especially interesting, however, are possible research explorations into digital skills. First, researchers should endeavor to test other types of digital skills and boundaries of Büchi and Hargittai's (2022) model. This model has promise, and continuing research on the model will provide clearer insight into the contexts in which this model holds true. For instance, these same results related to privacy skills may not exist for non-depressed samples who deal with stigmatized disclosures. In order to explore the boundary conditions associated with this

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model, researchers should endeavor to explore how different types of digital skills play different roles in various contexts and populations. While a number of studies have investigated general digital skills as a moderator between social media uses/activities and outcomes (Hofer et al., 2019; Yang & Jang, 2024), there is certainly much work that can be done to probe into the role of other digital skills, such as awareness skills, assistance seeking skills, safety and security skills, managing information and communication overload skills, and managing digital identity skills (Hargittai & Micheli, 2019).

In addition, what little research that has been done on the moderating role of digital skills on social media use/activities and well-being–related outcomes has primarily found significance for only those with high skills, but not those with low skills (Hofer et al., 2019; Yang & Jang, 2024). While this finding is limited to a few studies, the evidence suggests that it may be interesting to probe further into why there are non-significant results for those with low skills. Thus, it would be fascinating to understand more about the online use of people with low digital skills and the reasons why their online benefits are unpredictable. In other words, what factors are related to whether people with low digital skills benefit from online use, and in what circumstances are people with low digital skills harmed by their online use?

In regard to algorithm skills, specifically, future researchers should test algorithm skills as a moderator with a more diverse sample based on internet knowledge or use or education. It is possible that there were no significant results for algorithm skills in this sample due to the fairly uniform, high levels of algorithm skills within this sample (Median = 42, min = 10, max = 50). In addition, it is possible that this measure was not representative enough of the range in knowledge that one could have about algorithms. Thus, it may be important for future researchers of digital skills to stratify their sample so that half of the

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participants have low education or internet knowledge while the other half has high

education or internet knowledge—which could provide more variance in algorithm skills.

Researchers might also consider other measures of algorithm skills that lend to more

variation in responses. More variance in algorithm skills might then reveal a moderating role

of algorithm skills on disclosure and perceived emotional support.

Regarding measures of digital skills, there are a number of future considerations that

researchers should contemplate. More generally, it would be useful for researchers to create

and validate measures of digital skills to reduce possible measurement error. The algorithm

skills measures used for this dissertation, for example, only revealed two factors, rather than

the four that were presented in the original measure (Zarouali et al., 2021); and the privacy

skills measure was based on a privacy efficacy measure that was not created in the context of

digital skills (Madden, 2017). Thus, it is possible that these measures could be improved

upon to more accurately represent digital skills literature. Then, concerning communication

skills, this dissertation explored how communication skills were used in the context of

depression disclosures in online communities but was ultimately exploratory, based on the

qualitative analysis of posts and their comments. These findings then, may be utilized to

develop a quantitative measure focused on communication skills in this context. The measure

could then be used to quantitatively measure the relationship between communication skills

and the support-seeking process of people with depression.

Conclusion

Depression is a serious mental health disorder affecting millions of people (NIMH,

2022), and online communities provide yet one more resource to people with depression—

where they can benefit from the support of others. When allotted some amount of anonymity

online, people with depression can disclose more about their depression and in turn experience more support from others. Digital skills can also, in some cases, be related to the experiences of people with depression as they seek support online. Those with high privacy skills and high anonymity, for instance, are those who are most likely to disclose online when they are seeking emotional support for their depression. Thus, it is important that online communities are built keeping in mind the importance of their users' privacy skills and their ethical duty to their users. As depression rates continue to increase (Witters, 2023), there is a need for more avenues of support for people with depression. As digital access and device ownership increases over time, online communities may be a key resource for people who have limited access to mental health professionals or interpersonal support from their personal network. Findings from this dissertation further elucidate specific factors that can help optimize that experience (i.e. platform anonymity, self-anonymity, group identification, etc.). As researchers continue to investigate the association between digital skills and the online activities of people with depression, policymakers and practitioners can learn from that body of work to create evidence-based digital interventions.

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APPENDICES

Appendix A

Figure 11

Büchi and Hargittai (2022) Conceptual Framework for Considering Digital Inequality When

Studying Social Media Use and Well-Being
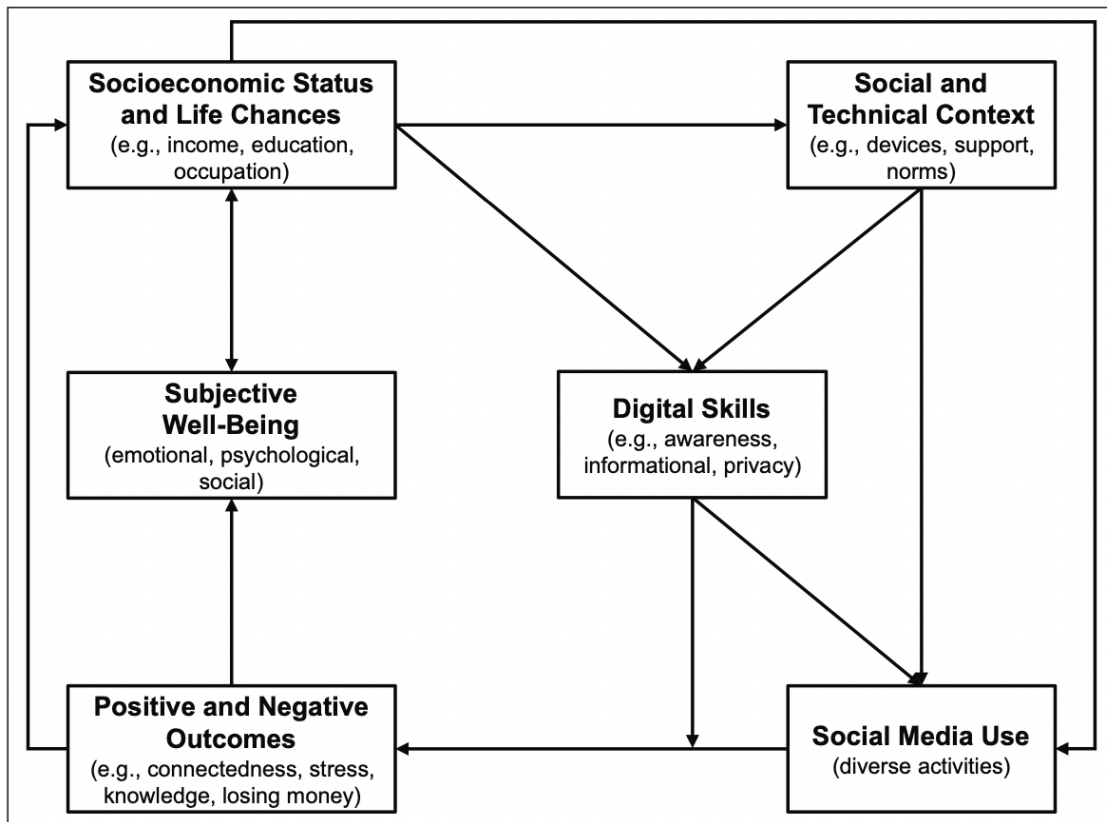
Appendix B

Tables and Figures for Reddit Subsample Analyses

Table 23

Stigma Predicting Anonymity Affordances for Reddit Users

	Model 1	Model 2
Constant	5.95(.34)***	5.97(.35)***
Age	-.02(.01)**	-.02(.01)**
Education	.05(.09)	.04(.09)
Gender	-.20(.13)	-.19(.13)
Income	.05(.02)	.05(.02)
Stigma		-.03(.11)
	$R = .225$, $R^2 = .051$, $F(4, 207) = 2.76$, $p = .03$	$R = .226$, $R^2 = .051$, $F(5, 206) = 2.21$, $p = .05$

$B(SE)$; * $p < .05$, ** $p < .01$, *** $p < .001$

Table 24

Stigma Predicting Self-Anonymity for Reddit Users

	Model 1	Model 2
Constant	5.86(.51)***	5.97(.52)***
Age	-.04(.01)***	-.04(.01)***
Education	.06(.14)	.05(.14)
Gender	-.43(.19)*	-.43(.19)*
Income	.03(.04)	.02(.04)
Stigma		-.20(.17)
	$R = .272$, $R^2 = .074$, $F(4, 207) = 4.13$, $p = .003$	$R = .283$, $R^2 = .080$, $F(5, 206) = 3.59$, $p = .004$

$B(SE)$; * $p < .05$, ** $p < .01$, *** $p < .001$

Table 25

Self-disclosure Mediating Anonymity Affordances and Online Emotional Support on Reddit

	Model 1
Outcome variable: Self-disclosure	R = .4740, R^2 = .2246, F(8, 203) = 7.35, p < .001
Constant	-.03(.43)
Anonymity affordances	.44(.08)***
Depression	.02(.01)*
Post frequency	.01(.11)
Visit frequency	.27(.10)**
Age	-.01(.01)
Education	-.04(.10)
Gender	.05(.14)
Income	-.03(.03)
Outcome variable: Online emotional support	R = .4358, R^2 = .1899, F(9, 202) = 5.26, p < .001
Constant	2.02(.37)***
Anonymity affordances	.05(.07)
Self-disclosure	.08(.06)
Depression	-.04(.01)***
Post frequency	.26(.10)**
Visit frequency	.09(.09)
Age	-.002(.01)
Education	.04(.09)
Gender	.21(.12)
Income	.03(.02)
Indirect effect	.03(.03); CI[-.03, .10]

B(*SE*); * *p* < .05, ** *p* < .01, *** *p* < .001; 5000 bootstrapped samples

Table 26

Self-Disclosures Mediating Self-Anonymity and Online Emotional Support on Reddit

	Model 1
Outcome variable: Self-disclosure	$R = .3320$, $R^2 = .1102$, $F(8, 203) = 3.14$, $p = .002$
Constant	.17(.47)
Self-anonymity	.10(.06)
Depression	.02(.01)
Post frequency	-.04(.12)
Visit frequency	.31(.10)**
Age	-.01(.01)
Education	-.02(.11)
Gender	.01(.15)
Income	-.01(.03)
Outcome variable: Online emotional support	$R = .4485$, $R^2 = .2011$, $F(9, 202) = 5.65$, $p < .001$
Constant	2.23(.37)***
Self-anonymity	-.08(.04)
Self-disclosure	.11(.06)
Depression	-.04(.01)***
Post frequency	.22(.10)*
Visit frequency	.09(.09)
Age	-.01(.01)
Education	.05(.09)
Gender	.17(.12)
Income	.04(.02)
Indirect effect	.01(.01); CI[-.01, .03]

$B(SE)$; * $p < .05$, ** $p < .01$, *** $p < .001$; 5000 bootstrapped samples

Table 27

Group Identification Mediating Anonymity Affordances and Self-Disclosure on Reddit

	Model 1
Outcome variable: Group identification	$R = .4602$, $R^2 = .2118$, $F(8, 203) = 6.82$, $p < .001$
Constant	-.86(.38)*
Anonymity affordances	.32(.07)***
Depression	-.03(.01)*
Post frequency	-.05(.10)
Visit frequency	.28(.09)***
Age	.01(.01)
Education	-.06(.09)
Gender	-.27(.12)*
Income	-.01(.02)
Outcome variable: Self-disclosure	$R = .4935$, $R^2 = .2435$, $F(9, 202) = 7.23$, $p < .001$
Constant	4.86(.43)***
Anonymity affordances	.38(.08)***
Group identification	.18(.08)*
Depression	.03(.01)*
Post frequency	.02(.11)
Visit frequency	.22(.10)*
Age	-.01(.01)
Education	-.02(.10)
Gender	.09(.14)
Income	-.02(.02)
Indirect effect	.06(.03); CI[.001, .14]

B(SE); * $p < .05$, ** $p < .01$, *** $p < .001$; 5000 bootstrapped samples

Table 28

Group Identification Mediating Self-Anonymity and Self-Disclosure on Reddit

	Model 1
Outcome variable: Group identification	$R = .3498, R^2 = .1223, F(8, 203) = 3.54, p < .001$
Constant	-.62(.41)
Self-anonymity	.03(.05)
Depression	-.02(.01)*
Post frequency	-.11(.10)
Visit frequency	.31(.09)***
Age	.01(.01)
Education	-.04(.09)
Gender	-.32(.13)*
Income	.004(.03)
Outcome variable: Self-disclosure	$R = .4102, R^2 = .1683, F(9, 202) = 4.54, p < .001$
Constant	5.09(.45)***
Self-anonymity	.09(.05)***
Group identification	.29(.08)*
Depression	.03(.01)
Post frequency	-.01(.12)*
Visit frequency	.21(.10)
Age	-.01(.01)
Education	-.004(.10)
Gender	.10(.15)
Income	-.01(.03)
Indirect effect	.01(.02); CI[-.02, .05]

$B(SE)$; * $p < .05$, ** $p < .01$, *** $p < .001$; 5000 bootstrapped samples

Table 29

Anonymity Affordances and Self-Disclosure Moderated by Privacy Skills on Reddit

	Model 1
Constant	4.76(.42)***
Anonymity affordances	.39(.08)***
Privacy skills	.25(.12)*
Interaction	-.14(.09)
Depression	.03(.01)*
Posting frequency	.01(.11)
Visiting frequency	.24(.10)*
Age	-.01(.01)
Education	-.0004(.10)
Gender	.08(.14)
Income	-.03(.03)

$B(SE)$; * $p < .05$, ** $p < .01$, *** $p < .001$; $F(10, 201) = 6.43$, $p < .001$, $R = .4924$, $R^2 = .2425$; 5000 bootstrapped samples

Figure 12

Anonymity Affordances and Self-Disclosure Moderated by Privacy Skills on Reddit
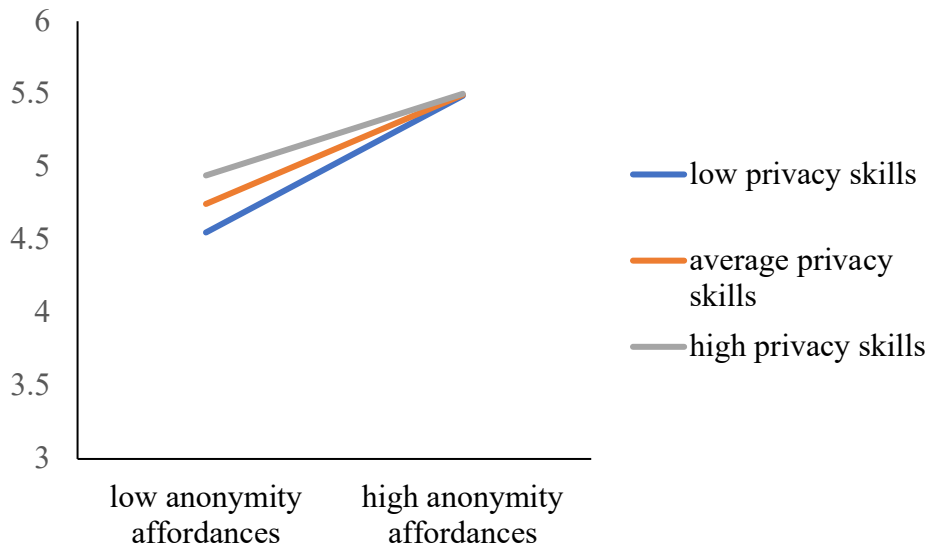
Table 30

Self-Anonymity and Self-Disclosure Moderated by Privacy Skills on Reddit

	Model 1
Constant	4.99(.46)***
Self-anonymity	.07(.06)
Privacy skills	.05(.14)
Interaction	.16(.14)*
Depression	.03(.08)*
Posting frequency	-.04(.12)
Visiting frequency	.26(.10)*
Age	-.01(.01)
Education	-.0002(.11)
Gender	-.02(.15)
Income	-.01(.03)

B(SE); * $p < .05$, ** $p < .01$, *** $p < .001$; $F(10, 201) = 3.64$, $p < .001$, $R = .3917$, $R^2 = .1534$; 5000 bootstrapped samples

Figure 13

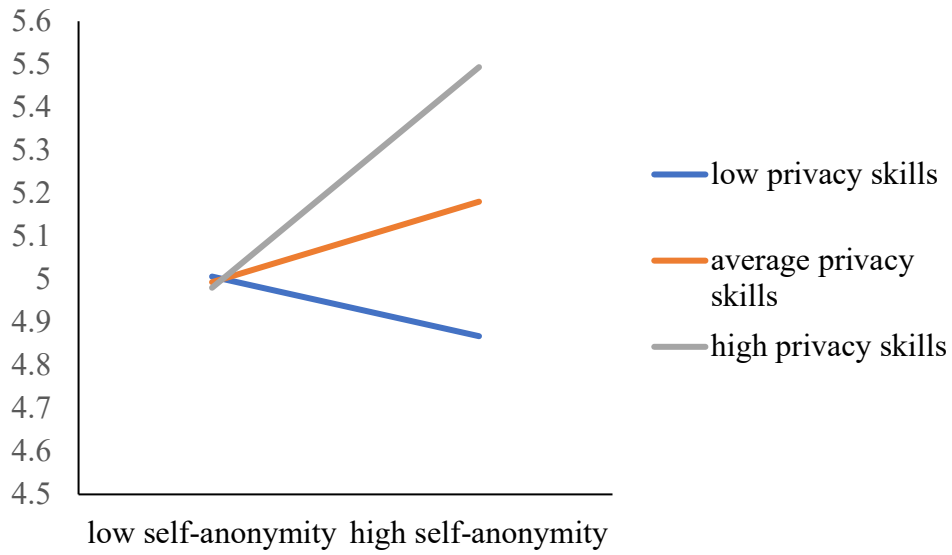*Self-Anonymity and Self-Disclosure Moderated by Privacy Skills on Reddit*

Table 31

Self-Disclosure and Online Emotional Support Moderated by Algorithm Skills on Reddit

	Model 1
Constant	2.02(.37)***
Self-disclosure	.07(.06)
Algorithm skills	.01(.01)
Interaction	.004(.01)
Depression	-.04(.01)***
Posting frequency	.27(.10)**
Visiting frequency	.10(.09)
Age	-.004(.01)
Education	.04(.09)
Gender	.20(.12)
Income	.03(.02)

B(*SE*); * $p < .05$, ** $p < .01$, *** $p < .001$; $F(10, 201) = 4.90$, $p < .001$, $R = .4428$, $R^2 = .1960$; 5000 bootstrapped samples

Figure 14

Self-Disclosure and Online Emotional Support Moderated by Algorithm Skills on Reddit
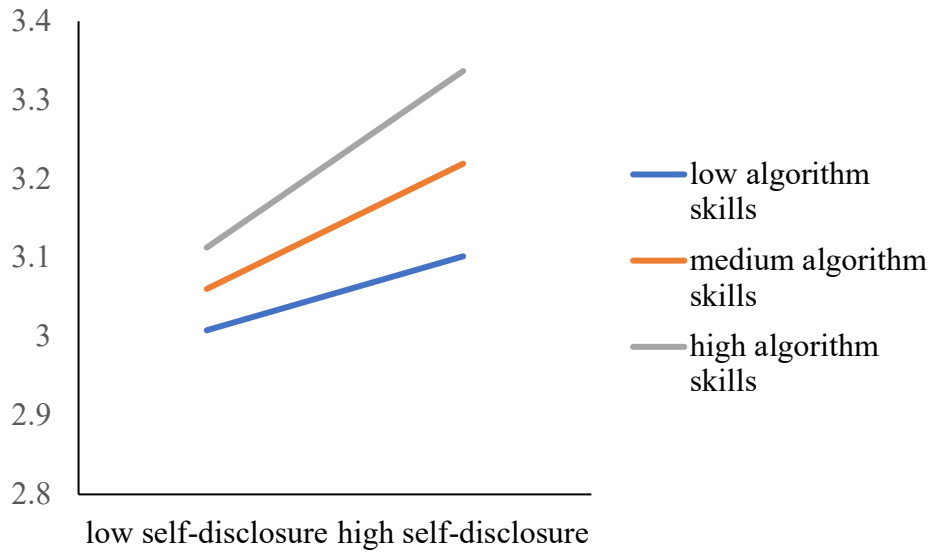
Tables & Figures for Facebook Subsample Analyses

Table 32

Stigma Predicting Anonymity Affordances for Facebook Users

	Model 1	Model 2
Constant	3.70(.45)***	3.69(.46)***
Age	.003(.01)	.003(.01)
Education	.11(.13)	.11(.13)
Gender	-.30(.21)	-.31(.22)
Income	.02(.04)	.02(.04)
Stigma		.04(.18)
	$R = .136$, $R^2 = .019$, $F(4, 209) = .991$, $p = .41$	$R = .137$, $R^2 = .019$, $F(5, 208) = .800$, $p = .55$

B(*SE*); * $p < .05$, ** $p < .01$, *** $p < .001$

Table 33

Stigma Predicting Self-Anonymity for Facebook Users

	Model 1	Model 2
Constant	2.98(.37)***	3.07(.38)***
Age	.01(.01)	.01(.01)
Education	-.001(.10)	-.003(.10)
Gender	-.15(.18)	-.12(.18)
Income	-.04(.03)	-.05(.03)
Stigma		-.25(.15)
	$R = .117$, $R^2 = .014$, $F(4, 209) = .72$, $p = 58$	$R = .165$, $R^2 = .027$, $F(5, 208) = 1.16$, $p = .33$

B(*SE*); * $p < .05$, ** $p < .01$, *** $p < .001$

Table 34

Self-disclosure Mediating Anonymity Affordances and Online Emotional Support on

Facebook

	Model 1
Outcome variable: Self-disclosure	$R = .3270$, $R^2 = .1069$, $F(8, 205) = 3.07$, p $= .003$
Constant	.46(.40)
Anonymity affordances	.08(.05)
Depression	-.01(.01)
Post frequency	.24(.13)
Visit frequency	.09(.10)
Age	-.01(.01)*
Education	-.20(.10)*
Gender	.01(.16)
Income	-.02(.03)
Outcome variable: Online emotional support	$R = .4500$, $R^2 = .2025$, $F(9, 204) = 5.76$, p $< .001$
Constant	2.23(.20)***
Anonymity affordances	.02(.04)
Self-disclosure	.20(.05)***
Depression	-.02(.01)*
Post frequency	.30(.10)**
Visit frequency	.03(.08)
Age	.003(.01)
Education	.03(.07)
Gender	.04(.12)
Income	.05(.02)*
Indirect effect	.02(.01); CI[-.01, .05]

B(SE); * $p < .05$, ** $p < .01$, *** $p < .001$; 5000 bootstrapped samples

Table 35

Self-Disclosures Mediating Self-Anonymity and Online Emotional Support on Facebook

	Model 1
Outcome variable: Self-disclosure	$R = .3471, R^2 = .1205, F(8, 205) = 3.51, p < .001$
Constant	.42(.39)
Self-anonymity	.15(.06)*
Depression	-.01(.01)
Post frequency	.27(.13)*
Visit frequency	.11(.10)
Age	-.02(.01)*
Education	-.20(.10)*
Gender	.01(.16)
Income	-.01(.03)
Outcome variable: Online emotional support	$R = .4486, R^2 = .2012, F(9, 204) = 5.71, p < .001$
Constant	2.18(.30)***
Self-anonymity	-.01(.05)
Self-disclosure	.20(.05)***
Depression	-.02(.01)*
Post frequency	.30(.10)**
Visit frequency	.04(.08)
Age	.004(.01)
Education	.03(.07)
Gender	.03(.12)
Income	.05(.02)*
Indirect effect	.03(.02); CI[.004, .06]

$B(SE)$; * $p < .05$, ** $p < .01$, *** $p < .001$; 5000 bootstrapped samples

Table 36

Group Identification Mediating Anonymity Affordances and Self-Disclosure on Facebook

	Model 1
Outcome variable: Group identification	$R = .3213$, $R^2 = .1032$, $F(8, 205) = 2.95$, $p = .004$
Constant	-.67(.33)*
Anonymity affordances	.003(.05)
Depression	-.02(.01)*
Post frequency	.12(.11)
Visit frequency	.18(.08)*
Age	.01(.01)
Education	-.10(.08)
Gender	-.19(.14)
Income	.04(.02)
Outcome variable: Self-disclosure	$R = .3604$, $R^2 = .1299$, $F(9, 204) = 3.38$, $p < .001$
Constant	5.33(.40)***
Anonymity affordances	.08(.05)
Group identification	.19(.08)*
Depression	-.001(.01)
Post frequency	.22(.13)
Visit frequency	.06(10)
Age	-.02(.01)*
Education	-.18(.10)
Gender	.05(.16)
Income	-.03(.03)
Indirect effect	.001(.01); CI[-.02, .02]

B(*SE*); * $p < .05$, ** $p < .01$, *** $p < .001$; 5000 bootstrapped samples

Table 37

Group Identification Mediating Self-Anonymity and Self-Disclosure on Facebook

	Model 1
Outcome variable: Group identification	$R = .3343$, $R^2 = .1117$, $F(8, 205) =$ 3.22, $p = .002$
Constant	-.74(.32)*
Self-anonymity	-.07(.05)
Depression	-.02(.01)*
Post frequency	.11(.11)
Visit frequency	.19(.08)*
Age	.01(.01)
Education	-.10(.08)
Gender	-.20(.14)
Income	.03(.02)
Outcome variable: Self-disclosure	$R = .3856$, $R^2 = .1587$, $F(9, 204) =$ 3.96, $p < .001$
Constant	5.32(.39)
Self-anonymity	.16(.06)
Group identification	.22(.08)
Depression	-.002(.01)
Post frequency	.25(.12)
Visit frequency	.07(.10)
Age	-.02(.01)
Education	-.18(.09)
Gender	.05(.16)
Income	-.02(.03)
Indirect effect	-.02(.01); CI[-.05, .01]

B(SE); * $p < .05$, ** $p < .01$, *** $p < .001$; 5000 bootstrapped samples

Table 38

Anonymity Affordances and Self-Disclosure Moderated by Privacy Skills on Facebook

	Model 1
Constant	5.31(.40)***
Anonymity affordances	.07(.05)
Privacy skills	.25(.13)*
Interaction	.10(.08)
Depression	-.01(.01)
Posting frequency	.22(.13)
Visiting frequency	.08(.10)
Age	-.01(.01)
Education	-.21(.10)
Gender	.03(.16)
Income	-.02(.03)

B(*SE*); * $p < .05$, ** $p < .01$, *** $p < .001$; $F(10, 203) = 2.87$, $p = .002$, $R = .3521$, $R^2 = .1240$; 5000 bootstrapped samples

Figure 15

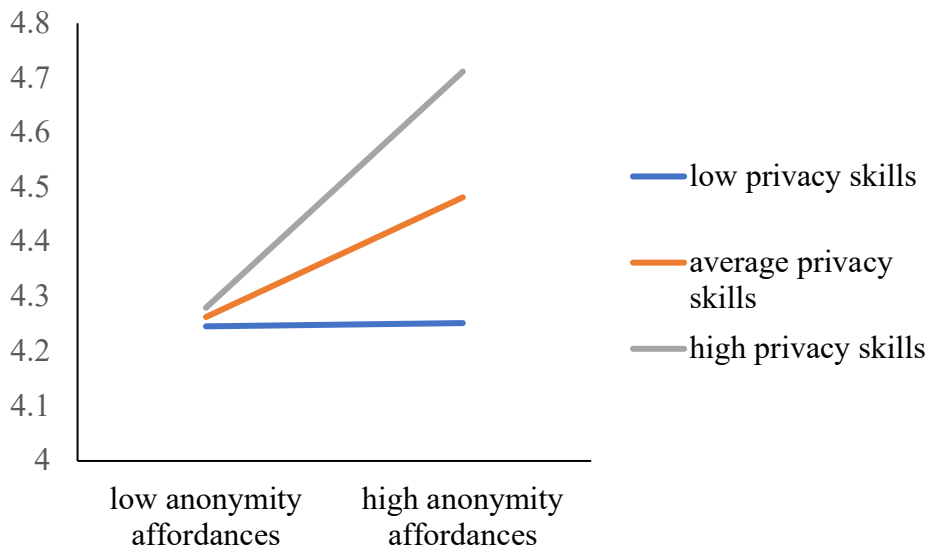*Anonymity Affordances and Self-Disclosure Moderated by Privacy Skills on Facebook*

Table 39

Self-Anonymity and Self-Disclosure Moderated by Privacy Skills on Facebook

	Model 1
Constant	5.24(.39)***
Self-anonymity	.14(.06)*
Privacy skills	.21(.11)
Interaction	.07(.07)
Depression	-.004(.01)
Posting frequency	.26(.13)*
Visiting frequency	.10(.10)
Age	-.02(.01)*
Education	-.19(.10)*
Gender	.01(.16)
Income	-.02(.03)

B(*SE*); * *p* < .05, ** *p* < .01, *** *p* < .001; *F*(10, 203) = 3.18, *p* < .001, *R* = .3680, *R²* = .1354; 5000 bootstrapped samples

Figure 16

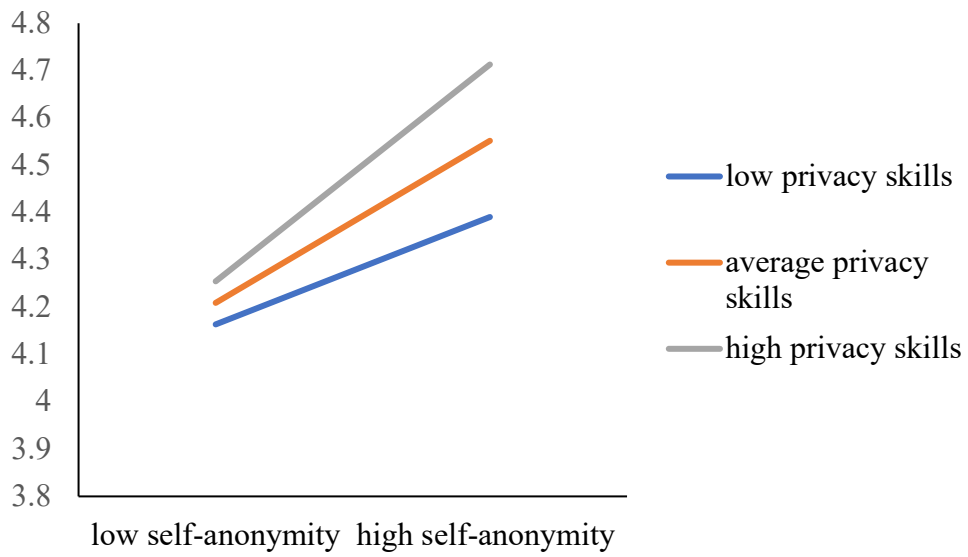*Self-Anonymity and Self-Disclosure Moderated by Privacy Skills on Facebook*

Table 40

Self-Disclosure and Online Emotional Support Moderated by Algorithm Skills on Facebook

	Model 1
Constant	2.11(.30)***
Self-disclosure	.20(05)***
Algorithm skills	.01(.01)
Interaction	.002(.01)
Depression	-.02(.01)*
Posting frequency	.31(.10)**
Visiting frequency	.04(.08)
Age	.01(.01)
Education	.04(.07)
Gender	.03(.12)
Income	.04(.02)*

B(*SE*); * *p* < .05, ** *p* < .01, *** *p* < .001; *F*(10, 203) =5.36, *p* < .001, *R* = .4571, *R²* = .2089; 5000 bootstrapped samples

Figure 17

Self-Disclosure and Online Emotional Support Moderated by Algorithm Skills on Facebook
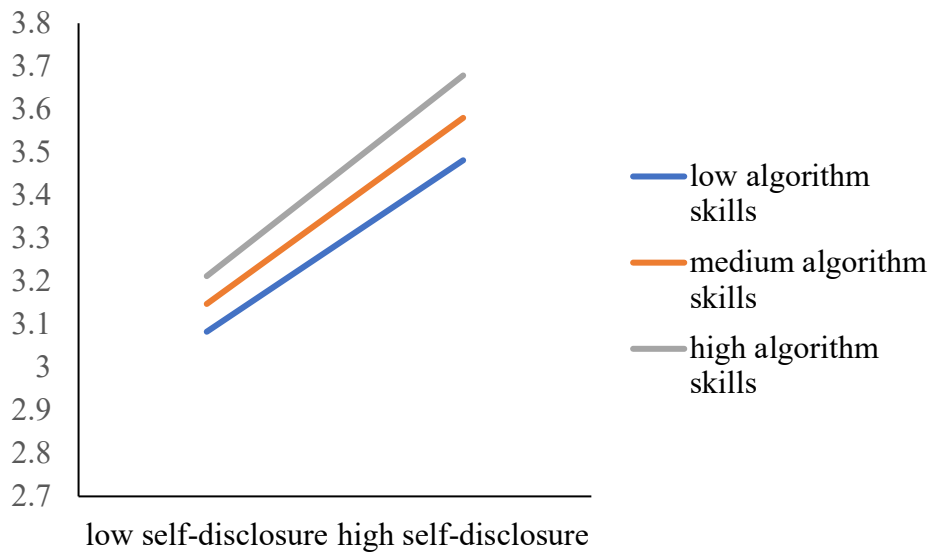
Appendix C

Survey Measures

Perceived Platform Anonymity Affordance

Fox, J., & McEwan, B. (2017). Distinguishing technologies for social interaction: The

perceived social affordances of communication channels scale. *Communication*

Monographs, *84*(3), 298–318.

1 = *strongly disagree* and 7 = *strongly agree*

Scores are averaged.

Now we will ask you some questions about the online community where you posted about

your depression. Indicate how much you agree or disagree with the following statements.

1. [platform] can make me anonymous to the person I am communicating with.

2. [platform] allows people to remain anonymous or unidentifiable if they want to.

3. When using [platform], I can take on another identity if I want to.

4. [platform] can mask my true identity when communicating.

5. When I communicate through [platform], the receiver doesn't necessarily know it's
   me.

6. You can't necessarily tell who is communicating through [platform].

Self-Anonymity

Yun, H. (2006). "The creation and validation of a perceived anonymity scale based on the

social information processing model and its nomological network test in an online social

support community." PhD Dissertation (Michigan State University).

1 = *strongly disagree* and 7 = *strongly agree*

Scores are averaged.

ALL items reverse coded so that higher scores = more anonymous

Now think about the online community where you posted about your depression. Think about your profile and the content of your posts. How strongly do you agree or disagree with the following statements?

1. Some members can recognize my name.

2. Some members can recognize my username.

3. Some members may find out my email address or homepage address.

4. Some members may find out my mail address or telephone number.

5. Some members can recognize my IP address.

6. Some members can guess how old I am.

7. Some members can tell my marital status.

8. Some members can tell my profession.

9. Some members can tell how much education I have had.

10. Some members can tell our household income level.

11. Some members can tell how many children I have and their age.

12. Some members can tell my hobbies or interests.

13. Some members can recognize me from my writing style.

14. Some members can recognize me from expressions or words I use frequently.

15. Some members can recognize me from the way I approach the topic covered.

16. Some members may imagine how I look (my appearance) based on my profile.

17. Some members may match me with pictures I posted.

Willingness to Disclose

Yun, H. (2006). The creation and validation of a perceived anonymity scale based on the

social information processing model and its nomological network test in an online social

support community. PhD Dissertation (Michigan State University).

 "Self-disclosure" scale.

1 = *strongly disagree* and 7 = *strongly agree*

Scores are averaged.

Think about the online community where you posted about your depression. How strongly do

you agree or disagree with the following statements in the context of that online community?

1. In the online community, I am willing to reveal negative things about myself.

2. In the online community, I am willing to express my most intimate feelings.

3. In the online community, I am willing to share what I did wrong.

4. In the online community, I am willing to share things I wouldn't with my family, my offline friends, and colleagues at work.

5. In the online community, I am willing to talk about my shameful experiences.

6. In the online community, I am willing to talk about my hurt feelings.

7. In the online community, I am willing to talk about my failures.

8. In the online community, I am willing to share my family history or secrets.

Perceived Emotional Support

Nick, E. A., Cole, D. A., Cho, S., Smith, D. K., Carter, T. G., & Zeikowitz, R. (2018). The

online social support scale: Measure development and validation. *Psychological Assessment,*

30(9), 1127–1143.

(Shortened version from which items were derived) Zhou, Z., & Cheng, Q. (2022).

Measuring online social support: Development and validation of a short form for Chinese

adolescents. *International Journal of Environmental Research in Public Health, 19*(21), 14058.

Replace the word "online" with "this social media group."

1 = never to 5 = a lot

Scores averaged.

6 emotional support items below:

Indicate how often you experience the following things in the online community where you posted about your depression.

1. People show that they care about me in this online community.

2. In this online community, people say or do things that make me feel good about myself.

3. People encourage me when I'm in this online community.

4. People pay attention to me in this online community.

5. When I'm in this online community, people tell me they like the things I say or do.

6. In this online community, people make me feel like I belong.

Emotional Support

Berkman, L., Leo-Summers, L., & Horowitz, R.I., (1992). Emotional support and survival after myocardial infection. *Annals of Internal Medicine, 117(12),* 1003-1009.

Think about the online community where you posted about your depression as you answer the following questions.

1. How many people can you count on to provide you with emotional support (showing care and compassion for another person either through words or actions; for example,

talking over problems with or helping you make a difficult decision)?" _____

(number of people)

2. How often have you been in contact with someone online that provides you with emotional support (included in the tally above) during the last month?

    a. Not at all

    b. About 1-2 during the month

    c. About 1 a week

    d. About 3-4 times a week

    e. At least once a day

3. Have you been able to get emotional support online whenever you needed it during the **last month**?

    a. I was never able to get emotional support when I needed it last month.

    b. I was rarely able to get emotional support when I needed it last month.

    c. Sometimes I was able to get emotional support when I needed it last month.

    d. I was usually able to get emotional support when I needed it last month.

    e. I was always able to get emotional support when I needed it last month.

Perceived Group Identification

Yun, H. (2006). The creation and validation of a perceived anonymity scale based on the social information processing model and its nomological network test in an online social support community. PhD Dissertation (Michigan State University).

1 = strongly disagree, 7 = strongly agree

Items are averaged.

Think about the online community where you posted about your depression. How strongly do you agree or disagree with the following statements?

1. I feel I do not have much to offer this online community. (reverse-coded)

2. I feel I am one of the least contributing members in this online community. (reverse-coded)

3. I regret that I joined this online community. (reverse-coded)

4. I do not tell anyone that I am a member of this online community. (reverse-coded)

5. I feel that this online community is worthwhile.

6. I am ashamed to be a member of this online community. (reverse-coded)

7. My membership in this online community has little to do with how I feel about myself. (reverse-coded)

8. I think of this online community as part of who I am.

9. I see myself as different from other members of this online community. (reverse-coded)

10. I often cite this online community when I talk to others offline/in person.

11. I enjoy interacting with the members of this online community.

Privacy Skills

Madden, M. (2017). Privacy, security, and digital inequality: How technology experiences and resources vary by socioeconomic status, race, and ethnicity. *Data&Society* [Report].

1 = strongly disagree, 5 = strongly agree

Items are averaged.

Indicate how much you agree or disagree with the following statements.

1. I am confident in choosing strong passwords to protect my online accounts.

2. I am confident in avoiding online scams and fraudulent (obtained by criminal deception) requests for my personal information.

3. I am confident in managing the privacy settings for the information I share online.

4. I am confident in protecting my computer or mobile devices from viruses and malware.

5. I am confident in understanding the privacy policies of the websites and applications I use.

6. I am confident in using the internet without having my online behavior tracked.

7. I am confident in protecting the security of my devices when using public WIFI networks.

Algorithmic Awareness

Zarouali, B., Boerman, S. C., & de Vreese, C. H. (2021). Is this recommended by an algorithm? The development and validation of the algorithmic media content awareness scale (AMCA-scale). *Telematics and Informatics*, *62*, 101607.

1 = not at all aware, 5 = completely aware

Items are summed.

Please indicate to which extent you are aware of the following statements about algorithms in media content.

1. Algorithms are used to recommend media content to me on social media. (Content filtering)

2. Algorithms are used to prioritize certain media content above others. (Content filtering)

3. Algorithms are used to tailor certain media content to me on social media. (Content filtering)

4. Algorithms are used to show someone else different media content than I get to see on social media. (Content filtering)

5. Algorithms are used to show me media content on social media based on automated decisions. (automated decision-making)

6. Algorithms do not require human judgements in deciding which media content to show me on social media. (automated decision-making)

7. Algorithms make automated decision on what media content I get to see on social media. (automated decision-making)

8. The media content that algorithms recommend to me on social media depend on my online behavior on that platform. (human-algorithm interplay)

9. The media content that algorithms recommend to me on social media depend on my online behavioral data. (human-algorithm interplay)

10. The media content that algorithms recommend to me on social media depend on the data that I make available online. (human-algorithm interplay)

11. It is not always transparent why algorithms decide to show me certain media content on social media. (ethical considerations)

12. The media content that algorithms recommend to me on social media can be subjected to human biases such as prejudices and stereotypes. (ethical considerations)

13. Algorithms use my personal data to recommend certain media content on social media, and this has consequences for my online privacy. (ethical considerations)

Stigma

Hammer, J. H., & Toland, M. D. (2017). Internal structure and reliability of the Internalized

Stigma of Mental Illness Scale (ISMI-29) and Brief Versions (ISMI-10, ISMI-9)

among Americans with depression. Stigma and Health, 2(3), 159.

1 = *strongly disagree*, 4 = *strongly agree*

Items averaged.

"Mentally ill" or "mental illness" was replaced with "depression"

Higher score = more stigma

For each statement, please indicate how strongly you agree or disagree.

1. Stereotypes about people with depression apply to me.

2. In general, I am able to live life the way I want to. (reverse-coded)

3. Negative stereotypes about depression keep me isolated from the "normal" world.

4. I feel out of place in the world because I have depression.

5. Being around people who don't have depression makes me feel out of place or

   inadequate.

6. People without depression could not possibly understand me.

7. Nobody would be interested in getting close to me because I have depression.

8. I can't contribute anything to society because I have depression.

9. I can have a good, fulfilling life, despite my depression. (reverse-coded

Depression Symptoms

Kroenke, K., Spitzer, R. L., & Williams, J. B. (2001). The PHQ-9: Validity of a brief

depression severity measure. Journal of General Internal Medicine, 16(9), 606-613.

0 = Not at all 1 = Several days 2 = More than half the days 3 = Nearly every day.

Scores are summed.

How often have you experienced the following in the past two weeks?

1. Little interest or pleasure in doing things.

2. Feeling down, depressed, or hopeless.

3. Trouble falling asleep, staying asleep, or sleeping too much.

4. Feeling tired or having little energy.

5. Poor appetite or overeating.

6. Feeling bad about yourself or that you are a failure or have let yourself or your family down.

7. Trouble concentrating on things, such as reading the newspaper or watching television.

8. Moving or speaking so slowly that other people could have noticed, or being so fidgety or restless that you have been moving around a lot more than usual.

9. Thoughts that you would be better off dead or of hurting yourself in some way.

Appendix D

IRB Approval

UNIVERSITY OF CALIFORNIA

BERKELEY · DAVIS · IRVINE · LOS ANGELES · MERCED · RIVERSIDE · SAN DIEGO · SAN FRANCISCO · SANTA BARBARA · SANTA CRUZ

SANTA BARBARA
FWA#00006361

Office of Research
Human Subjects Committee
Santa Barbara, CA 93106-2050

Web: http://www.research.ucsb.edu

11/13/2023

VERIFICATION OF ACTION BY THE UCSB HUMAN SUBJECTS COMMITTEE

RE: HUMAN SUBJECTS PROJECT NUMBER 23

FROM: UCSB HUMAN SUBJECTS COMMITTEE

PROTOCOL NUMBER 23-23-0625

TYPE: NOTICE OF EXEMPT DETERMINATION

TITLE(S):
THE ROLE OF DIGITAL INEQUITY ON SOCIAL MEDIA'S INFLUENCE ON WELL-BEING

INVESTIGATOR(S):
Amy Gonzales
Jesse King

The above identified modification may commence on 11/13/2023. Exempt protocols do not expire.

The research activities under this submission qualify as Exempt from the Federal Regulations at 45 CFR 46.104(d) under the following Categories: 2

Although your study qualifies as exempt research, investigators are expected to adhere to UCSB policies and conduct their research in accordance with the ethical principles of Justice, Beneficence, and Respect for Persons as described in the Belmont Report.

AMENDMENTS/MODIFICATIONS/CHANGES:
Any change in the design, conduct, or key personnel of this research must be reviewed by the UCSB HSC prior to implementation. This includes changes to the study procedures and/or documents (e.g., protocol, consent form, recruitment materials, addition of data points, addition or change of research sites) and changes to the research team. If you are unsure whether your changes constitute a protocol modification, contact the HSC for guidance.

UNANTICIPATED PROBLEMS/ADVERSE EVENTS
If any study subject experiences an unanticipated problem involving risk to subjects or others, and/or a serious adverse event, the UCSB HSC must be informed promptly. An e-mail or phone call must be received within 7 days. Further reporting requirements will be determined by the UCSB HSC at that time.

RECORDS RETENTION REQUIREMENTS
Please remember that signed consent forms must be maintained for a minimum of three years after the end of the calendar year in which the research is completed. Additional requirements may be imposed by your funding agency, your department, or other entities.

If you have any questions about the above, please contact the UCSB Human Subjects Committee Coordinator at: (805) 893-3807; (805) 893-2611(fax); hsc@research.ucsb.edu

For more details on this protocol, go to the ORahs website: https://orahs.research.ucsb.edu/

HSC approval does not include evaluation or approval of COVID-19 related safety procedures. You are expected to follow all applicable COVID-19 safety requirements to include, but not limited to, institutional, local, state, and government requirements, during the conduct of this research. It is the responsibility of the Principal Investigator to be informed of and follow the research policies and guidelines found here: https://www.research.ucsb.edu/human-subjects/covid-19-impact-human-subjects-research.