

**The Power of the “Like”: A Quantitative Study on the Facebook Emoji as Social Support**

by

Lina Rawlings

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

Doctor of Philosophy

School of Communication and the Arts

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### **Abstract**

This quantitative study aimed to evaluate how receiving a Facebook “like” correlates to the perception of social support and how much this correlation is moderated by the age and gender of the users. The social information processing theory guided the study, providing a framework to explain how communicators adapt to the restriction of nonverbal cues by creating surrogates to maintain interpersonal relationships in computer-mediated communication circumstances. For the central research question, findings revealed that receiving a Facebook “like” positively correlates with perceptions of social support from Facebook friends and family. While no significant correlation was found between the gender of users, age was identified as a moderator. The descriptive statistical analysis found that a substantial proportion of Facebook users (44%) feel “happier than before” after receiving a Facebook “like.” By revealing that happiness increases when individual users seek social support on Facebook and receive “likes” on their posts, this research validates how Facebook reactions play a role in individual users’ mental health.

*Keywords:* computer-mediated communication, social support, emoji, Facebook

**Copyright Page**

### **Dedication**

This dissertation is lovingly dedicated to my family, who have supported and inspired me. To my husband, Kevin, and my two beautiful children, Addilyn Grace and Grayson James – you were the most significant motivators throughout this process.

## **Acknowledgments**

I want to thank my husband, Kevin, for his love and support. He has been by my side since the beginning of my educational journey, which started with my bachelor's degree. This research would not have been possible without him. Second, I want to express my most profound appreciation to my dissertation chair, Dr. Carol Hepburn, for her mentorship, knowledge, and guidance during this research process. I feel incredibly blessed to have had such an excellent, trusted advisor. In addition to Dr. Hepburn, I would like to thank the other two members of my dissertation committee, Dr. Robert Mott, and Dr. Wesley Hartley. Thank you for believing in me, for your insightful comments, and for providing valuable feedback. Lastly, I would also like to thank my mom, brother, and best friend, Heather, who has offered endless support over the past four years.

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### **List of Abbreviations**

American Statistical Association (ASA)

Computer-Mediated Communication (CMC)

Cues-Filtered-Out (CFO)

Null Hypothesis Significance Testing (NHST)

Social Identification/De-Individualization (SIDE)

Social Information Processing Theory (SIP)

Social Networking Sites (SNS)

User Generated Content (UGC)

Uses and Gratifications Theory (UGT)

## CHAPTER ONE: INTRODUCTION

### Overview

Recently, concerns have been raised that social media use may influence psychosocial behaviors such as empathy, perceived social support, and social competence (Konrath, 2013). Although social media helps to connect people, researchers are beginning to suggest that they signify the advent of a new era in personal relationships and the displacement of face-to-face relationships, where the emotionally relevant experiences of users are being transformed (Hall et al., 2018; Vossen & Valkenburg, 2016; Ferris & Hollenbaugh, 2014; Valkenburg & Peter, 2007). For example, what started as a quick “like” button to share content has now amassed into a full range of one-to-one endorsements. A simple emoji, such as the Facebook “sad” face, now acts as a virtual endorsement to publicly empathize with or support another user. In the past, this would have been done through verbal or non-verbal communication. Therefore, it is inevitable that these virtual endorsements in social media can affect the way users receive and perceive social support.

Knowledge about the relationship between virtual endorsements and social support is vital and can provide insights into how communication technology shapes online therapeutic interactions. The growth of Facebook has motivated scholars to research the gratifications and motivations behind Facebook virtual endorsements (Lee et al., 2016; Chin et al., 2015). These studies have demonstrated that “the use of the ‘like’ button appears to be functioning more as a response action and less as a thoughtful behavior” (Lee et al., 2016, para. 2). However, these studies did not investigate how the “like” button functions within the social support process. Therefore, this study bridged the theoretical gap by exploring the correlation previously excluded from similar studies. As more people turn to social media for maintaining interpersonal

relationships, this study aimed to contribute to society's evolving understanding of the role of the Facebook "like" button in an individual's emotionally relevant experiences. In addition, the receiver's potential positive and negative evaluations of the "like" button may influence mental health in several ways, which are addressed in this study.

There is abundant literature documenting the positive effects of supportive communication on physical health and well-being. For example, adequate social support has been shown to alleviate depressive and anxious symptoms associated with cancer (Zamanian et al., 2021), help with coping strategies and reduce psychological distress (Vongkhamchanh et al., 2017), and enhance relational and family performance under stressful conditions (Kumar et al., 2019). The importance of social support continues to warrant scholarly attention for exploring fundamental communication processes, including message production in computer-mediated communication (Namkoong et al., 2017) and interpersonal interactions (Burleson & MacGeorge, 2002). Although research has demonstrated the importance and relevance of supportive communication within our lives, prior literature has yet to examine social support-based virtual endorsements. Therefore, this was the first known empirical study to explore these aspects and offer significant practical contributions, considering that understanding and sharing the emotions of others are crucial to the formation and development of interpersonal relationships (Vossen & Valkenburg, 2016). These insights significantly contribute to theory development.

### **Background**

To thoroughly understand how virtual endorsements are used in social media environments and as potential forms of social support, the following section reviews computer-mediated communication and its developmental and theoretical history. To address the technological features that distinguish online communication from face-to-face interactions, the



following background section is broken down into two main categories: the history of social media and social networking sites. Second, the emoji's communicative functions are summarized along with the historical background of Facebook and its various characteristics.

### **Computer-Mediated Communication**

*Computer-mediated communication* (CMC) is “the domain of human communication in which individuals and groups interact, form impressions, establish relationships, and accomplish tasks using networked computers” (Heide et al., 2009, p. 1). Interactions in mediated environments have fewer nonverbal cues than face-to-face interactions. As such, communication research has focused on examining nonverbal cues and asynchronous interactions in online settings (Konijn, 2008). Initially, it was thought that restricting nonverbal cues in the CMC environment would delay or divert communicators from the social and emotional aspects of interpersonal interactions (Walther & Boyd, 2002). Early on, researchers hypothesized that the physical separation of another person would result in cold, detached, and hostile exchanges (Konijn et al., 2008). However, in recent years, researchers have observed that people share their private thoughts online (Smith & Brunner, 2017). For some, virtual interactions are more socially desirable than face-to-face experiences (Walther, 2011). Alternative perspectives have suggested that the lack of nonverbal cues creates unique opportunities for identity management and liberation from specific personal dynamics (Walther & Boyd, 2002), which are discussed in more depth in the following chapters. As technologies advance, users find themselves in situations where they can seek and acquire social support from people they know on Facebook and total strangers on Instagram or TikTok.

### ***Distance and Presence***

One of the critical epistemological concepts found in medium theory is the idea of distance and presence. Littlejohn et al. (2017) wrote, “Distance presence refers to the power of communication media to provide an informational experience for a user that is not local” (para. 11). For instance, consider mediated interpersonal interactions between users such as a text exchange or social media discussion. While these interactions are designed to feel local and immediate, they are neither. They may present a sense of reality, but the virtual response does not happen in real time. As emphasized by Marwick and boyd (2011), “Technology complicates our metaphors of space and place, including the belief that audiences are separate from each other” (p. 115). The architectural change from face-to-face communication to social media raises questions: What is the worth of a “like” from someone not valued in an individual’s social order? Have virtual endorsements, such as the “like” button, increasingly encroached on our ability to distinguish between genuine and pseudo-empathy?

Littlejohn et al. (2017) addressed the epistemological concepts of alien presence and empathy, describing how “the applications these technologies spawn isolate senses of reality and assemble an organized bricolage, or interconnected set, of experience that constructs feelings, identifications, empathy, and emotional responses” (para. 11). On social media platforms, different actors, cultural expressions, and spheres of life are intertwined and morphed into one whole, blurring the boundaries that once took place in physical settings (Ruotsalainen & Heinonen, 2015). As described by Joshua Meyrowitz (1986):

By bringing several types of people to the same ‘place,’ electronic media have fostered the blurring of many formerly distinct social roles. Electronic media affect us, then, not primarily through their content but by changing social life’s ‘situational geography’ (p. 6).

### ***Anonymous Communication***

An essential characteristic of online interactions, especially on specific platforms like Facebook, is the sense of anonymity, lack of social identification, and deindividuation (Postmes et al., 1998). For example, on TikTok, YouTube, and Instagram, users can maintain relative anonymity enabled by the technology's anonymous addressing (Walther & Boyd, 2002). In this respect, users can express themselves freely without being recognized or knowing anyone directly. The perception of anonymity has led to uninhibited expressions of how people think and feel, which is believed to result in higher degrees of self-disclosure (Ferris & Hollenbaugh, 2014) and opportunities for selective self-presentation (Gibbs et al., 2006). In social media environments, users can remain completely anonymous, which has the potential for people to experience abusive, hateful, or threatening messages from racists, terrorists, and members of hate groups. Looking at the effects of media on privacy, Walter Ong (1982) described how "the audience is absent, invisible, [and] inaudible" (p. 135). The absent, invisible audience creates the perception of anonymity and privacy. Researchers have found that,

People tend to behave more bluntly when communicating in electronic venues other than in a face-to-face situation. Moreover, misunderstandings, greater hostility and aggressive responses, and nonconforming behavior are more likely to occur in computer-mediated interactions (McKenna & Bargh, 2000, p. 61).

### ***Asynchronous***

*Synchronicity* refers to the time lapse between communication engagements in the conversation (Nesi et al., 2018; McFarland & Ployhart, 2015) and has long been considered an essential characteristic of "cues-filtered-out" communication theories (Culnan & Markus, 1987, p. 421). CMC environments allow asynchronous interactions, a practical advantage that enables

people to take their time formulating messages and are considered valuable during sensitive or emotional topics (Walther, 1992). Another advantage of CMC is participating in social interactions without being stigmatized by cognitive disabilities (Braithwaite et al., 1999) or confronted with prejudices, which gives voice to diverse racial and ethnic people (Orbe, 2000). For some individuals, CMC positively correlates with interpersonal communication because it enables the “concealing of physical appearance, mistakes in speech lags in conversation, and visible signs of anxiety” (Erwin et al., 2004, p. 640).

### **History of Emoji**

Representations of faces have long been created to signify expression (Zhou et al., 2017). The first paralinguistic elements was emoticons, introduced in 1872, which used punctuation marks to represent a face and were often found at the end of a sentence (Bai et al., 2019; Sakai, 2013). Emoticons were used as a nonverbal communication function to help convey the sender’s emotion or attitude (Lo, 2008) and improve communication efficiency (Dunlap et al., 2016). Years later, the “smiley face” symbol re-emerged, with two dots for the eyes and a parenthesis for the grin, along with other variations to represent a face (Bai et al., 2019, para. 6). The smiley face was born as part of the 1963 merger of two mutual life companies and quickly became a public relations campaign found on buttons, pins, and t-shirts (Honan, 2001).

Before its digital transmutation into a yellow-faced icon, the smiley face was a form of intellectual property mobilized to harness corporate power (Stark & Crawford, 2015). Then, in 1999, a Japanese designer named Shigetaka Kurita released the first emojis to improve brand loyalty for the telecom carrier NTT Docomo (Blagdon, 2014). While the transliteration of the Japanese word “emoji” means e-picture (Bai et al., 2019, para. 3) or “picture-character,” it also coincidentally sounds like the word “emotion” (Henderson, 2021, para. 5). Emojis are Unicode

character sets that represent facial expressions, gestures/body parts, emotions and feelings, and other abstract concepts. The graphical symbols are light-hearted, comedic communication that aims to define an expression in email, text messages, instant messaging, social media interactions, and other online exchanges. Fast forward to 2022, emojis have come to be regarded as one of the most widely used symbolic languages in CMC (Bai et al., 2019), with over 3,000 different variations of emojis at our fingertips (Hutchinson, 2022).

### **History of Social Media**

Lariscy et al. (2009) defined social media as “online practices that utilize technology and enable people to share content, opinions, experiences, insights, and media themselves” (p. 314). Although the term “social media” is often used to reference social networking platforms and is colloquially interchanged with “socials,” the concept of social media is not new. Throughout history, people have been creating technologies to facilitate conversation. For example, the telegraph was developed in 1792 for transmitting and receiving messages over long distances. This device was followed by the telephone in 1890 and the radio in 1891 (Edosomwan et al., 2011). Over the past two centuries, technological advances have evolved into more sophisticated infrastructures for communication.

In 1962, Marshall McLuhan referenced our highly connected world as a *global village* where technological evolution creates instantaneous communication (p. 31). McLuhan (1964) described the global village as a world where electronic technologies simulate consciousness, extending the body’s nervous system and affecting the entire psychological and social complex system (p. 19). As a result, the private and public spheres are intertwined with society, reassembling the pre-industrial fragmented civilizations and reducing the globe into a village (McLuhan, 1964). This global village perspective became of topical importance with the

development of the World Wide Web in 1991, which opened a myriad of online services for networked communication and new global infrastructure (Van Dijck, 2013).

The internet has now become what McLuhan (1962) referred to as *global networks*, which can be understood as technological simulations of man's consciousness, in addition to what he termed as "a global embrace abolishing both space and time" (p. 3). To further emphasize this point, Kuniijn et al. (2008) wrote that although McLuhan's vision is often "interpreted as a technological phenomenon, it is equally, if not more so, a human one" (p. 14). The convergence of the internet and the technological innovation of mobile devices has led to an eruption in new media and communication phenomena. Mobile communication offers a variety of "affordances," giving access to information from anywhere and at any time. As a result, two-thirds of the world's population is now connected (Yao & Ling, 2020, p. 4).

### **Medium is the Message**

In McLuhan's (1964) early classic, *Understanding Media: The Extensions of Man*, he wrote the gnomic adage, "The medium is the message" (p. 29). From this perspective, the channel we receive the information from, otherwise known as the medium, is more important than the actual content itself. To clarify this point, McLuhan (1964) pointed out that "technology gradually creates a new human environment" (p. vi). This study was particularly interested in understanding this concept through the lens of technology and social support. The argument was that technology should be taken seriously and recognized as a tool that shapes our social support experiences. McLuhan's (2010) writings were drawn together to create a central theme in his book, *The Medium and the Light*, where he wrote about a paradigm shift between the world of technology and our psychological experiences. McLuhan's theories of media and human communication appear to be exceptionally current and can be seen in the rising popularity of

social media platforms. He wrote about the importance of the speed of change and how living in an instantaneous and simultaneous world drastically affects all areas of our lives. He noted that we have become an electric world heading for cottage economies, where things change at such high speeds that we have become intolerant to the change and cannot recognize the rate of information and knowledge (McLuhan, 2010, p. 84). McLuhan understood transformations decades before his time when he wrote about the speed of change.

With the invention of the internet and smartphones in our pockets, this was arguably one of his more relevant observations. In today's world, new information is all around us, presented in advertisements on our podcasts, radio stations, billboards, television, and arguably the most prominent – social media. McLuhan's (2010) theory applies, especially when engaging in social media. He accurately described how “there is no more audience in our world. On this planet, the entire audience has been rendered active and participant” (McLuhan, 2010, p. 84). As consumers turn on the TV, mobile phone, or tablet, they experience McLuhan's profound thematic writings: the medium transports them as active participants to whatever they read and view. Although the media environment is invisible, it still evokes the mind and body senses and connects consumers to what McLuhan called a global village.

Fundamentally, many of McLuhan's (2010) writings were interrelated to the effects of communication mediums and how consumers experience media. In the processed world of technology, McLuhan insisted that people can only understand the technological experience inwardly, where technology is an evolutionary extension of the body. He described how “each extension of ourselves creates a new human environment and an entirely new set of interpersonal relationships” (McLuhan, 2010, p. 70). Emphasizing mediums as extensions of ourselves is similar to phone exchanges, where individuals are not necessarily focused on being on the phone

but instead concentrate on the conversation with the person on the other end. In this way, the phone is rendered as an extension of an individual's ear to wherever that other person is on the planet.

As the first humans to live in a mediated technostucture, understanding communication mediums is significant in how we experience technology. Mythically and deeply, any understanding of social and cultural change is impossible without a knowledge of the way media work as environments (Kroker, 1984, para. 2). It is essential to understand that media are not neutral tools. The medium used can have psychological and social consequences depending on their employment. The essence of McLuhan's (2010) meaning is significant; we often miss the importance of how the tools shape us, and very few stop to think about how mediums are changing us. McLuhan's ideas, although startling to think about, emphasized the constant interplay that media has on our thoughts, space, and time.

The claim that media amplifies our sensorial extensions was interesting to this study. For instance, McLuhan (2010) suggested that this critical phenomenon affects adolescents because youth have been more immersed in the acoustic environment than anyone else. This study aimed to explore how mass media affects social media users' cognitive ability to empathize after being desensitized for so long by the medium. McLuhan's probes and percepts were poignant to this research in that there are subliminal effects of media, and every technology alters the human sensory bias, "creating new areas of perception and new areas of blindness" (McLuhan, p. 70)

### **Social Networking Sites**

A core area of social science research is social networking sites' emerging role and societal impact. Social networking sites (SNS) have been defined as:



(1) Web-based services that allow individuals to 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)

SNS has fundamentally changed the way people form and maintain relationships. Although people use them for several reasons, their primary role is facilitating interaction (Jong & Drummond, 2016). These sites allow users to produce user-generated content, such as updates on personal or professional lives, photos, videos, and news events (Freberg, 2019). In this way, users can stay in contact with people and develop an identity as they wish to be perceived (Jong & Drummond, 2016).

Connections with others are managed through a “comment,” “message,” or “shared post” on their friend’s “wall” and are further controlled by “inviting,” “accepting,” “blocking,” or “adding” people to their network (Livingstone, 2008). Today, there are image-based social media sites, such as Pinterest, where content and conversations are created and shared to ignite conversations between individuals, communities, organizations, and brands (Freberg, 2009). Some dating sites, such as Match, eHarmony, Bumble, and Hinge, aim to help people find romantic partnerships. Instagram, owned by Meta, is a photo-sharing platform with a younger audience than its parent. Recent Instagram statistics maintained that the platform has a firm hold on Gen Z and Millennials, with 31.2% of users between the ages of 25 and 34 and 31% between the ages of 18 to 24 (Barnhart, 2022).

On the other hand, Twitter allows users to push content in a limited number of characters for conversation purposes. This SNS is a popular platform for political topics and often

incorporates hashtags, which allow users to follow specific or trending discussions (Freberg, 2009).

### **History of Facebook**

Facebook, considered a SNS, is now ranked the largest globally. In 2004, Harvard University sophomore Mark Zuckerberg created a website called Facemash. It was initially designed for college students to post photos and information about themselves, such as class schedules, club affiliations, and life activities (Hall, 2022). As historically noted, Facemash had 1,200 Harvard student users within 24 hours of its launch, and over half of Harvard's undergraduate population registered after a month (Phillips, 2007). By August 2005, the network became Facebook.com, which expanded to high school students and spread worldwide, reaching universities in the UK the following month (Phillips, 2007). Between 2005 and 2007, Facebook experienced exponential growth and technological updates, including the site's development of "the wall" and "the newsfeed," which are explained in further detail later in this section.

In October 2007, the company launched the Beacon ad program, which logged Facebook users' online behaviors and later became a public relations nightmare over privacy concerns (Greiner et al., 2019). By 2012, the company had one billion monthly active users (Greiner et al., 2019). It experienced such growth that it acquired Instagram, a photo and video-sharing social networking platform, for \$1 billion (Reiff, 2021). According to data from Bloomberg Intelligence, Instagram was worth \$100 billion by 2018, making it the company's most significant grossing revenue stream (Bloomberg, 2018). In other words, Instagram is a 100-fold return for Facebook. The company continued to grow in February 2014, acquiring the messenger and calling service known as WhatsApp. Since its founding 18 years ago, Facebook has expanded to include many other technologies, applications, and services (Facebook, n.d. d). For

instance, the SNS acquired a web analytics company called Onavo in 2013, a virtual reality technology company called Oculus VR in 2014, and Beluga.

In October 2021, Mark Zuckerberg became the CEO and Chairman of Meta Platforms Inc., Facebook's new parent company name (Heath, 2021). The rebranding from Facebook to Meta was a strategic move by Zuckerberg toward building the *metaverse*, which is a term that refers to the company's pivot toward more augmented and virtual reality technologies (Saul, 2021, para. 2). During an interview regarding the new brand identity, Zuckerberg emphasized the importance of the realignment, saying:

People think of us as a social media company. Still, we consider ourselves a technology company that builds technology to help people connect. This differentiates us from other companies because everyone tries to get people to interact with technology. In contrast, we make technologies so that people can interact with each other. (Heath, 2021, para. 15)

In the next decade, Zuckerberg believes the world will be a completely different economy where virtual goods and services are dominated by crypto technologies like NFTs, full-bodied avatars, and virtual space (Heath, 2021). About 500 million people daily experience Meta's SNS of Facebook, Messenger, Instagram, and WhatsApp (Facebook, n.d. c). As of August 2023, Facebook has 2.9 billion monthly active users (Ruby, 2023), with statistics reporting that adults spend an average of 33 minutes daily on Facebook. This finding makes Facebook the SNS with the most significant time spent daily on all social media platforms (Dixon, 2022).

### ***Newsfeed History***

In 2006, Facebook introduced News Feed, a list of stories that continually updates in the middle of the site's homepage (Hall, 2022; Facebook, 2022). As of July 2022, the "feed" curates a list of content that includes "status updates, photos, videos, links, app activity, and likes from

people, pages, and groups that you follow on Facebook” (Facebook, 2022, para. 1). The feed is located on the site’s “Home” tab and is what Mark Zuckerberg refers to as “the starting point for connection, entertainment, and discovery on Facebook” (Meta, 2022, para. 3). To accomplish this, Facebook uses a proprietary algorithm which determines the position of content on an individual’s feed based on each user’s preferences and tendencies (Oremus et al., 2021). As a result, the feed is highly personalized and customized to the user’s behavior.

The Facebook algorithm prioritizes posts based on what the company calls “meaningful social interactions,” which is a metric designed to show more posts from friends and family members that inspire interactions and spark more “likes” and replies (Oremus et al., 2021 para. 19). Moreover, responding to a Facebook friend’s post through a reaction or a comment creates a signal of relevance by the News Feed algorithm (Ellison et al., 2014). Responding to others prompts the algorithm to increase the visibility of that particular friend’s content on a user’s News Feed and to decrease the visibility of those less interesting. Every “like” or comment gets marked as a behavior trace in the system log. Although the algorithm aims to shape the user experience and maximize engagement, it has been argued that it creates a filter bubble effect for relationships (Rader & Gray, 2014).

Rader and Gray (2014) discussed how algorithmic curation has the potential to create feedback loops, which refer to the re-sharing of content from Facebook friends that have behavioral traces logged in the system. For instance, if a user does not see a friend’s Facebook post, they will miss the opportunity to respond. If they do not respond, the Facebook algorithm will think it is uninteresting content and will not show it on a user’s feed. The content then recycles and is perpetuated into a constant loop of the same friends’ posts. This system uses a

behavioral proxy for relationships and controls what is communicated to users. This filter bubble effect could significantly affect users seeking social support from their Facebook friends.

### ***Facebook “Reactions”***

First introduced in February 2009, the iconic “like” button enables social media users to give a virtual “thumbs-up” and publicly endorse another user, organization, or brand (Eberl et al., 2020; Lee et al., 2016). In 2016, Facebook made reactions globally available (Krug, 2016), redesigning and extending the functionality of the “like” to include emoji-like icons such as the “love” face, “haha,” “wow,” “sad,” and the “angry” look. Four years later, in April 2020, Facebook added a “care” reaction to help users feel “a bit more connected” and to show people support (Lyles, 2020, para.1). The graphic design of Facebook reactions utilizes visual animations and conceptual metaphors, such as a tear for sadness and a red face for anger, to convey affective, emotional information (Cantrell et al., 2022). According to Cantrell et al. (2022), the reaction features seek to “enrich the level of interaction between users and content by broadening the range of emotions that users could share on Facebook” (p. 2). Previous studies have attempted to understand the function and impact of Facebook “likes,” with most conducted over ten years ago and presenting conflicting results. Over time, the “like” reaction has become a subtle form of engagement (Gerlitz & Helmond, 2013), creating doubts among scholars and practitioners as to the value of its interaction effect (Fox & Moreland, 2015).

### ***Other Facebook Features***

There are additional Facebook features that facilitate interactions on the platform. Stories allow users to share video and photo content at the top of the newsfeed. When users create a Facebook story, they can add text, music, and other content-enhancing features unavailable on the newsfeed (Zote, 2021). Stories are only visible to a user’s Facebook “friends” for 24 hours,

though they can be revisited in the platform's story archive. Suppose a user wants to tell people how they are feeling. In that case, there is an additional option on the Facebook profile status update called *feelings/activity*, where the user can pick from a list of emotions such as "happy," "loved," "blessed," "thankful," "angry," "silly," "sad," "weird," "rough," "awful," "terrible," "stupid," "crappy," "worthless," and many more. There are a total of 208 available emotions. Within the same tab, the user can also choose from a list of activities such as "celebrating...," "watching...," "eating...," "drinking...," "attending...," "traveling to...," "listening to...," "looking for...," "thinking about...," "reading...," "playing...," and lastly, "supporting..." (Facebook, n.d. a).

### **Theoretical Frameworks**

This study examined the correlation between emojis and social support from a communication perspective. While the topic can be investigated from other disciplines, this research focused on the concepts and processes associated with interpersonal interactions in a mediated environment and the theories and methods used to examine them. The relationship between Facebook "likes" and perceived social support was explained through the following communication frameworks: social information processing theory (Walther, 1992), symbolic interactionism (Mead, 1934), privacy management theory (Petronio, 2009), and theory of impression management (Goffman, 1959). Although theoretical explanations exist to evaluate how and why social support affects others, this study sought to use social support perspectives to examine how the linkages between people shape supportive communication.

### **Cues-Filtered-Out Approach**

To fully understand the social information processing theory, starting with the cues-filtered-out (CFO) approach, a perspective and umbrella term in CMC were essential. CFO

examines how nonverbal communication is missing in a communication event and how they are “put back in” (Littlejohn & Foss, 2009c, p. 163). Nancy Baym (1998) argued that CMC users are in a social vacuum. As a result, CMC interactions require more effort to “put back in” external contexts. This approach can be applied to examine how computer-mediated social support potentially mediates face-to-face communication. Various theoretical positions have suggested that “the absence of nonverbal cues in CMC creates a deficit in conveying important social information” (Short et al., 1976, p. 21). In the 1990s, the CFO approach received several critiques. John Walther (1992) disputed the viability and extant of the CFO findings, arguing that the previous findings do not support the perspective. Consequently, Walther (1992) created the social information processing theory to address this. Fundamental in the CFO perspective is emoticon research, referencing the symbols used in platforms like Facebook to denote a facial expression (Littlejohn & Foss, 2009c).

### **Social Information Processing Theory**

According to the social information processing (SIP) theory, users adopt an affiliate due to the absence of these nonverbal cues and compensate by creating surrogates for the missing social cues (Walter et al., 2016; Ganster et al., 2012). For example, suppose a Facebook friend shares sad information on the site’s newsfeed. In that case, users will use the communication tools available, such as emoticons and text, translate the context accordingly, and infer social information about the sender to formulate a response (Ramirez, 2009). As such, the SIP theory stipulates that when users are interested in social relationships, they can develop interpersonal impressions just as effectively as in face-to-face settings by using CMC. However, this process requires ample time regarding the number of messages exchanged (Walther et al., 2016).

The SIP theory initially emerged in the 1990s and explained how people use online textual communication to influence interpersonal relationships. Since then, with the adaptation of the internet and SNS, SIP theory has been utilized to consider how individuals translate verbal and temporal cues, along with the context in which they are used, to infer social information about the sender (Ramirez, 2009). Over the past 15 years, SIP theory has been introduced as a new perspective in understanding the role of CMC in developing relationships in virtual teams (Gibbs et al., 2017), online dating (Gibbs et al., 2006), distance education (Ruppel et al., 2017), and the development of trust both personally and professionally (Wilson et al., 2006).

Within social science and humanities research, SIP theory grew out of a need to better understand the significance of the ubiquitous presence of emoticons and their use as a typographic symbol to depict facial expressions without nonverbal cues (Walther et al., 2016). Accordingly, SIP theory has been applied to emoticon research, not to focus on the semiotic symbols themselves, but instead to analyze how CMC users “avail themselves of any cue system available to them to express and decode social information” (Walther et al., 2016, para. 22). However, the implications of emojis for seeking support have not been a significant focus in the scholarship of CMC. The guiding perspectives in this study can be best understood through Walther’s (1992) SIP theory. Based on the development of these CMC theories, communicators can adapt to communication mediums, create surrogates, as seen with virtual endorsements, and adapt to the channels available to them (Littlejohn et al., 2017; Walther, 2011).

Critiques of SIP theory have been expressed by scholars who connect with the social identification/de-individualization model of CMC, also known as the SIDE theory (Postmes et al., 1998). As an expanded and alternate approach to CMC, SIDE theory argues that communicators experience visual anonymity due to the lack of individuation in CMC. As a



result, users experience one another on a depersonalized basis (Walther et al., 2015, p. 12). This is a challenge to the SIP theory for theoretical reasons. The basic assumption of the SIP model is that people can develop idiosyncratic interpersonal relationships with each other online. In contrast, the SIDE theory argues that due to the “individual identity vacuum” of CMC (Sundar, 2015, p. 12), communicators will relate with one another as part of a collective group and not as individuals (Ramirez, 2009). Therefore, the SIP assumption that CMC interpersonal relationships can be developed just as effectively as face-to-face relationships, given enough time, is criticized by SIDE theorists.

SIP theory continues to be challenged by scholars who posit that more communication channels, such as telephone communication, zoom, or Facetime, are superior to the text-based environment of CMC (Sundar, 2015). For example, an empirical study by Okdie et al. (2011) argued this critique, finding that face-to-face interaction produces more positive impressions than those interacting via CMC. Another challenge in empirical research is the assumption that people will adapt their communication within the medium (Ramirez, 2009). Nevertheless, the first SIP test hypothesized that relational communication in CMC would be relative to the face-to-face control groups. Surprisingly to the researchers, results showed higher CMC levels than expected (Ramirez, 2009). This present study was a robust study supporting the SIP theory.

Still, researchers have argued that this human affiliation is affected by other variables, is not a constant, and is highly influenced by the concept of “anticipated future interaction” (Walther et al., 2015, p. 10). Lastly, the SIP theory primarily focuses on using text language in CMC to express emotions rather than emoticons (Ramirez, 2009). In fact, “much research suggests that emoticons and similar cues in CMC convey emotions and emphasis, although very little empirical evidence supports these assertions” (Ramirez, 2009, para. 26). The theory

predates the development and prominent use of emoticons in CMC, which has now become a popular form of social and emotional expression. This is a significant shortcoming of the theory and an area where this research could contribute to communication scholarship.

### ***Anticipated Future Interaction***

An essential aspect of the SIP theory is the effects of anticipated future interaction, which refers to the strategies communicators use online when they expect contact with another person in the future (Ramirez, 2009; Gibbs et al., 2006). The research on relationship development in CMC supports that those who anticipate long-term commitments with another person “have a great affiliation motive, seek and exchange more personal information, and evaluate each other more positively than those emerging from short-term interactions” (Walther et al., 2001, p. 112). Based on the elements of anticipated future interaction and the empirical research supporting it, there is reason to believe that social media interactions offer communicators the opportunity to provide social support to one another if a long-term commitment to the relationship is involved.

### ***Hyperpersonal Communication Theory***

The SIP theory has evolved and been expanded upon to include Walther’s (1996) hyperpersonal communication theory, which posits that due to the absence of nonverbal cues in CMC environments, people can represent themselves in optimal ways and this leads to increased sharing of personal information (i.e., self-disclosure), which produces more significant levels of intimacy than in face-to-face communication. Research demonstrating evidence of the hyperpersonal communication theory stems from studies showing that CMC interactions intensify an individual’s association with self-disclosure and intimacy compared to face-to-face communication (Treppe & Reinecke, 2013; Jiang et al., 2011).

### **Symbolic Interactionism**

Symbolic interactionism theory explains how our social world is constructed through everyday interaction (Del Casino & Thien, 2020). It is one of the several theories in the social sciences that examines how meanings emerge within our social environment. The theory claims that individuals are active interpreters of symbols and, in the communication process, they respond based on how they perceive reality (Blumer, 2004). Symbolic interaction perspectives acknowledge that symbols are indispensable in forming a communication act (Aksan et al., 2009). According to Schenk and Holman (1980), symbolic interaction is a dynamic theory because individuals attribute meaning to objects based on their intentions and evaluations.

Mead (1934), one of the leading scholars of the theory, asserted that the concept of “self” is constructed through the process of social interaction. Objects, situations, and events do not have inherent meanings but instead get their meanings from the social actors (Aksan et al., 2009). As a result, symbolic interactionism focuses on the reciprocal interaction of individuals, examining the process of “interpretation of the action” (Aksan et al., 2009, p. 902). Mead wrote about the importance of “significant symbols” in language and gestures, referring to an internalization process in which meaning emerges (p. 23). Although original theorists Dewey (1930), Cooley (1902), Mead (1934), and Blumer (2004) demonstrated differences in their interactionist perspectives, they agreed that the source of all data is human interaction and that the critical subject of symbolic interactionism is the ability to develop empathy (Aksan et al., 2009).

Symbolic interactionism assumes a micro-theoretical approach and seeks to investigate how collective social meanings are constructed and reconstructed through subjective experiences among and between social actors (Del Casino & Thien, 2020). The philosophy is underpinned by the notion that people are pragmatic and have the agency to proactively employ or interpret their

social and cultural symbols (Del Casino & Thien, 2020). Therefore, the most basic interactions are simple interactions or responses. Still, it is an “ongoing mutual orientation” (Crable, 2009, para. 4). Symbolic interactionists argue that interactions are a dynamic, evolving process.

### **Privacy Management Theory**

Sandra Petronio developed communication privacy management theory to describe a framework that explains the way people communicate confidential information about themselves and manage decisions about the flow of information so that, in theory, the information is protected and remains within the metaphoric privacy boundaries (Litt & Hargittai, 2014; Petronio & Petronio, 2009). However, managing boundary turbulence in online settings like Facebook can be challenging, especially when the juxtaposition of a person’s desired privacy boundaries and social interactions are violated or misunderstood. Coordinating and managing privacy rules in CMC requires an in-depth exploration of how people connect privacy and self-disclosure. With the growing use of SNS, researchers have increasingly focused on privacy management on platforms like Facebook and Twitter (Kezer et al., 2016; Jiyoung et al., 2015; Jin Seung, 2013).

### **Theory of Impression Management**

To quote Erving Goffman (1959), an original theorist in the presentation of self, “When an individual appears in the presence of others, there will usually be some reason for him to mobilize his activity so that it will convey an impression to others which it is in his interests to convey” (p. 18). Impression management theory focuses on the nature and implications of regulating and controlling information to influence an audience’s impression of a person (Schlenker, 1980). Under the umbrella of dramaturgical and social communication theories, impression management examines the self as a product of social interactions, particularly

emphasizing how one deliberately gives information and inadvertently draws focus back to oneself (Leeds-Hurwitz & Leeds-Hurwitz, 2009). It is a purposeful activity that involves various strategic interpersonal behaviors of using and concealing information to accomplish specific objectives. According to the theory of impression management and self-presentation, individuals adapt their behavior to control impressions from others and interact based on who is in the audience (Litt, 2012; Schlenker, 1980).

### **Social Penetration Theory**

Similar to the SIP theory, we can better understand how interpersonal relationships are developed and maintained through the lens of social penetration theory. The tenets of the theory are used to show the dynamic process of self-disclosure, which is the sharing of one's thoughts, feelings, and experiences and its impact on relationships. Much like peeling back layers of an onion (Mongeau et al., 2021), social penetration theory poses that with an increase of disclosure on a wide range of topics (also known as breadth), along with an increase in intimate matters or depth, the emotional trust and involvement of a relationship will change (Derlega & Chaikin, 1977). Through the mechanisms of disclosure, relationships either evolve or dissolve. Much of the research on social penetration theory has been gathered through the branches of interpersonal communication to explore privacy within relationships and to study uncertainty (Mousavi et al., 2020). However, most relevant to this study was the research of social penetration theory within social media environments, focusing on the selective disclosure of personal information online and its impact on social support.

### **Social Support**

Social support is vital to developing and maintaining interpersonal relationships, though both are difficult to measure as they are multidimensional constructs based on individual

experiences. Social support is a complex concept developed to explain why the social and psychological support of others helps an individual's health and well-being (Goldsmith, 2009). Substantial evidence has demonstrated the relationship between social support and positive emotional outcomes (Brailovskaia et al., 2020; Reeve & Shumaker, 2013). However, the effectiveness of social support depends on the match between the specific stress and the type, source, and timing of the individual's needs (Cutrona & Russell, 1990). Higher levels of social support have been shown to reduce depressive symptoms (Ibrahim et al., 2013), with higher friend support predicting better satisfaction with the quality of life (Ritsner et al., 2006). Associations between lack of social support and loneliness are well-documented problems within mental health research (Reininghaus & Morgan, 2014). While social support from friends and family members exerts long-lasting influence, whether the result is perceived as helpful or harmful is unclear (Lee et al., 2015). In other words, differentiating types of support from diverse sources matters.

The social structures between people are affected by social media. The extent to which people interact with one another, whether strangers or known relationships, offers unique advantages, risks, benefits, and detriments for social support. Research focusing on social support interactions has clarified this paradox (Walther & Boyd, 2002). In interdisciplinary literature, social support concepts have encompassed interpersonal interactions and have emphasized benefits to physical health and psychological well-being (Goldsmith, 2004). Researchers in various disciplines have conceptualized social support, each offering varying perspectives on how it is perceived, enacted, and received. From a communication perspective, social support involves conversations, such as responses from people considered to be trusting,

intimate, and accepting, as well as answers to emotional or problem-solving support (Goldsmith, 2009).

### *Types of Social Support*

Assessing social support can be difficult due to the varying definitions and lack of clear conceptualizations. There are a diversity of ways in which support is perceived as effective depending on the type of aid, the circumstance, and individual preferences. However, the following functions and definitions are the most cited:

- *Emotional support* involves the expressions of love, caring, and empathetic understanding and is represented through attachment or affection (Sherbourne & Stewart, 1991).
- *Functional support* is conceptualized as the quality of support, or the subjective assessment of one's contacts, measured by the adequacy of their social relationships (Li & Wang, 2021).
- *Structural support* is often evaluated by the quantity of one's social network and social relationships (Sherbourne & Stewart, 1991), measured by the contact frequency with friends and family outside the household.
- *Instrumental support* is assistance that meets a person's tangible needs, such as transportation, medical care, meal preparation, monetary aid, etc. This type of support includes acts of service and is considered direct and practical (Schultz et al., 2022).
- *Informational support* refers to "messages that include knowledge or facts, such as advice or feedback on actions" (Ko et al., 2013, p. 194). This type of support offers guidance, advice, or feedback to help solve a problem.

- *Esteem support, or appraisal support*, are messages that promote one's skills, abilities, and value. This type of support is relevant to the person's self-evaluation (Ko et al., 2013; Sherbourne & Stewart, 1991).

Whether or not these different types of social support are provided, perceived, and received often varies based on the situation.

### ***Perceived, Enacted, or Received Social Support in Communication***

Scholars regard social support as perceived, enacted, and received (Littlejohn & Foss, 2009g). Perceived available social support refers to the cognitive schema that the social world offers support when needed, which makes individuals feel comfortable disclosing or seeking help, positively evaluating the provider's responses, and thus facilitating effective coping (Goldsmith, 2009; Day & Livingstone, 2003). This study was specifically interested in investigating *perceived social support* and sought to evaluate the theoretical perspective that the presence of supportive relationships leads individuals to view life events as less stressful. Communication research has demonstrated that enacted or received support refers to "partner responsiveness" (Gable et al., 2012, p. 967), which involves two behavioral enactments of the responder, including nonverbal immediacy and listening (Chen & Freeley, 2012).

These two mechanisms have been shown to convey affective concern and other nonverbal behaviors, such as eye contact and head nods (Andersen & Andersen, 2005). Among the two behaviors, nonverbal immediacy is essential to studying emojis and social support. People will utilize communication strategies to assist another person in managing stressful circumstances. Whether the support is perceived as effective depends on several factors and how well it is communicated. To illustrate this point, Brant Burleson (2002) proposed a hierarchy of



comforting messages, ranging from low-level, middle-level, and high-level, differentiating the diverse types of messages people use based on the situation.

This hierarchical model is based on the degree of *person-centeredness* and the levels at which the messages recognize the other person's feelings (Burleson et al., 2006). Considerable research has indicated that highly person-centered messages are more effective at reducing distress (Burleson et al., 2006). However, a study examining emojis as a feature of comforting messages has not been conducted. Thus, this research aimed to contribute to the theoretical comprehension of how emojis affect people in comforting communication.

### ***Social Support Networks***

Scholars Albrecht and Adelman (1987) first introduced the social network perspective to explain “how structural features of the linkages among people shape the communication of support” (Littlejohn & Foss, 2009g, p. 913). The perspective proposes that people use uncertainty-reducing communication to facilitate personal control within the social network. For example, a user's Facebook network's size, density, and heterogeneity afford different resources and opportunities for support seekers. The social network perspective is critical to help explain how aspects of SNS, like Facebook, facilitate a network of mutual aid. Research on social support explains that although talking with friends and family about troubles helps reduce stress's effects, there is a lack of empirical support attending to the role of Facebook “likes” in this process. Conceptualizing social support from a communication perspective would be helpful to understand when receiving an emoji may facilitate coping. By studying the communication phenomenon of “like” reactions, it may be possible to develop general principles that help individuals understand the role of virtual endorsements in supportive communication.

### **Supportive Communication**

Since the 1980s, the growth and interest in supportive communication have grown out of a need for broader research under the social support tradition (Jones & Bodie, 2014). The proliferation of SNS has dramatically increased opportunities for epidemiological, ethnographic, and social behavioral research on how individuals seek and receive social support. In addition, SNS presents a fertile landscape to study interpersonal relationships and prosocial interactions. The study of supportive communication “concerns verbal and nonverbal behaviors enacted with the primary intention of improving the psychological state of another person” (Jones & Bodie, 2014, p. 371) and is grounded in the interdisciplinary field of social support. Whereas social support theories focus on differentiating types of support and how they are tied to mental health outcomes (Cutrona & Russell, 1990), supportive communication reflects on interpersonal interactions and how supportive intention is expressed within the interaction (Jones & Bodie, 2014). Under this theoretical approach falls the person-centered theory of supportive communication (Burlinson, 1982), which evolved from psychological constructivism (Kelly, 1955) and postulates that the characteristics of person-centered messages include expressions of compassion, validate another’s emotions and are generally perceived as beneficial.

### **Problem Statement**

Little is known about the impact of social media reactions on an individual’s perception of social support. In 2019, 50 million U.S. adults (19.86% of the U.S. adult population) experienced a mental illness. Of this number, more than half did not receive treatment, totaling 27 million U.S. adults (Mental Health America Inc., 2022). The COVID-19 pandemic resulted in a global mental health crisis, causing stress, anxiety, and depressive disorders to rise by more than 25% in 2020 (World Health Organization, 2022). In 2022, the World Health Organization released an extensive review of mental health, which provided a thorough blueprint of a growing

mental health crisis worldwide. Drawing on the latest mental health data, the report highlighted that improving mental health requires healthcare reform and called for strengthened community and peer support (World Health Organization, 2022).

Although most people are remarkably resilient, social support is critically important for everyone, everywhere (World Health Organization, 2022). In many instances, social media offers promising tools that can strengthen mental health by providing a sense of shared identity and trust among online communities (Lu et al., 2021), minimizing the perception of loneliness and social isolation (Kusumota et al., 2022), and obtaining additional resources for health interventions (Logsdon et al., 2014). However, the role of social media reactions in the social support process still needs to be clarified. Given the unprecedented ability of social media to expand an individual's social network and create opportunities to engage with others, in addition to the evidence that SNS emotionally impact users (Hayes et al., 2015), it is both essential and relevant to inquire how receiving a Facebook "like" is correlated with perceived social support.

Previous research on social support and social media use has focused on five primary topics: health-related support, self-disclosure, self-presentation, tie strength, and emojis. First, several studies have examined seeking and receiving social support for health-related matters, noting some evidence of social support where responses included family, immediacy, and prayer (Davis et al., 2015). Other studies have focused on the effects of self-disclosure on Facebook (Zhang, 2017). This research has led to inquiries into the relationship between self-presentation and Facebook use (Gibbs et al., 2006) and the role of tie strength and Facebook use (Burke & Kraut, 2016). Fewer studies have examined emojis or emoticons, social media pictographs that convey ideas and emotions, and their influence on current interpersonal communication (Yang, 2017). The psychological determinants of Facebook use have been of interest to researchers

studying social support behaviors in computer-mediated environments, which have been confirmed to include complex and multidimensional factors (Blachnio et al., 2013). For example, motivations for using the site depend on personality dimensions such as self-esteem, shyness, narcissism, and loneliness (Lee et al., 2016; Ryan & Xenos, 2011).

Minimal research attention has been directed toward the meanings and interpretations of Facebook “likes” as a form of social support. Users can seek, acquire, and provide social support to their Facebook friends during social media interactions. Often, these responses, through a reaction, comment, or reply, provide users with a greater sense of social connectedness and offer coping strategies for life’s day-to-day challenges (Naslund et al., 2016). In contrast, other research has shown that Facebook responses can negatively influence mental health variables such as depressive symptoms and anxiety (Frison & Eggermont, 2015). Existing studies of social support and Facebook use were primarily conducted ten or more years ago before Facebook implemented other reactions for users to respond to content.

Research has yet to examine the relationship between the Facebook reactions variable and social support perceptions. This lack of research exploring any links to Facebook “likes” and perceived social support is surprising, considering the extensive research linking Facebook and social support. To the extent that receiving a “like” reaction either replaces or augments direct social interactions, understanding why individuals seek them over face-to-face social support is highly relevant, especially given the growing mental health crises worldwide. Scholars can better understand the nuanced associations behind the “like” button by investigating these interpersonal communication interactions and using a quantitative approach that involves current Facebook users as participants. With this understanding, researchers can develop frameworks that guide action to improve mental health and social support.

### **Purpose Statement**

This quantitative study investigated the relationship between the Facebook “like” button and social support in a small-scale design. To examine this research topic, Walther’s (1992) SIP theory was used, which is a framework that suggests people adopt an affiliate due to the absence of these nonverbal cues and compensate by creating surrogates for the missing social cues in computer-mediated environments. Research has demonstrated that social support is associated with higher levels of prosocial behaviors (Carlo et al., 2012), and good supportive relationships have been associated with level reductions in “perceived life stress” (Wright, 2000, p. 55). Methods of inquiry included a quantitative approach with data elicited through online surveys and underpinned by a moderation model to determine the strength and direction of correlation between the frequency of receiving a Facebook “like” and the user’s perceived level of social support.

### **Significance of Study**

A study of Facebook reactions and their role in perceived social support, defined here as the perception of available resources or supportive ties acquired through social interaction (Chun & Lee, 2017), is important for several reasons. First, this research enriches the literature on the relationship between virtual endorsements and social support by delineating Facebook reactions as a unique form of social interaction. Second, it explores how gender and age are linked with a user’s perception of social support and the effects of a Facebook “like.” Understanding these dimensions’ relationships revealed the underlying logic behind the power of the “like” reaction: seeking emotional support in social media environments. Third, researchers have often studied the mediating role of social support and Facebook usage. However, their findings do not consider the extent to which virtual endorsements replace or augment direct communication interactions.

## Research Questions

This study sought to answer the following three questions:

**RQ1:** How much is the frequency of receiving a “like” reaction to a post on Facebook correlated with the user’s perceptions of social support?

**RQ2:** How much is the correlation between the frequency of receiving a “like” to a post on Facebook and the user's perceptions of social support moderated by the gender of the user?

**RQ3:** How much is the correlation between the frequency of receiving a “like” reaction to a post on Facebook and the user's perceptions of social moderated by the age of the user?

## Definitions

This section provides critical definitions needed to understand this research project thoroughly. The following terms are commonly used and accepted meanings in literature.

*Asynchronous communication:* Refers to the temporal structure of communication, where interactions are not happening simultaneously (Holmes, 2009).

*Computer-Mediated Communication (CMC):* In the broadest sense, CMC is any form of communication between individuals, such as a telephone call, email, text, or online social interactions mediated by digital technology (Holmes, 2009).

*Emoji:* A pictograph of faces, objects, and symbols (e.g., a smiley face, thumbs-up, or sad face) widely used in online communications to represent emotion (Henderson, 2021; Grannan, n.d.).

*Facebook Reactions:* Extensions of the “like” button, including “love,” “care,” “haha,” “wow,” “sad,” and “angry” buttons, give users more accurate and consistent ways to express a reaction to a post (Facebook, n.d. b).

*Social networking site (SNS)*: A website or platform that allows people to interact with published content that is typically visible to the user's contacts or the public, depending on the site's functionality (Collins Dictionaries, 2014).

*User-generated content (UGC)*: Content, like a video, is created directly by the user (Punch, 2014).

*Virtual endorsement*: A specific feature in SNS, such as a one-click "like" reaction on Facebook, Instagram, TikTok, etc., often in response to a user's published content (Lee et al., 2016).

### **Summary**

This chapter provided theoretical backgrounds on CMC, privacy management, impression management, and the perspectives of social support to better explain the links between perceived social support and Facebook "like" button usage. This chapter reviewed the history of emojis, the history of social media, and the history of Facebook to familiarize readers with the background of this study. To fully capture the aspects of interpersonal interactions in CMC, emoji use, and social support, Chapter Two provides an in-depth look at the related literature surrounding these topics.

## CHAPTER TWO: LITERATURE REVIEW

### Overview

Research on CMC for acquiring and sharing social support has been widely studied (Caplan & Turner, 2007; Walther & Boyd, 2002). Although there is a consensus that interpersonal relationships can be developed and maintained in CMC, the uses and effects of virtual endorsements of CMC as a form of social support still need to be studied. These gaps in the literature represent an opportunity to expand our current knowledge of interpersonal relationships in CMC environments. Understanding computer-mediated communication on an individual's psychological well-being is vital in an increasingly mediated social world of "likes," emojis, and comments.

A "like" acts as a form of public support and offers crowdsourced acceptance that may positively influence others' attitudes (Steyn et al., 2010). However, what these "likes" and reactions mean to the user is less known. For businesses, amassing "likes" may illustrate popularity, success, attention, and interest (Mehdizadeh, 2010). Other evidence has suggested that virtual "likes" influence how individuals feel about themselves because positive feedback can signal acceptance within one's social environment (Burrow & Rainone, 2017). However, some scholars have pointed out that although Facebook might offer opportunities to connect with others, this might not necessarily translate to therapeutic social support.

For example, Bazarova et al. (2017) reported that higher levels of psychological distress were associated with displaying depressed language on Facebook, deeper self-presentation concerns, and less satisfaction with audiences' responses. In addition, literature has identified that frequent Facebook interactions have been associated with "increased communication overload and reduced self-esteem" (Chen & Lee, 2013, para. 3). Contrary to these findings,



Facebook use has also been found to have a positive relationship between life satisfaction, civic engagement, political participation, and social trust. However, it is essential to note that these associations were small (Valenzuela et al., 2009).

This literature review aimed to summarize, synthesize, and clarify the research outcomes data. First, this chapter discusses where these computer-mediated social interactions lie within Craig's (1999) seven traditions of communication theory. Next, the literature review describes the related literature on the contextual and theoretical background, including social support, studies that have compared face-to-face to CMC, dimensions of self-disclosure and self-presentation, and the collective dynamics of Facebook usage and social interaction. Lastly, this chapter concludes with an overview of social support in the social media environment and research on Facebook and sharing behavior.

### **Communication Traditions**

Communication is viewed differently from person to person. It is a complex process that reflects an individual's personal and professional life, relationships, experiences, and how the world is created (Zelley & Dainton, 2018). As such, communication science offers knowledge about the world: what has happened in the past, what is happening in the present, and what will happen in the future (Cobley & Schulz, 2013). However, we need to understand why certain events occur, which is where theories become essential. Communication theories offer diverse ways of articulating the communication process and other viewpoints on the world. One of the primary functions of communication theory is to explain a communication act or an understanding of the communication process (SAGE Publications Inc., 2019). Theories can illuminate aspects of communication (Zelley & Dainton, 2018) and provide explanations for the observed phenomena with the hope of accurately describing them (Cobley & Schulz, 2013).

Robert T. Craig (1999) distinguished seven traditions to develop the organization of theories, each providing different perspectives on communication and ontological assumptions that describe how communication is formed within life's phenomena. Craig (1999) suggested that scholars should seek coherence based on "a common awareness of certain complementarities and tensions among different types of communication theory, so it is commonly understood that these different types of theory cannot legitimately develop in total isolation from each other" (p. 124). Taking a pragmatic view, Craig (1999) divided communication theory into seven traditions: sociopsychological, sociocultural, cybernetic, rhetorical, semiotic, critical, and phenomenological. Each offers a different perspective and represents "fundamentally different practical approaches" to communication (Littlejohn et al., 2017, p. 40).

### **Sociopsychological Tradition**

The sociopsychological tradition originated in the field of social psychology. It focused on "communication as a process of expression, interaction, and influence, a process in which the behavior of humans or other complex organisms expresses psychological mechanisms, states, and traits" (Craig, 1999, p. 143). Communication is mediated by psychological variables such as personality traits, personal effects, cognition, attitudes, and perception (Craig, 1999). This tradition focuses on the human mind and how it processes and understands information (Littlejohn et al., 2017). Centering on cognitive processes, theories within the sociopsychological tradition suggest that these processes influence communication and the choices we make as individual communicators (Craig, 1999). This present study was best situated under this communication tradition, as social support interactions in computer-mediated environments, like Facebook, involve cognitive processes and perception.

### **Related Literature**

Research focusing on social support in computer-mediated environments has been extensively studied, providing this present study with a solid foundation to build. With the increasing popularity of Facebook, several studies have been conducted to understand better the SNS's role in developing and maintaining interpersonal relationships. This section will discuss past and current research on the SIP theory to connect essential aspects, such as its use, to this study's present topic. Next, prior literature on social support, face-to-face versus CMC, self-disclosure, and emoji, will be summarized to provide a foundational understanding of the multidimensional concepts involved in seeking and acquiring social support online. Each of these topics will include subsections of related literature to provide insight into the complexity of the phenomenon of emojis as a form of social support.

### **Social Information Processing Theory**

In the past 30 years, the SIP theory has been felt in every aspect of society, including business, government, health, and nonprofit interactions. SIP has been developed within the communication discipline and is often used as a theoretical framework to study CMC. However, several business, psychology, sociology, technology, and education researchers have found the theory applicable and valuable for work in their area. Within the business context, specifically social enterprise, SIP has been a helpful framework for understanding the interaction channels between Instagram social entrepreneurs in Indonesia (Priyaningrum & Pawito, 2020). This research drew from the perspectives of Walther's (2011) SIP theory to analyze how women entrepreneurs develop strong communities on Instagram due to the sufficient time available for senders and receivers to consider their messages (Priyaningrum & Pawito, 2020).

It is important to note that the researchers chose SIP over other traditional CMC theories, which maintain that new media are insufficient for developing interpersonal relationships. In

contrast, SIP contends that users can still “express relational intimacy through text-based CMC alone” (Pang et al., 2016, p. 70). In an essay by Westerman et al. (2020), SIP was relevant to discuss artificial intelligence in CMC. The theory’s perspectives inform our understanding of humans' interactions with robots (Westerman et al., 2020). Their study suggests that “we respond to machines and AI as we do people, but we may not always respond to people in a very interpersonal way” (Westerman et al., 2020, p. 407).

According to the assumptions of SIP, people will adapt to the limitations of communication channels by encoding and decoding meanings typically conveyed by nonverbal cues (Walther et al., 2005). Some SIP claims have been widely criticized, mainly due to the advent of contemporary CMC interfaces. For example, some platforms convey richer nonverbal cues than when SIP was first formulated, requiring robust research on social media interactions, such as Facebook (Vossen & Valkenburg, 2016). The theoretical problem of time, or temporal constraints, has also been an issue since SNS can accrue interpersonal impressions faster than ever before. Earlier studies did not consider this, and SIP theory predicts interpersonal relationships will take longer to form online.

In today’s CMC environment, many opportunities exist to produce and receive social information, which reduces the time stipulated in the original SIP theory. The premises of SIP are central in debates about virtual groups, the development of friendships, online dating, distance education, and personal and professional trust (Walther et al., 2016). Recent developments in the theory need to focus on SNS, which can contribute to the field of communication and illustrate how the concepts of SIP help to understand the changes in CMC about social relationships. An example of this was shown in a study by Antheunis et al. (2010), which investigated how photos and biographical information provide social information

independently and reduce users' need for interactive conversation. This was an exciting scope that broadened SIP into how users can receive this type of passive information as a strategy for "uncertainty reduction" (Walther et al., 2016, para. 30). From this perspective, the impact of SIP continues to be foundational in the research of relational management.

### **Social Support**

People use Facebook to satisfy various social needs such as information sharing, companionship, social interaction, passing the time, and entertainment (Papacharissi & Mendelson, 2011). Among the many needs fulfilled through Facebook, scholars have identified social support as an essential need that can be negotiated through Facebook interactions (Buehler, 2017; Rozzell et al., 2017; Li et al., 2015; Lin & Utz, 2015). For example, findings from Vitak and Ellison (2012) described how the affordances of Facebook facilitate interactions for people to seek and provide support to others. Many studies have documented the significant implications of using support groups and SNS for health-related social support (Gilmour et al., 2019; Abramson et al., 2015; Hefner & Eisenberg, 2009; Wright & Bell, 2003). However, only some have focused on how the unique features of SNS, such as "likes" and comments, function as communication tools for social support.

The implications of Facebook's reaction buttons for social support and their distinct affordances deserve more scholarly attention. Their ability to articulate empathic support and the ease of broadcasting support to an individual's connections make Facebook's reactions different from other platforms. Kim et al. (2011) provided further insight that obtaining social support is an underlying motivation for using SNS among American participants. Thus, it was worthwhile to investigate the relationship between social support and Facebook "likes" in this present study.

### **Perceived Social Support**

Findings are mixed on how the interactions within social media are identified as either received or perceived social support (Haslam et al., 2005). There are no empirically supported methods to measure social and perceived support on Facebook (Gilmour et al., 2019). In a Facebook setting, opinion congruency from others' comments has been found to influence the user's attitude formation (Sung & Lee, 2015) and willingness to speak out or disclose their feelings (Lee & Chun, 2016). This present study was interested in one distinct type of social support: perceived social support. The lack of consensus about whether social support is perceived or received in social media environments has resulted in inconsistency among studies. The question remains: Does the receiver on the other end of the virtual endorsement perceive social support?

### **Supportive Communication**

Considerable research within the communication discipline indicates that certain types of supportive messages are viewed as more helpful and effective than other types of messages (MacGeorge, 2009). In 1994, Brant Burleson sought to identify how highly sensitive and comforting messages were generated and the knowledge and personalities affecting their motivations. Burleson's research found that people who use high-sophisticated comforting strategies, such as acknowledging, legitimizing, and elaborating on the emotions of others, are better liked than those who use less-sophisticated comforting strategies (Burleson, 1994).

### **Facebook**

Facebook is an environment best described as a *mediated community*. This term captures something felt or experienced through a shared sense of belongingness (Goodings, 2011, para. 11). While content shared on the SNS is primarily seen by users known as "friends," it can be shared and made public by any of those friends. Social interaction is changing, and Facebook

may be conceptualized to provide and maintain social support (Pempek et al., 2009). Interpersonal media, like Facebook, allow users to share emotionally stressful events immediately. This type of media is prominently used for social sharing (Choi & Toma, 2014). Anyone can create a Facebook profile by inputting their basic demographic information, uploading a photo of their choice, and including self-descriptions or feature photos. Facebook is considered a “friend networking site” because it primarily aims to connect people with friends, family, and acquaintances (Valkenburg et al., 2006, p. 584).

Ellison et al. (2007) reported that Facebook usage is associated with bonding in relationships, bridging and reciprocity, and relationship maintenance. Furthermore, Facebook status updates reduce loneliness because users feel more connected to their friends daily (Deters & Mehl, 2012). One study found that social media provides opportunities for adolescents to practice social skills and initiate friendships (Koutamanis et al., 2013), which may improve their social skills. Various researchers contend that SNS sites, like Facebook, create new potential risks for developing depressive symptoms (Frison & Eggermont, 2015). While Facebook can be regarded as a unique and popular channel for social support, most inquiries examining this relationship have been conducted in the health arena rather than the social sciences (Goz, 2007). Therefore, this present study aims to bridge the gap in the literature.

### **Accessibility**

Facebook is an accessible medium for those with a cell phone or laptop. From a social support perspective, users can access various forms of support day or night, compared to the potential difficulty of reaching someone offline (Walther & Boyd, 2002). Geographical space and time do not limit one’s ability to reach others on social media. This accessibility is essential

to those seeking support (Malik & Coulson, 2008). Accessibility has been highlighted as a critical reason for its use (Walther & Boyd, 2002).

### **Immediacy**

Immediacy was chosen because of its cultural principle about communication, connotating instantaneity, rapid delivery, and the instant gratification of desires (Tomlinson, 2007). Unlike other forms of mediated communication, such as the telephone, text, and email, which are often delivered to one specific person, social media interactions can provide immediate responses because of their broad reach to a large audience. People offer immediate feedback through a comment or “like,” which can be interpreted as peer feedback. These “thumbs up” and other social media interactions may influence mental health outcomes (Pempek et al., 2009). A study titled *Hurry Up and ‘Like’ Me* indicated that instant reactions from other users in response to posts, such as images, were highly desired (Jong & Drummond, 2016). Another study found that the immediacy of feedback on SNS directly influenced participants’ emotional states (Jong & Drummond, 2016). To advance our understanding of immediacy, Choi and Toma (2014) asserted that an essential function of Facebook is allowing users to verbalize thoughts and feelings within close temporal proximity of a stressful event.

### **Intended Audience**

Individuals must express their thoughts and feelings to an appropriate communication audience to acquire social support. Facebook’s social network is distinct because its structural features are linkages of known family, friends, or acquaintances. However, the density and heterogeneity of an individual’s Facebook network vary among users. In a study of interest groups on social media, Figenschou and Fredheim (2019) found that users distinguish between different platforms, tailoring their content and genre to the targeted intended audiences.



## **Face-to-Face versus Computer-Mediated Support**

Another research trend has centered around communication transformations from face-to-face to computer-mediated interactions. These studies were careful and exploratory. Prior research has focused on distinct aspects of social media and empathy in which studies reported a positive relationship between social media usage and empathic social skills in adolescents (Vossen & Valkenburg, 2016; Carrier et al., 2015; Alloway et al., 2014). Walther and Boyd (2002) observed that previous research identified difficulties with face-to-face social support in close relationships. For instance, individuals within a person's social support network may not have the skills or experience to help an individual cope with their problems (La Gaipa, 1979). Alternatively, one may have limited face-to-face support available to them. To offer support, partners may try to normalize, minimize, be too frank, or be less honest in their assessments. For some, disclosing personal problems among members of close networks may create vulnerability and embarrassment or risk stigmatization and dependence that is not conducive to reducing stress (Williams & Giles, 1987).

When support messages fail to acknowledge, empathize, or legitimize the feelings of the support seeker, support is then perceived as ineffective, and the relationship between the two can suffer (Walther & Boyd, 2002). Individuals may find ways to overcome these social support problems in online settings. Among members of online support groups, those dissatisfied with the support they received offline preferred social interaction and support found from online contacts (Chung, 2013). Research on social support in CMC by Walther and Boyd (2002) yielded four dimensions of attraction to online environments: social distance, anonymity, interaction management, and access to support systems. However, contrary to those who have

argued that online-based support facilitates coping, there are concerns that the displacement of face-to-face communication in social media makes people less empathetic (Carrier et al., 2015).

Furthermore, scholars contend that emotional support from social media is less consistent and has different associations than face-to-face emotional support (Shensa et al., 2020). These concerns have received support in a cross-temporal meta-analysis, showing a rise in self-oriented and self-promoting behaviors with a simultaneous decline in empathy scores among American college students over ten years (Konrath et al., 2010). The authors of this meta-analysis contended that a significant potential reason for the decline in empathy is the concurrent rise of social media (Konrath et al., 2010). Indeed, the average daily time spent on SNS has increased from 90 minutes per day in 2012 to 145 minutes per day in 2020 (Tankovska, 2021a). The literature has identified other potential problems with turning to social media for social support needs, such as the lack of non-verbal communication cues (Kumari & Gangwar, 2018) and harmful, hostile, or malicious encounters in online conversations (Braithwaite et al., 1999). Together, these factors may foster the perception of impersonal communicative experiences. A study by McCloskey et al. (2015) sought to develop a way to measure social support to investigate any relationships between depression, quality of life, and social support. In this, the researchers found that those eager to use Facebook as a means for mediating depression or improving quality of life were unlikely to realize significant therapeutic benefits.

### **Displacement Hypothesis**

Certain scholars have focused on the differences between computer-mediated and face-to-face communication, also called the *displacement hypothesis* (Kraut et al., 1998). They have argued that self-disclosure is more typical in face-to-face relationships (Mesch & Talmud, 2006). Conversely, other authors have demonstrated that self-disclosure is higher online due to the

anonymous environment (Blachnio et al., 2013). Reflecting on social media use and well-being, Ahn and Shin (2013) explored the displacement and augmentation hypotheses, studying the contrasting perspectives of social media and face-to-face functions on relationships. Results found that face-to-face communication facilitated avoiding social isolation and seeking connectedness, whereas social media use facilitated only seeking connectedness (Ahn & Shin, 2013). Although the study of face-to-face emotional support has been well established (Burlinson & MacGeorge, 2002), we need to learn more about how this process works within social media. The few studies that have explored this and compared face-to-face emotional support to computer-mediated psychotherapy sessions (Walther & Boyd, 2002) need to be updated. Hence, the topic still needs to be studied.

### **Social Distance**

Even before the internet, spatial and relational distances have been known to heavily influence the formation and development of social networks (Mok & Wellman, 2007). As Walther and Boyd (2002) wrote, “social distance dimension reflects users’ appreciation for the greater expertise of online sources, compared with the expertise available to them from their networks” (p. 546). For example, a woman with breast cancer may not know anyone within her face-to-face network who can relate to her experience. This difficulty is compounded if she lives in a rural area or has a rare condition. As such, SNSs like Facebook allow people to seek and acquire social support from others regardless of social distance. Although the critical roles of spatial and relational distances in mediated environments have attracted some scholarly attention, most research has focused on its influence in educational settings such as distance learning (Ozmen & Atici, 2014) and teaching designs/ideas (Conole et al., 2011). Therefore, our knowledge of the relationship between social distance and social support remains inadequate.

## **Social Network**

A *social network* is “a specific set of linkages among a defined set of persons, with the additional property that the characteristics of these linkages as a whole may be used to interpret the social behavior of the persons involved” (Mitchell, 1969, p. 2). Advanced technologies and SNS have given researchers added resources to measure individual exchanges and larger social systems (Rosen, 2014). When social media platforms, like Facebook, link people, they become social networks (Rosen, 2014). The flow of communication throughout the network has patterns, regularities, associations between actors, and friendship ties (Rosen, 2014). *Communication network analysis* is a method to measure the directional or nondirectional links between actors, such as the degree to which someone “likes” one person’s posts from another.

The social network perspective guides the exploration of dyadic social ties, such as tie strength and the attributes that make up the relational contents (Song et al., 2014). Namely, the social network perspective examines “how structural features of the linkages among people shape the communication of support” (Littlejohn & Foss, 2009g, p. 913). A social network is akin to the saying, “It is not just what you know but whom you know.” A study by Nabi et al. (2013) examined the effects of Facebook network size and social support, finding that the quantity of an individual’s Facebook friends correlates to stronger social support predictors. This perspective could help explain how aspects of SNS facilitate a network of mutual aid, providing an illuminating window into the implications of social media for social support.

## **Social Capital**

Social support is interrelated with *social capital*, a recently studied construct defined as “the resources embedded in one’s social networks” (Song et al., 2014, p. 119). Social capital is rooted in social networks and is created through structure or embeddedness, the opportunity to

access the social network and action, and how someone uses it (Lin, 2001). Thus, the association between social capital and one's Facebook network is an essential consideration of social support. Lin (2001) argued that "the premise behind social capital is simple and straightforward; it is the investment in social relations with expected returns in the marketplace" (Lin, 2001, p. 19).

Researchers have documented that social capital provides higher levels of social support (Lin, 2001) and is a social benefit of having Facebook friends (Ellison et al., 2007, p.1143). This is because "social capital, at its core, is derived from interactions with one's network. As a result, social networking sites are a valuable channel for supporting informational and support-based exchanges" (Vitak & Ellison, 2012, p. 243). Over the years, studies have reported a positive relationship related to social networking, social capital, and social support (Aubrey & Rill, 2013; Brandtzaeg, 2012). For example, Kraut et al. (2002) proposed that the best explanation for active Facebook use and social capital is the *get richer hypothesis*, meaning those with strong offline relationships subsequently use SNS to maintain those relationships, which leads to increased social support. This is known as the adage, "The richer get richer, and the poorer get poorer."

As such, Facebook users can mobilize and use the site's features to gain and maintain valued resources for social support. Other research has demonstrated that Facebook allows users to cultivate social capital (Aubrey & Rill, 2013; Burke et al., 2011; Ellison et al., 2007). However, users are cognizant of network composition and negotiate the advantages and disadvantages of self-disclosure before sharing on the site (Vitak & Ellison, 2012). Based on this context, social capital should support those seeking it on Facebook.

**Tie-Strength: Strong and the Weak Ties**

In computer-mediated studies, *tie strength* refers to the “relationship closeness” (Lin & Utz, 2015, p. 29) between users and is one crucial factor influencing social support. Mark Granovetter (1973) first introduced the idea of tie strength and defined it as “a ‘probably linear’ combination of the amount of time, the emotional intensity, the intimacy ‘mutual confiding,’ and the reciprocal services that characterize the tie” (p. 1361). For instance, weak ties are often acquaintances not within a person’s trusted social circle. In contrast, strong ties are found among people like you, usually a family member or friend to whom one feels emotionally close. Research focusing on tie strength contributes to computer-mediated social support in numerous ways (Walther & Boyd, 2002).

On Facebook, a person’s network of friends tends to be a variety of solid and weak associations, ranging from best friends and family members to colleagues and secondary links. Thus, the social support outcome, such as a “like” from one of these individuals, may offer distinct support depending on the link strength between users. Based on prior research, Ellison et al. (2014) suggested that weaker ties are more likely to respond to a Facebook post by “liking” or commenting on it. In contrast, closer ties may respond through more direct communication, such as face-to-face or telephone interactions. Work by Rozzell et al. (2014) revisited the role of strong and weak ties in affording social support through Facebook and found that strong links continue to provide greater social support than weak ties. Burke and Kraut (2016) tested predictions about Facebook interactions based on the tie strength. They found that specific uses of Facebook were associated with social support, where “receiving targeted, composed communication from strong ties was associated with improvements in well-being while viewing friends’ wide-audience broadcasts and receiving one-click feedback were not” (Burke & Kraut, 2016, p. 265).

Burke and Kraut's (2016) study provided evidence that tie-strength matters regarding social support on Facebook, and the results are consistent with other social support theories that predict that strong-tie interaction is crucial to the user. However, these findings suggest that trivial and content-free communication activities, such as "likes," may not be enough to perceive that a supporter will offer more substantial, meaningful support in the future. Although these studies are informative, future research is required to empirically assess the nature of Facebook "friends" versus "actual friends" and to explore the value of a "like" from the different networks.

### **Dimensions of Self-Disclosure**

Jourard (1971) defined *self-disclosure* as "the act of revealing personal information to others" (p. 2). It is the selective release of personal information involving content that is not widely known to others (Roloff & Roloff, 2009), including an individual's thoughts, feelings, and experiences (Derlega et al., 1993). Self-disclosure fosters closeness and positively affects the development of personal relationships (Derlega et al., 1987). These acts are viewed as intimate and significant in the social support individuals receive. Studies in psychotherapy suggest that self-disclosure can generate relief during stressful life events (Kahn & Hessling, 2001). Expressing negative feelings can unburden oneself and has been documented as having a "cathartic effect" when thinking about upsetting situations (Stiles, 1987, p. 263). Another study found that emotional and informational support are the two most influential factors affecting self-disclosing online (Lin et al., 2020).

The guiding frameworks for self-disclosure research are tied to the dyadic effects and patterns in which individuals engage in "the expression of personal information that is of a descriptive, affective, or evaluative nature" (Roloff & Roloff, 2009, p. 1). Contemporary communication theories offer creative and nuanced ways of viewing self-disclosure, such as

Petronio's privacy management theory, which focuses on "boundary management" to explain how self-disclosure is used as a form of communication to negotiate the amount of information we share (Honeycutt, 2008, p. 78). This theory helps to explain why some people are more protective of their privacy than others. Recent approaches have focused on self-disclosure within computer-mediated environments, such as SNS. On Facebook, self-disclosing personal information online could be perceived as a request for social support.

For example, Zhang (2017) found that by making themselves known to others, Facebook users experience more acts of "perceived social support, enhanced life satisfaction, and reduced depression" (p. 527). However, studies on the mental health effects of self-disclosure on social media have produced mixed results. Revealing confidential information through SNS exposes users to increased privacy risks (Cheung et al., 2015) and consequences in employment candidacy (Kwoh, 2012). Valkenburg et al. (2006) reported a positive relationship between social media disclosure, well-being, and self-esteem. Studies have also examined self-disclosure and its role in CMC interpersonal relationships, including a survey by Ruppel et al. (2017), which found that self-disclosure was higher in computer-mediated environments and lower in face-to-face communication. These empirical findings aid our understanding of intimacy and self-presentation in CMC environments.

### **Self-Disclosure on Facebook**

Facebook provides users the opportunity to share their struggles with their social connections. For some, the platform is a safe and appealing venue for self-disclosure. For others, self-disclosure may be perceived as too risky and elicit undesirable responses (Forest & Wood, 2012). Regardless, to receive social support on Facebook, the user must self-disclose. According to Derlega et al. (1993), self-disclosure is "a vehicle for obtaining social support that might not



be available if other people did not know about one's difficulties" (p. 111). Therefore, self-disclosure dimensions should be considered when examining the effects of social support on Facebook.

A study by Forest and Wood (2012) suggested that people with low self-esteem use Facebook differently, making more frequent negative disclosures than those with high self-esteem, who tend to make more positive posts. From a social support perspective, this finding reports on the delicate nature of self-disclosing online. Based on these findings, expressing negativity on Facebook is risky and may result in non-social benefits and reduced likeability (Forest & Wood, 2012). That being said, how does one receive support from others if they do not disclose?

### **Interaction Management**

The asynchronous nature of computer-mediated environments allows users to carefully craft and read messages conveniently and employ interaction management strategies to achieve effective communication and a positive impression (Liu & Ginther, 2002; Walther & Boyd, 2002). As emphasized by Walter Ong (2013), "In oral cultures, an audience must be brought to respond, often vigorously" (p. 42). For some, the affordances of social media may allow users to express themselves more effectively than in face-to-face interactions.

### **Asynchronous Communication on Facebook**

The Facebook interface offers an asynchronous environment that changes the frequency and immediacy of communication experiences. Results from a Facebook study showed that the asynchronous environment facilitated more social interaction compared to online discussion forums (Tse-Hou et al., 2015). The study's implications suggested that asynchronous off-topic discussions could benefit student engagement (Tse-Hou et al., 2015). In a similar student-

centered learning approach, the authors demonstrated that using Facebook's asynchronous communication led to more engaged students than attending only face-to-face classes (Northey et al., 2015). Therefore, from a social support perspective, it has been argued that Facebook's asynchronistic communication facilitates new opportunities for compensatory behaviors and interactions with others (Nesi et al., 2018).

### **Self-Presentation**

Self-presentation concerns impression management, with the most significant predictor of successful self-presentation being "intentional and positive self-disclosure" (Goffman, 1959, p. 14). *Self-presentation* refers to "selectively presenting aspects of oneself to control how others perceive one" (Kim & Dindia, 2011, p. 157). Research suggests that self-presentation strategies are essential in online contexts (Ellison et al., 2006). Features of social media networking platforms, like Facebook, are well designed to control content and provide the opportunity for deliberate self-presentation. The asynchronous features and reduced nonverbal communication cues offer the chance for optimal self-presentation (Walther, 1996). Studies have examined the demographic and cultural factors associated with self-presentation and have found that the personal characteristics contributing to self-presentation online are the need to belong, neuroticism, narcissism, self-esteem, self-worth, and shyness (Nadkarni & Hofmann, 2012).

Research by Ozanne et al. (2017) explored user motives in using the "like" feature on Facebook and found three types of dominating motives: "presentation of self, presentation of extended self, and social obligations" (para. 1). Extant research shows that people strategically share news to manage their self-presentation (Uysal & Oner-Ozkan, 2007). A widely held assumption, supported by numerous studies, suggests that profile owners will display altered characteristics of themselves, also referred to as the *idealized virtual identity hypothesis* (Manago

et al., 2008). However, a study by Back et al. (2010) provided a contrasting view, showing that Facebook profiles reflect a user's personality with no evidence of self-idealization. Ozanne et al.'s (2017) study revealed that "liking" behavior distinctly differs within cultures. Using the "like" feature can be a self-protective tool to manage how others view their impression. More research is needed to clarify self-portrayals' accuracy on SNS.

On Facebook, self-presentation dimensions can lead to more effective forms of social support or, conversely, can have a detrimental effect. Users can display themselves for admiration, accumulating "likes" and favorable responses. Kim and Dindia (2011) found that while more intentional and positive amounts of self-disclosure led to self-presentation success, revealing realistic and honest aspects of themselves resulted in a negative effect. Using Facebook to gain and exchange support presents individuals with unique challenges regarding self-presentation. Earlier research by Valkenburg et al. (2006) found that adolescents who use friend networking sites like Facebook reported adverse effects on self-esteem due to negative feedback on their profiles. This finding suggests that online self-presentation strategies can influence the feedback one receives on Facebook. Koutamanis et al. (2015) investigated online behaviors. They found that those who participated in social exploration activities in online environments and risky online self-presentation were more likely to experience negative feedback from peers.

Significant associations of self-presentation have been linked to Facebook use, including the association between low self-esteem and inauthentic self-presentation and inauthentic self-presentation occurring among people with neuroticism (Twomey & O'Reilly, 2017). Results also indicated that authentic/positive self-presentation is associated with high self-esteem and, subsequently, higher levels of perceived social support (Twomey & O'Reilly, 2017). These assessments offer essential insights into how Facebook users function in various domains of

social support. For example, Facebook users who present themselves in inauthentic ways could experience reduced social support levels.

### **Imagined Audience**

The *imagined audience* is a “mental conceptualization of the people we communicate with” (Litt, 2012, p. 331). This is not a new construct. Scholars have discussed the imagined audience for decades, referencing it in writing, textuality, reading (Ong, 2013), psychology, dreams, and fantasizing (Fridlund, 1991; Freud, 1922). Actors, writers, and politicians have long used an imaginary audience in their professions. Boyd (2007) stated that while this may seem peculiar, “without having cues about who will witness a given expression, an imagined audience provides a necessary way of envisioning who should be present” (p. 131). It has been noted that the lack of context can make these activities more challenging than communicating face-to-face (Ong, 2013). This is likely because it is necessary to conceptualize an audience to formulate the message's language, style, and cultural referents. Scholars like Walter Ong noticed this early on in writing:

The writer's audience is always fiction...the writer must set up a role in which absent and often unknown readers can cast themselves. Even when writing to a close friend, I must fictionalize a mood for him to which he is expected to conform. (Ong, 1982, p. 53)

The proliferation of social media has catapulted the concept of an imagined audience. A growing body of social media research has suggested that limited cues from an invisible audience play an influential role in communication behaviors (French & Bazarova, 2017; Litt, 2012). Marwick and boyd (2011) highlighted this point by writing, “Our understanding of the social media audience is limited” (p. 115). The size and diversity of online imagined audiences are nuanced and introduce complications (Boyd, 2007).

On Facebook, the audience is potentially limitless. However, Facebook users often communicate as if the audience is bound (Marwick & boyd, 2011). Within social media environments, while the audience is real, the user has little influence over who will see their messages. Content on the site's newsfeed is regulated by each user's settings, algorithmic ordering, and user posts' presentation, which impact audience composition (Bernstein et al., 2013). In a Facebook setting, people communicate and share information with a larger, more heterogeneous audience than in offline contexts, making it impossible "to decipher who exactly is on the receiving end of a message" (Litt & Hargittai, 2014, p. 520).

For this reason, Facebook's imagined audience has implications for someone seeking support within the medium. One study of Facebook users revealed that half of the people's imagined audiences were categorized as abstract, vague, and general. In contrast, the other half imagined a targeted or specific audience made up of personal, communal, or professional ties (Litt & Hargittai, 2016). Herein lies a risk of going online for social support needs. On Facebook, an individual relies on an imagined audience in an environment with limited context and audience cues (Litt & Hargittai, 2014). This presents a risk in sharing information with audiences who may have little regard for the support seeker, do not share the same internal desires, or find the message inappropriate.

If the information transmitted is taken out of context or reaches an unintended audience (Nissenbaum, 2011; Petronio, 2002), unlike offline interactions, this can result in potentially negative repercussions in the sharing process. Despite the importance of an imagined audience in CMC, there needs to be more effort to integrate social support behaviors with imagined audience perspectives. Litt and Hargittai (2016) emphasized this by noting:

While users may depend on the imagined audience to help navigate through a situation, the difficulty is that on the other side of the screen, there are actual people forming impressions- and the imagined audience may only sometimes align with the actual audience. (para. 3)

### **Social Support and Social Media**

Some studies have suggested that social media is used for seeking connectedness. For instance, previous research by Grieve et al. (2013) found a positive relationship between Facebook use and social connectedness. In addition, Facebook connectedness has been positively associated with lower depression and anxiety (Goldsmith, 2009). In March 2018, a study investigating emotional support revealed that face-to-face emotional support was associated with 43% lower odds of depression. Conversely, social media-based emotional support was associated with 20% greater odds of depression (Shensa et al., 2020). These findings reflect important distinctions between face-to-face and social media-based emotional support and their associations with depression.

### **Social Support and Facebook**

Between 2000 and 2017, much research investigated the relationship between social media and social support, often focusing on physical and mental health outcomes (Abramson et al., 2017; Shensa et al., 2016; Braithwaite et al., 1999). However, there has been a gap in the literature since this time. This present study was the first to show the influence of Facebook reactions on an individual's perception of support. A survey by Grieve et al. (2013) highlighted that social support from Facebook may facilitate improved well-being for individuals with high social anxiety. Other researchers have claimed that Facebook usage predicts adverse outcomes in

life satisfaction and well-being, as well as presenting the risk of developing depressive symptoms (Kross et al., 2013).

However, Frison and Eggermont (2015) found that when an individual seeks social support on Facebook, and it is subsequently perceived, a depressed mood decreases. This finding implies that perceived social support on Facebook positively impacts mental health outcomes. This aligns with other results, which have reported that higher perceived social support is strongly associated with lower anxiety, depression, and suicide (Hefner & Eisenberg, 2009). Despite this debate, inquiries into these topics have demonstrated that the growth and expanded use of SNS, like Facebook, have changed how people gain and exchange social support. Research findings support a positive relationship between Facebook users' network size (e.g., having several Facebook friends), life satisfaction, and perceived social support (Manago et al., 2012, p. 2).

Study results from the Pew Research Center found that Facebook users experience increased levels of social support, with emotional support scoring eight points higher than non-internet users (Hampton et al., 2011). Jang et al. (2016) similarly uncovered a positive correlation between Facebook use and perceived social support, though Facebook alone did not predict positive or negative mental health. However, the essential role of Facebook reaction buttons, as a mechanism of social support, remains to be determined. To this researcher's knowledge, no studies have examined virtual endorsements related to social support. The studies mentioned above have analyzed Facebook regarding self-disclosure, motivations, and gratifications without consideration of the effect of virtual endorsements on an individual's emotional experiences. This present study filled a research gap by examining how a "thumbs-up," "smile," "sad," or "happy face" reaction provides a sense of social support.

## The Emoji

In 2010, researchers Eli Dresner and Susan Herring published the seminal paper titled “Functions of the Nonverbal in CMC: Emoticons and Illocutionary Force,” in which they argued that the blend of “emotion” and “icons” has become a complex form of written communication used to express emotions (p. 249). As such, Dresner and Herring’s (2010) emoticon theory of communication is responsible for introducing the pragmatic functions of emoticons as emotion indicators, non-emotional meanings, and illocutionary force indicators. Since CMC’s initial stages and years, signs have been studied as critical non-linguistic cues to represent feelings and emotions (Schneebeli, 2018). Over 20 years ago, Rezabek and Cochenour (1998) identified the first sideways emoticons, which combined the colon, dash, and right parenthesis symbols [i.e., :-)]. They described *sideways emoticons* as “visual cues formed from ordinary typographical symbols, that when read sideways represent feelings or emotions” (p. 201). Back then, emoticons were used to indicate humor or intended for jokes.

However, social media's increased popularity has caused cultural and sociopsychological shifts in how emoticons are used, interpreted, and distributed. In her book titled *Reclaiming Conversation*, Turkle wrote:

Machines with humanlike faces have particular power. In humans, the shape of a smile or frown releases chemicals that affect our mental state. Our mirror neurons fire when we act and observe others acting. We feel what we see on the face of another. An expressive robot face can have this impact on us” (Turkle, 2015, p. 342)

Furthermore, emojis have semiotic qualities with positive and negative associated meanings (Beibwenger & Pappert, 2019). They have become conventionalized for contextualizing verbal utterances and are a chosen path for many to seek and receive information, communication, and



socialization (Beibwenger & Pappert, 2019). To address the growing and evolving influence of emoticons, Dressner and Herring (2010) offered the first conceptual article that argued for emoticons to expand beyond text boundaries and that nonlinguistic communication is an illocutionary or communicative effect and a pragmatic force. Central to their message was that emoticons are markers of how the message is intended, taken, and understood. For example, the phrase “Oh great!” is excited, happy, and enthusiastic, whereas the words “Oh, great” are sarcastic and dry and convey a different meaning (Dresner & Herring, 2010).

Another study examined how to be polite with emojis and found “that emojis serve as informality markers and as devices to maintain social relations...and makes useful resources for being polite which is a critical requirement of social organization, especially in context” (Beibwenger & Pappert, 2019, p. 250). The research of Tang and Hew (2019) showed that emoticon, emoji, and sticker use could be supplemented to influence interpersonal relationships, how people perceive each other, and the sense of positivity using affective expressions and directly intended interpretations. Like these findings, Wang (2015) suggested that cartoon-like sticker emojis convey positive emotions that may facilitate closeness, humor, and happiness.

### **The Facebook “Like” Button**

Emoticons and virtual endorsements in CMC have also been widely studied (Ganster et al., 2012; Dresner & Herring, 2010). In face-to-face interaction, the expression of emotion depends on the use of nonverbal cues (Derks et al., 2008). In CMC, people integrate nonverbal surrogates such as emoticons, emojis, and stickers to compensate for the lack of nonverbal cues (Ganster et al., 2012). *Emojis* are pictures, such as facial expressions, used to communicate an emotion “and help manage the relationship between messages and meaning” (Tang & Foon Hew, 2019, p. 2454). Although the emoji was created in 1997, the birth of the emoji can be traced back

to the emoticon, a pictorial function resembling a facial expression recognized as :) or :( (Riordan, 2017). Empirical studies on emoticons and emojis have suggested they are used as emotional expressions that complement the message's essence and reduce ambiguity (Brito et al., 2020).

Fridlund (1994) argued that nonverbal facial expressions communicate information to others and that the content of that communication is not concerned with emotions but with the individual's social motives and behavioral intentions. The Facebook emoji for "like" is a thumbs-up icon, and accumulating these "likes" often indicates acclamation and applause. Ideas or things that are "liked" by others are touted as influential and have the potential to become viral trends. Van Dijck (2013) suggested that "the choice for a "like" button betrays ideological predilection: it favors instant, gut-fired, emotional, positive evaluations. Popularity as a coded concept thus becomes not only quantifiable but also manipulable" (p. 13).

Data analysis from a study about what makes us click "like" on Facebook found that motivations, attitudes, and behaviors depend on personality traits and self-esteem (Lee et al., 2016). To unbundle Facebook feature use, one study found that those with higher self-esteem and more emotional stability clicked "like" to express enjoyment. In comparison, those with lower self-esteem clicked "like" to please others (Lee et al., 2016). Sherman et al. (2016) measured behavioral and neural responses to "likes." They found that likes are "associated with greater activity in neural regions implicated in reward processing, social cognition, imitation, and attention" (para. 1).

Another study by Sumner et al. (2017) employed a functional approach to conceptualizing the Facebook "like" button as a social cue that allows users to convey meanings while enacting multiple interpersonal functions. The results discussed predictors of "liking"

frequency, intended meaning, self-presentation, and interpersonal functions that participants hoped to accomplish (Sumner et al., 2017). Researchers have focused on the outcomes of the “like” button among marketing behaviors, advertising, purchase intentions, and service quality (Schondienst et al., 2012; Harris & Dennis, 2011) rather than its influence on an individual’s emotionally relevant experiences. The use and gratifications theory (UGT) has been used to investigate the underlying motives behind social media use. Smock et al.’s (2011) study showed that motivations behind using Facebook predict using unique features, such as status updates and wall posts. Still, other site features with similar functionality do not automatically share the same underlying motivations for use. To date, only a handful of these studies have been completed.

### **Facebook and Sharing Behavior**

Mark Zuckerberg’s professed desire is to “make the web more social” and “to make the world more transparent” (Van Dijck, 2013, p. 12). This narrative is rooted in the assumption that if users are honest when sharing personal information on platforms, this will inspire a “robust ethic of openness and sharing” (Van Dijck, 2013, p. 12). However, research has demonstrated that people strategically share news depending on the desired outcome and manage their impressions (Uysal & Oner-Ozkan, 2007). Moreover, they are likely to consider the valence of the information (i.e., positive vs. negative) to ensure they appear congruent with their image (Uysal & Oner-Ozkan, 2007). Several studies have attempted to examine the transmission of good and bad news, which found that people are more reluctant to relay lousy information (Dibble & Levine, 2013).

Rosen and Tesser (1972) refer to this tendency as the *MUM effect*, as in keeping “mum” about undesirable information. They found that individuals often hesitate to share negative news of life events for fear of being evaluated unfavorably. In their review, Rosen and Tesser

proposed that the communicator's self-concern determines the MUM effect, the concern for the recipient, and the problem with norms. Other research has suggested that terrible news occurs in gradations based on relevance, the likelihood of negative consequences, the extremity of the information, and the communicator's controllability (Dibble & Levine, 2013). Thus, when users consider sharing news on Facebook, self-presentational concerns determine the reticence to transmit negative information. However, conversely, self-presentation concerns motivate users to share the good news (Dibble & Levine, 2013). One concept familiar in the studies included reasons for self-presentation and "sensitivity to receiver emotionality" (Dibble & Levine, 2013, p. 431).

Research examining public intimacy and disclosure interpretation on Facebook found that perceivers judge intimate disclosures shared publicly as less appropriate than if shared privately and accounted for overall reduced liking for the discloser (Bazarova, 2012). In a study by Vitak and Ellison (2012), participants described strategies to minimize risk. Research has shown that information sharing on Facebook depends on an individual's appraisal of the rewards and risks of self-disclosure (Ferris & Hollenbaugh, 2014). Research from many years ago supported this concept. For instance, Constant et al. (1994) found that people demonstrated positive attitudes toward information sharing when engaged in prosocial behaviors. People are more likely to share when they want good outcomes, not only for themselves but for others (Constant et al., 1994).

Thus, when people feel comfortable and positive with Facebook friends and the content, they are more likely to participate in the sharing of personal information. The synchronicity of Facebook reactions and comments allows for changing and reflecting on the message before sending it, which increases the communication's editability (Valkenburg & Peter, 2011). This present study attempted to contribute to the gap in the research by exploring the psychosocial

process behind Facebook reactions as they relate to an individual's emotionally relevant experiences.

### **Facebook Usage**

The SNS of Facebook offers a unique environment for studying social support. Facebook was designed to connect with college classmates but has since become a platform to communicate with acquaintances, colleagues, friends, family, secondary links, and tertiary associations. The design and use of Facebook provide distinct advantages for users to seek and acquire support from others. Prompts such as the "What is on your mind?" feature invite users to share their thoughts, life activities, and other media on their newsfeeds. Facebook users construct a public or semi-public profile (boyd & Ellison, 2008) and can customize the privacy of their posts to be viewable by friends. However, the posts are, in effect, considered "public personal messages" (Carr et al., 201, p. 180). As such, Facebook is a platform that has been adopted to facilitate interpersonal interaction and maintain social ties (Carr et al., 2012).

Facebook usage can be divided into two categories: passive consumption and active participation. Active participation involves more defined interactions such as actively "liking," commenting or posting on a friend's content. At the same time, passive consumption is best described as perusing friends' profiles and newsfeeds (Jin, 2013). The growth of Facebook has motivated scholars to research the gratifications and motivations behind virtual endorsements on Facebook (Lee et al., 2016; Chin et al., 2015), who found that "the use of the 'like' button appears to be functioning more as a response action and less as a thoughtful behavior" (Lee et al., 2016, p. 334). These examples illustrate portions of the subject matter of empathy, social media use, and virtual endorsements.

### **Summary**

This chapter reviewed the literature on SIP theory, face-to-face versus CMC support, social capital, self-presentation, self-disclosure, and sharing behavior on Facebook. This chapter also reviewed the literature to familiarize readers with the research on many concepts and theories that connect to the topic of social support in computer-mediated environments. Next, Chapter Three will present the method and research design, instrumentation, and data analysis procedures used in this study.

## **CHAPTER THREE: METHODOLOGY**

### **Overview**

Existing literature provides evidence that social media interactions may offer unique affordances for those seeking social support, different from face-to-face and other online support settings (Chun & Lee, 2017; Davis et al., 2015; Rozzell et al., 2014; DeLongis & Holtzman, 2005; Walther & Boyd, 2002; Braithwaite et al., 1999). The question that arises, and has been largely unstudied, is how social media emojis, such as a “thumbs-up,” can function as a form of social support within social media environments. The primary purpose of this study was to empirically evaluate how receiving a Facebook “like” predicts an individual’s perception of social support. In this chapter, the research method and design are discussed, followed by a review of the research questions, participants, instrumentation, data collection process, statistical

analysis used to analyze the data, and the limitations and delimitations of the study. Validity and reliability measures are also addressed.

### **Methodology and Design**

A quantitative methodology with a correlational research design was implemented using a cross-sectional survey to collect empirical data. A *correlational design* is “research that involves collecting data to determine the degree to which a relationship exists between two or more variables” (Fraenkel & Wallen, 2018, p. G-2). A qualitative research design (e.g., phenomenology) did not apply to this study because “the degree to which a relationship exists between two or more variables” could not be evaluated by thematic analysis of the responses of Facebook users to interview questions (Fraenkel & Wallen, 2018, p. G-2). Other researchers have similarly used a quantitative methodology approach, including correlation analysis, to study the effects of Facebook and other social media platforms and the underlying social support mechanisms (Chen & Bello, 2017; Chan, 2015; Frison & Eggermont, 2015).

### **Research Questions**

This study sought to answer the following three questions:

**RQ1:** How much is the frequency of receiving a “like” to a post on Facebook correlated with the user’s perceptions of social support?

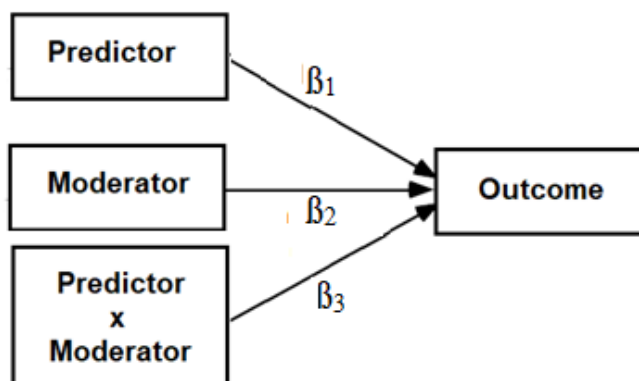
**RQ2:** How much is the correlation between the frequency of receiving a “like” to a post on Facebook and the user's perceptions of social support moderated by the gender of the user?

**RQ3:** How much is the correlation between perceptions of receiving a “like” to a post on Facebook and the user's perceptions of social moderated by the user's age?

Moderation occurs when the strength and direction of the correlation between an independent predictor and an outcome, dependent, or criterion variable are controlled by a third

variable called a moderator (Baron & Kenny, 1986). Researchers in psychology commonly use moderation models. Since the correlation between a predictor and an outcome is rarely the same for all groups of individuals, the strength of the correlation (using a standardized scale from 0 to 1) and the direction of the correlation (either positive or negative) may depend on the demographic and other personal characteristics of the research participants, including their gender, age, ethnicity, health status, personality traits, environment, and other attributes (Nussbeck & Fuchs, 2017; Musairah, 2015; Dawson, 2014). Currently, in 2023, Facebook offers users the option to respond with six emojis: the thumbs-up “like,” “love” face, “haha,” “wow,” “sad,” and “sad” and “angry” face. This study only examined the moderation effect between the thumbs-up “like” emoji and perceptions of social support because measuring each Facebook reaction would require a separate moderation test for each emoji. These research questions are underpinned by the moderation model depicted in Figure 1.



**Figure 1***Moderation Model*

*Note.* This diagram was adapted from Baron & Kenny (1986).

In the study, the perceptions about receiving a “like” from friends, family, and other contacts on Facebook were the predictor measured with a 5-point Likert scale. The outcome was the Facebook user's perceived level of social support from friends, family, and others measured with a 5-point Likert scale. The potential moderators were the individual's gender (i.e., male, female) and age group (years).  $\beta_1$  is the standardized partial regression coefficient between the predictor and the outcome.  $\beta_2$  is the standardized partial regression coefficient between the moderator and the outcome.  $\beta_3$  is the standardized partial regression coefficient between the moderating effect (predictor multiplied by outcome) and the outcome.

The three research questions were consistent with the “new statistics for better science” approach (Calin-Jageman & Cumming, 2018, p. 217), positing that questions concerning the relationships between numerical variables must: 1) start with “how much” (to reflect the essence of quantitative science), 2) be open-ended (because nothing can be proven with certainty using inferential statistics), and 3) be linked to what is already known ( i.e. the limited findings of

previous research discussed in Chapter Two regarding the correlations between social support and use of social media).

### **Hypotheses**

No hypotheses were proposed or tested in this study because the investigator complied with the policy of the American Statistical Association (ASA) entitled “The ASA's statement on  $p$ -values” (Wasserstein & Lazer, 2016, pp. 129-133). The ASA's policy represents a paradigm shift asserting that the concept and practice of null hypothesis significance testing (NHST), based on the interpretation of  $p$ -values, should be abandoned, as indicated by the statements in Table 1.

**Table 1**

*Statements of the American Statistical Association*

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- “A  $p$ -value, or statistical significance, does not measure the size of an effect or the importance of a result.”
  - “By itself, a  $p$ -value does not provide a good measure of evidence regarding a model or hypothesis.”
  - “Scientific conclusions and policy decisions should not be based only on whether a  $p$ -value passes a specific threshold.”
  - “Given the prevalent misuses of and misconceptions concerning  $p$ -values, many statisticians prefer to supplement or replace  $p$ -values with other approaches.”
- 

The ASA's policy implies that the classical theoretical framework underpinning NHST has collapsed and expired in the last decade (Hurlbert et al., 2019). Researchers are recommended to “spend less time hypothesis testing” (Scheel et al., 2020, p. 744). Many researchers across different scientific fields have moved away from the simplistic and flawed dichotomous thinking associated with rejecting a null hypothesis and accepting an alternative hypothesis (Kim, 2021; Wasserstein et al., 2019; Hayat et al., 2019; Spurlock, 2017). A cross-sectional survey conducted by Amrhein et al. (2019) revealed that over 800 scientists in over 50

countries have agreed that “it is time for statistical significance to go” (p. 307). Matthews (2021) endorsed the ASA's policy to abandon  $p < .05$  for the following reasons:

*P*-values – cannot do what researchers ask of them. Despite the impression created by countless research papers, lecture courses, and textbooks, *p*-values below .05 do not “prove” the reality of anything. Nor, come to that, do *p*-values above .05 disprove anything. (p. 16)

Moreover, *p*-values were not applicable in this study because the participants were not randomly selected. Researchers have demonstrated how “it is pointless to estimate the *p*-value for non-random samples” (Filho et al., 2021, p. 31), and *p*-values cannot be “meaningfully interpreted without random sampling” (Hirschauer et al., 2020, p. 71).

### **Participants**

This study’s survey included adult participants 18 years or older. As of September 2022, 84.7% of Facebook users were aged between 18 to 64 years, followed by 11.1% of users aged 65 or older (Dixon, 2022b). For this reason, this survey did not have an age limit for adult participants. Additionally, Facebook has a wide-ranking adoption among both genders, with 54.2% of U.S. audiences as female and 45.8% as male (Dixon, 2022a).

Criteria questions were used in the survey to ensure participants were active Facebook users who logged in to the platform at least four times per week. Participants who used Facebook less regularly to view and share content were deemed ineligible to participate. Participants were recruited in the USA using Amazon’s Mechanical Turk (MTurk) crowdsourcing platform. Distributed workers completed crowdsourcing online, providing a diverse population for survey research (Dupuis et al., 2013).

### **Sample Size**

The guidelines for the ethical practice of the ASA (2018) recommend a power analysis before data collection to ensure that the sample size is large enough to avoid a Type II error and measure a meaningful effect. A power analysis using G\*Power software (Faul et al., 2009) estimated that the minimum sample size required to address this study's three research questions using a regression-based moderation analysis was  $N = 48$ . The power analysis assumed: 1) a medium effect size ( $R^2 = .25$  or 25%) representing a meaningful or “practically significant” effect for social science data (Ferguson, 2016, p. 305); 2) a conventional level of statistical significance, equivalent to a 95% confidence interval ( $\alpha = .05$ ); 3) an adequate level of power ( $1 - \beta = .8$ ) reflecting an 80% probability of avoiding a Type II error; 4) one predictor (i.e. the perceptions about receiving a “like”); 5) one moderator (i.e. gender or age); and 6) one moderating effect (see Figure 1).

### **Instrumentation**

The level of social support perceived by each participant was measured by administering the RAND Healthcare Social Support Survey Instrument defined with the 12 items in Appendix E. The RAND Corporation is a nonprofit research organization developing solutions to improve public policy and decision-making for over 70 years (RAND Corporation, 1994–2023). As part of the RAND Medical Outcomes Study, the RAND Corporation created the Social Support Survey Instrument to score how people “look to others for companionship, assistance, or other types of support” (RAND Corporation, 1994–2023, para. 1), and to measure how often each kind of support is available when needed. The survey contains five dimensions of social support:

- (1) Emotional support, the expression of positive affect, empathetic understanding, and the encouragement of expressions of feelings;
- (2) informational support, the offering of advice, information, guidance, or feedback;
- (3) tangible support, the provision of material

aid or behavioral assistance, (4) positive social interaction, the availability of other persons to do fun things with you, and (5) affectionate support, involving expressions of love and affection. (Sherbourne & Stewart, 1991, p. 707)

For this study, the instrument asked the respondents how often they received support in their posts on Facebook from specified types of persons, including “Someone whom you can count on to listen when you need to talk,” “Someone to give you help to understand a situation,” “Someone to give you good advice about a crisis,” and “Someone to confide in or talk to about yourself or your problems.” The RAND Social Support Survey was chosen because it complies with the definition of *social support* as a “perception or experience that one is loved and cared for and part of a social network of mutual assistance and obligations” (Wills, 1991, p. 327).

Unlike other instruments developed to measure social support, this instrument is in the public domain and can be distributed free of charge without the permission of RAND Healthcare. The perceptions about receiving “likes” from posts on Facebook were measured using three questions: 1) How important is a “like” to you when you post something or respond to a comment? 2) How happy do you feel after you receive a Facebook “like”? 3) Do you feel that “likes” provide a sense that you are cared for and that others will be there for you during times of need?

Demographic information (i.e., age, gender), the frequency of use of Facebook, and the perceptions about receiving social support were also collected from each participant using the items in Appendix G.

### **Ethical Considerations**

All respondents provided their informed consent before answering the survey questions and were provided with information regarding the minimal risks involved in participation. Each

prospective participant was informed that the survey was voluntary and that there were no consequences should they have opted out or refused to answer any or all of the questions. The respondents were informed about their rights to privacy and confidentiality. No names, addresses, or other information that could personally identify a participant were collected. The response data were stored in a password-protected file on the investigator's personal computer to which only authorized persons had access.

### **Data Collection Procedures**

The survey instrument was distributed and administered online by MTurk. After one month, the response data stored in an Excel worksheet were returned to the investigator via email. Data collection was discontinued when the sample size was greater than  $N = 1500$  to ensure the sample size could be considered generalizable to the public. The response data were then imported into the data editor of IBM SPSS v. 26 and screened for missing values. The data were filtered to ensure that only one response to the items was provided by each participant. If a respondent was found to have responded to the same item twice, then the duplicated response was deleted. Bots and AI were both prohibited in the data collection within MTurk.

### **Data Analysis Procedures**

Descriptive statistics were computed to provide a profile of the participants in terms of the frequency distributions of their gender, age, use of Facebook, and their “likes” on Facebook. The respondents' perceived levels of social support were measured by converting the qualitative categories in Appendix E and F into five ordinal scores, ranging from 1 to 5.

The data analysis procedure provided the evidence to address the research questions and was conducted using a regression-based approach in SPSS (Hayes, 2017). Before completing the moderation analysis, the theoretical assumptions of multiple regression were checked as follows

(Field, 2020). The outcome, dependent, or criterion variables were measured at the interval level. This assumption was satisfied by aggregating the 5-point ordinal scores for multiple survey items to operationalize a Likert scale (Carifio & Perla, 2008). The average score for the 12 items in Appendix E and the three items in Appendix F were used to operationalize interval-level scales. A scatterplot was drawn to determine if the relationship between the predictor and the outcome was linear (i.e., a straight line). The assumption of homogeneity of variance was not violated if the points were approximately equally distributed on either side of the linear regression line. Data transformation (e.g., using logarithms) was used to ensure that the data complied with the theoretical assumptions of parametric statistics.

The SPSS output was interpreted to address the research questions. The point estimate of one of the partial regression coefficients (symbolized by  $\beta_1$  in Figure 1)  $\pm$  95% confidence intervals (CI) were the statistics to answer RQ1. The point estimates of the partial regression coefficient of another partial regression coefficient (symbolized by  $\beta_3$  in Figure 1)  $\pm$  95% CI were the statistics to address RQ2 and RQ3. The 95% CI, estimated by bootstrapping (i.e., drawing 1000 random samples from the data), was the range between the lower and upper limits within which the actual mean value of the regression coefficient in the population was captured in 95 out of 100 samples. The 95% CI was more helpful than  $p$ -values in addressing the research questions because they provided “better answers to better questions” (Cumming & Fidler, 2009, p. 15). Moreover, CI interpretation helped “improve statistical reasoning” (Hoekstra et al., 2012, p. 1039).

### **Limitations**

The limitations not under the investigator's control included threats to external and internal validity. A convenience sample was a threat to external validity because the findings of

this study may not apply to the sample. Still, they may need to be more generalizable to the target population of all Facebook users in the USA (Andrade, 2021). One possible threat to internal validity was that the self-reported survey data may be incorrect for several reasons, including careless responding (Meade & Craig, 2012), social desirability bias (Lavrakas, 2017); extreme response styles, and acquiescence bias (Wetzel et al., 2016).

A critical threat to the internal validity of a correlational research design is that “correlation does not imply causation” (Pearl et al., 2016, p.1). The statistical analysis of cross-sectional data cannot prove that the variance in one variable is the cause of the variance in another variable. An experimental design would be necessary to evaluate how much the prior manipulation of Facebook “likes” would directly cause an increase in the future social support of the participants. However, more than an experimental design is needed for logistical and ethical reasons.

### **Delimitations**

The delimitations or boundaries, which were under the control of the investigator, included the restriction of this study to a cross-sectional survey of adult Facebook users in the USA who: 1) logged in to the platform at least four times per week, 2) could be recruited by crowdsourcing using Amazon's MTurk, and 3) provided enough data to provide answers to the research questions.

### **Summary**

The purpose of this research study was to evaluate how much the correlation between the perceptions about receiving a “like” on Facebook and the user's perceptions of social support are moderated by the user's gender and age. A quantitative methodology with a correlational design was implemented using a cross-sectional survey to collect empirical data. No hypotheses were



proposed or tested in this study because the investigator complied with the policy of the ASA, which asserts that the concept and practice of null hypothesis significance testing based on the interpretation of  $p$ -values should be abandoned. The adult participants were recruited in the USA using Amazon's MTurk crowdsourcing platform. A power analysis estimated that the minimum sample size required to address the three research questions of this study, using a regression-based moderation analysis, was  $N = 48$ . However, the number of respondents should be larger to account for excluding ineligible participants and missing values. The level of social support perceived by each participant was measured by administering the RAND Healthcare Social Support Survey Instrument. Demographic information (i.e., age, gender) and the frequency of use of Facebook in the last four weeks were also collected. The SPSS output for linear regression analysis in SPSS was interpreted to address the study's three research questions.

## **CHAPTER FOUR: RESULTS**

### **Overview**

This chapter discusses the survey findings and presents the results in seven sections. The first section describes the screening and cleaning of the empirical survey data. The second

section summarizes the demographic characteristics of the respondents. Lastly, a descriptive and reliable analysis of the responses to the 12 items that measured perceptions about social support and the three items that measured perceptions about Facebook's "likes" is provided. The statistical evidence reviewed in these sections addresses the following three research questions:

**RQ1:** How much are the perceptions about receiving a "like" to a post on Facebook correlated with the user's perceptions of social support?

**RQ2:** How much is the correlation between the frequency of receiving a "like" to a post on Facebook and the user's perceptions of social support moderated by the gender of the user?

**RQ3:** How much is the correlation between the perceptions of receiving a "like" to a post on Facebook and the user's perceptions of social moderated by the user's age?

### **Screening and Cleaning of Data**

The original survey data recorded in the SPSS data file were screened for ineligible respondents and missing values. A proportion of the cases ( $n = 258/1725$ , 15.0%) had to be deleted from the data file for the following reasons: (a) the respondents did not provide their consent ( $n = 4$ , 0.2%); (b) the respondents were not 18 years of age or older ( $n = 9$ , 0.5%); (c) the respondents did not log in to the Facebook platform at least three times per week ( $n = 124$ , 7.2%); (d) the respondents did not state how often they logged into their Facebook accounts in the last four weeks ( $n = 37$ , 2.1%); (e) the respondents did not answer all 12 of the RAND questions ( $n = 72$ , 4.2%); and the (f) the respondents did not provide demographic information [excluding "prefer not to say" about their gender, age-group, education, race, or income ( $n = 12$ ), 0.7%]. After listwise deletion of all the cases with ineligible or missing values, the sample size available for the statistical analysis was  $n = 1467$ , representing 85.0% of the total number of respondents.

### **Demographic Characteristics of Respondents**

Table 2 shows that most respondents in the sample (n=1467) were male (n=1102, 75.1%). The respondents ranged in age from 18 to > 65 years. The most frequent age group (n = 996, 67.9%) was 25 to 45 years of age. The least frequent age group (n = 9, 0.6%) was > 65 years old. The household income of most respondents (n = 991, 67.6%) was < \$60,000 per year.

**Table 2***Demographic Characteristics of Respondents (N = 1467)*

Category	n	%
<b>Gender</b>		
Female	365	24.9
Male	1102	75.1
<b>Age-group</b>		
18 to 24	75	5.1
25 to 34	996	67.9
35 to 44	240	16.4
45 to 54	99	6.7
55 to 64	48	3.3
> 65	9	0.6
<b>Race</b>		
White	1401	95.5
African American	23	1.6
American Indian/Alaska Native	24	1.6
Native Hawaiian/Pacific Islander	1	0.1
Other/Mixed Race	18	1.2
<b>Highest level of education</b>		
Less than a high school degree	2	0.1
High school graduate	137	9.3
Some college but no degree	49	3.3

Associate degree in college (2-year)	44	3
Bachelor's degree in college (4-year)	887	60.5
Master's degree	332	22.6
Doctoral Degree	12	0.8
Professional degree (JD, MD)	4	0.3
<b>Household income</b>		
Less than \$10,000	21	1.4
\$10,000 - \$19,999	85	5.8
\$20,000 - \$29,999	218	14.9
\$30,000 - \$39,999	190	13.0
\$40,000 - \$49,999	229	15.6
\$50,000 - \$59,999	248	16.9
\$60,000 - \$69,999	80	5.5
\$70,000 - \$79,999	142	9.7
\$80,000 - \$89,999	65	4.4
\$90,000 - \$99,999	97	6.6
\$100,000 - \$149,999	47	3.2
More than \$150,000	33	2.2

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The cross-tabulation in Table 3 indicates that most female respondents (n = 224, 61.4%) logged into their Facebook accounts more than four times a week, compared with 38.4% of the male respondents (n = 442). Only some respondents (n = 234, 16.0%) logged into Facebook less than four times a week.

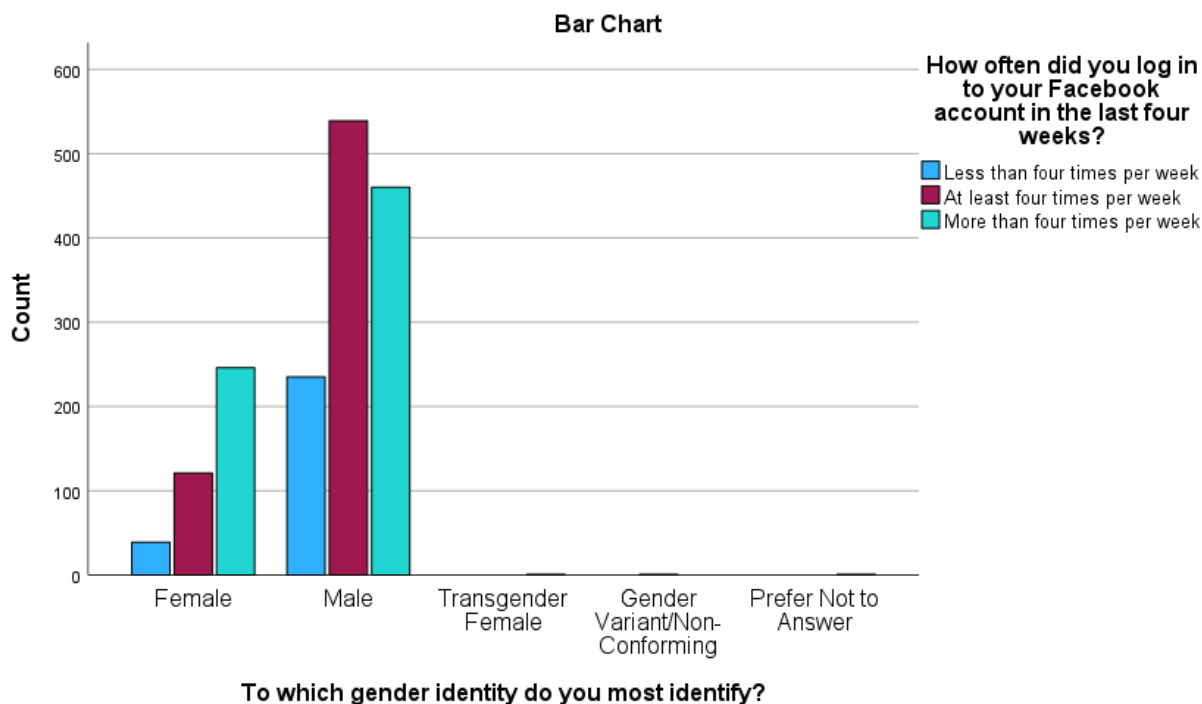
**Table 3**

*Cross-tabulation of Frequency of Logging into Facebook vs. Gender (N = 1467)*

Gender		How often did you log into your Facebook account in the last four weeks?			Total
		Less than four times per week	At least four times per week	More than four times per week	
Female	n	29	112	224	365
	%	7.9	30.7	61.4	100.0
Male	n	205	475	422	1102
	%	18.6	43.1	38.3	100.0
Total	n	234	587	646	1467
	%	16.0	40.0	44.0	100.0

**Figure 1**

*Bar Chart of Frequency of Logging into Facebook vs. Gender (n=1467)*



The cross-tabulation in Table 4 indicates that more than half of the respondents of all the age-groups of respondents logged into their Facebook accounts more than four times a week,

except the 25- to 34-year-old age group, of whom less than half ( $n = 378$ , 38.0%) logged into Facebook more than four times per week. Very few respondents over 45 years old ( $n = 13$ , 15.3%) logged into Facebook less than four times a week.

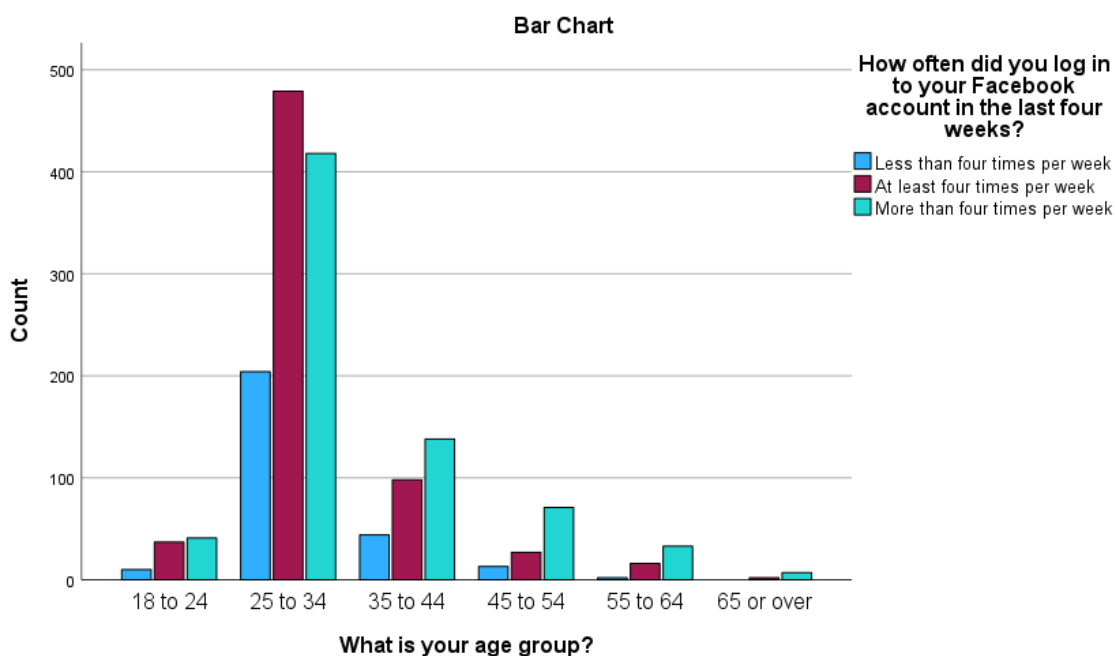
**Table 4**

*Cross-tabulation of Frequency of Logging into Facebook vs. Age (N = 1467)*

Age group (Years)		How often did you log in to your Facebook account in the last four weeks?			Total
		Less than four times per week	At least four times per week	More than four times per week	
18 to 24	n	6	31	38	75
	%	8.0	41.3	50.7	100.0
25 to 34	n	185	433	378	996
	%	18.6	43.5	38.0	100.0
35 to 44	n	30	84	126	240
	%	12.5	35.0	52.5	100.0
45 to 54	n	11	22	66	99
	%	11.1	22.2	66.7	100.0
55 to 64	n	2	15	31	48
	%	4.2	31.2	64.6	100.0
65 or over	n	0	2	7	9
	%	0.0	22.2	77.8	100.0
Total	n	234	587	646	1467
	%	16.0	40.0	44.0	100.0

**Figure 2**

*Bar Chart of Frequency of Logging into Facebook vs. Age (N = 1467)*



### Descriptive Analysis of Scales

Table 5 displays the descriptive statistics for the 5-point item scores that were designed to measure the Perceptions of Social Support. The respondents endorsed the entire width of the scales from 1 to 5. The mean and median scores were similar, reflecting the central tendency of the responses, with modes at the center of the distributions. The mean scores ranged from 3.31 to 3.51, and the average score for the 12 items on the scale was 3.43, implying that the majority of the respondents at the center of the frequency distribution received support from Facebook for “some of the time” to “all of the time.” The internal consistency reliability of the 12 items, which were averaged to operationalize the Perceptions of Social Support Scale, was good (Cronbach's alpha = .893). Participants were asked to answer the 12 questions in Table 5, generated from the RAND Social Support Survey and based on “Please indicate how often you receive a “like” expressing support for your posts on Facebook from each of the types of people listed below.”



**Table 5***Descriptive Statistics for Perceptions of Social Support (N = 1467)*

Item	<i>Min</i>	<i>Max</i>	<i>Mdn</i>	<i>M</i>	<i>SD</i>
Someone you can count on to listen to you when you need to talk:	1	5	3.42	3.39	0.94
Someone to give you information to help you understand a situation:	1	5	3.51	3.48	0.98
Someone to give you good advice about a crisis:	1	5	3.43	3.40	1.00
Someone to confide in or talk to about yourself or your problems:	1	5	3.47	3.43	1.01
Someone whose advice you want:	1	5	3.44	3.41	0.99
Someone to share your most private worries and fears with:	1	5	3.39	3.33	1.05
Someone to turn to for suggestions about how to deal with a personal problem:	1	5	3.43	3.39	1.03
Someone who understands your problems:	1	5	3.50	3.45	1.02
Someone to help you if you are confined to bed:	1	5	3.37	3.32	1.07
Someone to take you to the doctor if you need it:	1	5	3.39	3.34	1.07
Someone to prepare your meals if you were unable to do it yourself:	1	5	3.39	3.34	1.09
Someone to help with daily chores if you were sick:	1	5	3.31	3.25	1.06
Perceptions of Social Support Scale (Average score for 12 items)	1	5	3.43	3.38	0.69

*Note.* Cronbach's alpha (12 items) = .893

Table 6 displays the descriptive statistics for the 5-point item scores designed to measure the Perceptions about Facebook “Likes.” The respondents endorsed the entire width of the scales from 1 to 5. The mean and median scores were similar, reflecting the central tendency of the responses, with modes at the center of the distributions. The mean scores ranged from 3.47 to

3.71. The average score for the three items on the scale was 3.59, implying that the majority of the respondents reported that receiving a Facebook “Like” was important or relatively influential. They felt just as happy or happier than before receiving a “Like,” perceiving that “Likes” provided a sense that they were cared for and that others would probably be there for them during times of need. The internal consistency reliability of the three items averaged to operationalize the Perceptions about Facebook Likes Scale was adequate (Cronbach's alpha = .703).

**Table 6**

*Score for Perceptions about Receiving a Facebook “Like” Scale*

Item	Min	Max	Mdn	M	SD
How important is a "like" to you when you post something or respond to a comment?	1	5	3.52	3.47	1.05
How happy do you feel after you receive a Facebook "like"?	1	5	3.63	3.60	0.90
Do you feel that "likes" provide a sense that you are cared for and that others will be there for you during times of need?	1	5	3.78	3.71	0.89
Perceptions about Receiving a Facebook "Like" Scale (3 items)	1	5	3.66	3.59	0.75

*Note.* Cronbach alpha (3 items) = .703

The bell-shaped histograms in Figures 2 and 3 reflect that the two scales, measured by averaging the item scores, approximated normality, and justified parametric statistics to address the research questions.

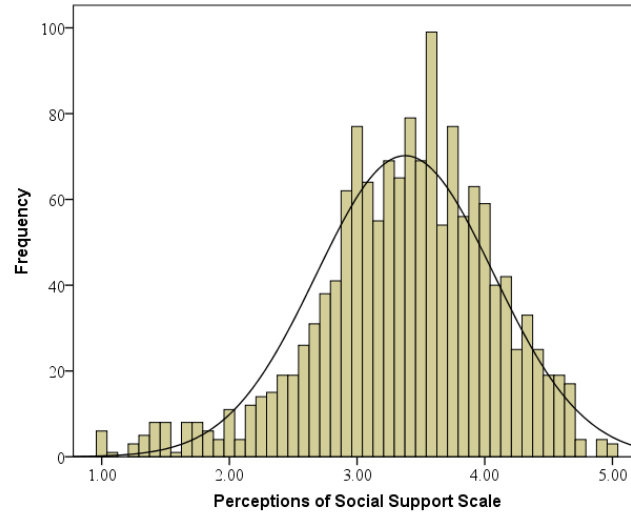
### **Correlation between Receiving a “Like” and Perceptions of Social Support**

How much are the perceptions about receiving a “like” to a post on Facebook correlated with the user’s perceptions of social support? Figure 4 illustrates the relationship between the predictor and dependent variable fitted with a linear regression line. The assumption of

homogeneity of variance was not violated because the points were approximately equally distributed on either side of the linear regression line.

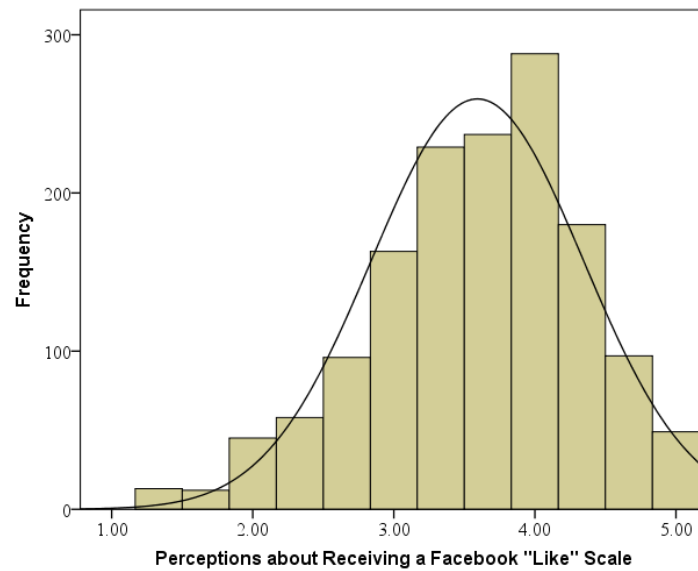
**Figure 3**

*Normal Distribution Histogram for Perceptions of Social Support Scale*



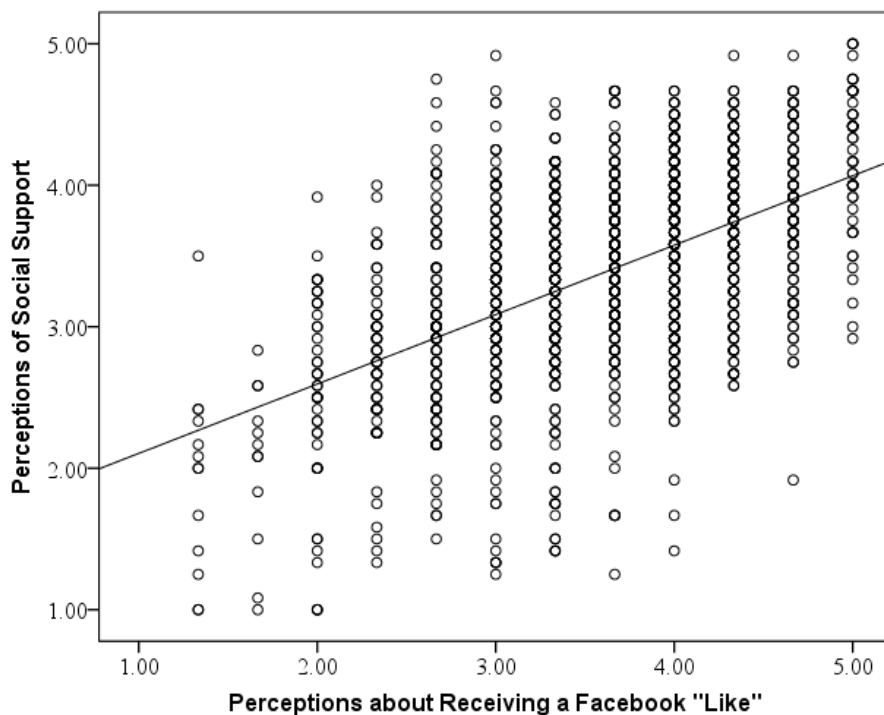
**Figure 4**

*Normal Distribution of Perceptions about Receiving a Facebook "Like" Scale*



**Figure 5**

*Linear Relationship between Perceptions of Social Support vs. Perceptions about Receiving a Facebook "Like"*



*Note.* Table 7 presents the statistics for the linear regression model illustrated in Figure 4.

**Table 7**

*Linear Regression of Perceptions of Social Support vs. Perceptions about Receiving a Facebook "Like"*

Predictors	Unstandardized Coefficients		t	p	95.0% CI	
	b	SE			Lower	Upper
Constant	1.62	0.08	21.50	<.001	1.47	1.76
Receiving a Facebook "Like"	0.49	0.02	23.97	<.001	0.45	0.53

*Note.*  $R^2 = .282$  [95% CI = .247, .324]

The constant ( $b = 1.62$ ) indicated the Perceptions of Social Support when the Perceptions about Receiving a Facebook “Like” were zero. The slope ( $b = 0.49$ ) showed that the Perceptions of Social Support increased by 0.49 units for every one-unit increase in the Perceptions of Receiving a Facebook “Like.” The 95% CI of the positive slope did not capture zero, indicating that the slope was greater than zero in 95 out of 100 samples. The moderate effect size ( $R^2 = .282$ ), with 95% CI and not capturing zero, indicated that, on average, a moderate proportion (28.2%) of the variance in the dependent variable was explained, reflecting the practical significance of the model. Based on the *Pearson correlation coefficient* (i.e., a statistic that estimates the strength and degree of a linear relationship between two variables), an effect size of 30% (or .30) is considered a moderate correlation (Emory, n.d.). Therefore, the answer to RQ1 is that the perceptions about receiving a “like” to a post on Facebook are moderately correlated with the user’s perceptions of social support.

### **Correlation between Receiving a “Like” and Happiness**

Table 8 shows the frequency and percentage between the variables shown. As shown, 44% of respondents reported being “Happier than before” after receiving a Facebook “like” on one of their posts. This result was followed by 30% of respondents who selected “Just as happy as before.”

**Table 8**

*Frequency Report of Perceptions of Happiness After Receiving a Facebook “Like”*

**P02 After you receive a Facebook "like" how happy do you feel?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A lot less happy than before	25	1.7	1.7	1.7
	Less happy than before	135	9.2	9.2	10.9
	Just as happy as before	454	30.9	30.9	41.9
	Happier than before	647	44.1	44.1	86.0
	A lot happier than before	206	14.0	14.0	100.0
	Total	1467	100.0	100.0	

### **Moderation by Gender**

Regarding the effects of gender (RQ2), the regression analysis did not show significant correlation effects on gender, social support, and Facebook “likes.” Figure 5 illustrates the linear regression model, with two lines representing the male and female respondents. The two lines are parallel, implying that gender does not control the strength and direction of the positive correlation.

**Figure 2**

*Linear Regression of Perceptions of Social Support vs. Perceptions about Receiving a Facebook "Like" Moderated by Gender*

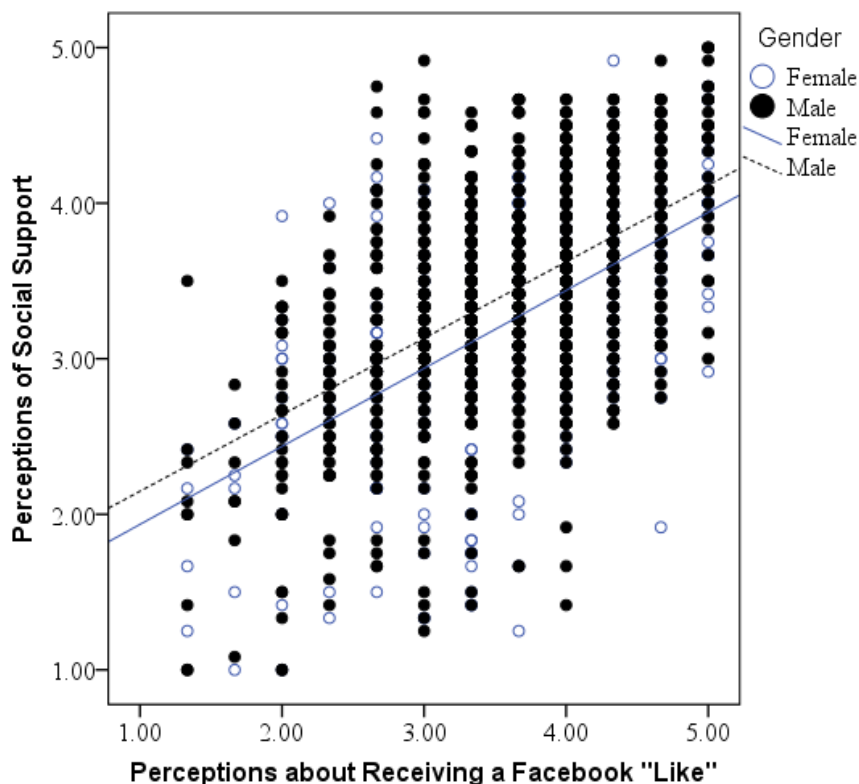


Table 9 presents the statistics for the moderator model illustrated in Figure 5. The slope of the linear regression line ( $b = 0.51$ ) was the same for both male and female participants. The minimal regression coefficient ( $b = -0.01$ ) indicates the lack of a moderating effect, with 95% CI  $(-0.10, 0.8)$  capturing zero. This evidence answers RQ2, demonstrating that the correlation between the perceptions about receiving a “like” to a post on Facebook and the user's perceptions of social support is not moderated by the user's gender.

**Table 9**

*Moderating Effect of Gender on Perceptions of Social Support vs. Perceptions about Receiving a Facebook “Like”*

Predictors	Unstandardized Coefficients		t	p	95% CI	
	b	SE			Lower	Upper
(Constant)	1.21	0.29	4.12	<.001	0.63	1.79
Receiving a Facebook "Like"	0.51	0.08	6.48	<.001	0.36	0.67
Gender	0.22	0.17	1.35	.178	-0.10	.548
Moderating Effect of Gender	-0.01	0.05	-0.22	.827	-0.10	0.08

*Note.*  $R^2 = .295$  [95% CI = .256, .334]

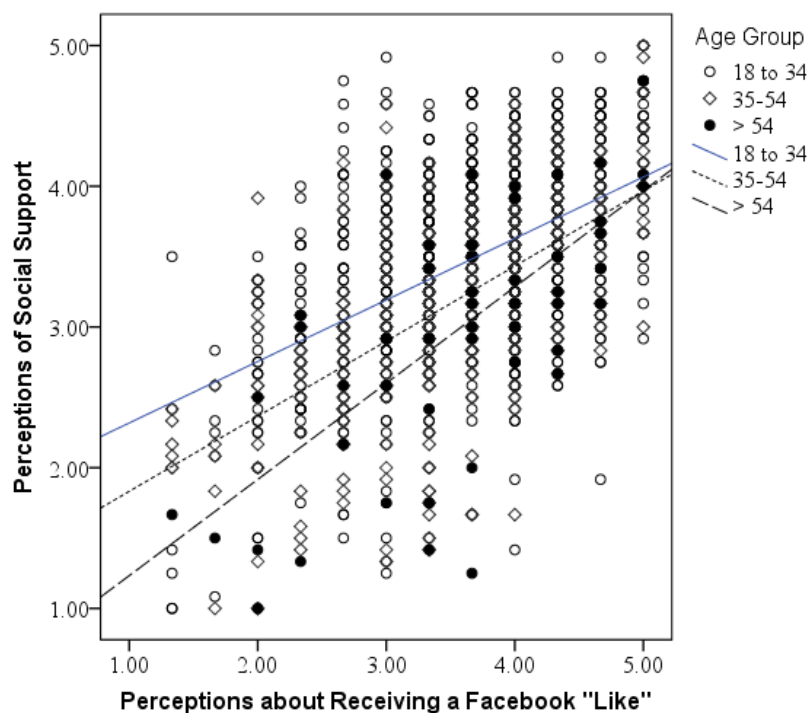
### **Moderation by Age**

How much is the correlation between the perceptions about receiving a “like” to a post on Facebook and the user's perceptions of social moderated by the user's age? Figure 6 illustrates the linear regression model with three lines representing three age groups of participants. The six age groups in Table 2 were collapsed into three groups to ensure that the sample size in each group provided enough power to conduct moderation analysis. The lines are not parallel, which implies that age controls the strength and direction of the positive correlation. Table 10 presents the statistics for the moderator model illustrated in Figure 6.

### **Figure 3**

*Linear Regression of Perceptions of Social Support vs. Perceptions about Receiving a Facebook “Like” Moderated by Age*



**Table 10**

*Moderating Effect of Age on Perceptions of Social Support vs. Perceptions about Receiving a Facebook "Like"*

Predictors	Unstandardized Coefficients		t	p	95% CI	
	b	SE			Lower	Upper
Constant	2.51	0.19	13.15	<.001	2.14	2.89
Receiving a Facebook "Like"	0.33	.05	6.27	<.001	0.22	0.43
Age	-0.62	0.13	-5.00	<.001	-0.87	-0.38
The Moderating Effect of Age	0.11	0.04	3.21	.001	0.04	0.18

*Note.*  $R^2 = .319$  [95% CI = .280, .358]

The negative regression coefficient ( $b = -0.11$ ) indicates the moderating effect of age with a comprehensive 95% CI (-0.87, 0.38) not capturing zero. The Pearson's correlation coefficients

( $r$ ), between the perceptions about receiving a “like” to a post on Facebook and the user's perceptions of social support, increased systematically between the 18- to 35-year-olds ( $r = .484$ ); the 35- to 54-year-olds ( $r = .598$ ) and the > 54-year-olds ( $r = .682$ ). The strength of the correlation in the younger age groups was less than in the older age groups. The moderate effect size ( $R^2 = .319$ ), with 95% CI not capturing zero, indicated that, on average, a moderate proportion (31.9%) of the variance in the dependent variable was explained, reflecting the practical significance of the model. This evidence answers RQ3, demonstrating that the user's age moderated the correlation between the perceptions about receiving a “like” to a post on Facebook and the user's perceptions of social support.

### The “Like” and Happiness

A frequency analysis was conducted in SPSS to examine the relationship between happiness and Facebook “likes.” A significant percentage of respondents (i.e., 44%) reported that they feel “Happier than before” after receiving a Facebook “like” (see Table 11 and Figure 7).

**Table 11**

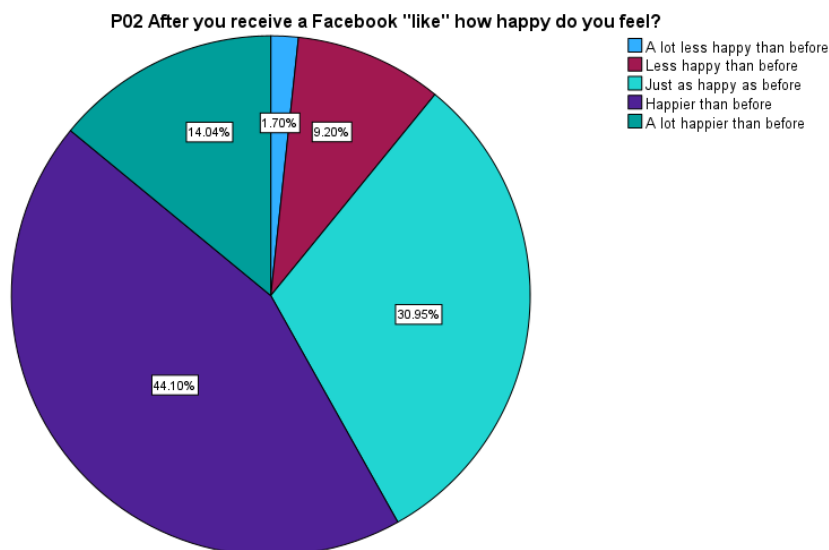
*Facebook “Likes” and Happiness*

**P02 After you receive a Facebook "like" how happy do you feel?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A lot less happy than before	25	1.7	1.7	1.7
	Less happy than before	135	9.2	9.2	10.9
	Just as happy as before	454	30.9	30.9	41.9
	Happier than before	647	44.1	44.1	86.0
	A lot happier than before	206	14.0	14.0	100.0
	Total	1467	100.0	100.0	

**Figure 7**

*Facebook “Likes” and Happiness*



*Note.* Results from the correlation between receiving a “like” and happiness computed in SPSS are in Table 10 and Figure 7.

### The Importance of a “Like”

To learn more about the social support value of a “like,” this study first needed to assess the importance of a Facebook “like” when an individual posts something or responds to a comment (see Tables 12 and Figure 8). Accordingly, the survey asked participants to rate the importance of a “like” on a 5-point Likert scale ranging from “Not at all” to “Very important.” Approximately 35% of the respondents reported that a “like” is “Fairly important,” followed by 27% who said it is “Important.”

### Table 12

*Measuring the Importance of a “Like”*

**P01 How important is a "like" to you when you post something or respond to a comment?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all important	35	2.4	2.4	2.4
	Slightly important	263	17.9	17.9	20.3
	Important	397	27.1	27.1	47.4
	Fairly important	515	35.1	35.1	82.5
	Very important	257	17.5	17.5	100.0
	Total	1467	100.0	100.0	

### Summary

The purpose of Chapter Four was to explain the research study's results on how much the correlation between the perceptions about receiving a "like" on Facebook and the user's perceptions of social support were moderated by the user's gender and age. A quantitative methodology with a correlational design was implemented using a cross-sectional survey to collect empirical data. After excluding ineligible participants and missing values, the sample size was  $N = 1497$ . The assumptions of linear regression analysis were not violated. The results indicated that the correlation between the perceptions of receiving a "like" and the user's perceptions of social support was not moderated by gender but by the user's age. In addition, the correlation was stronger among the older participants than the younger participants, with a moderate effect size reflecting the practical significance of the model.

## CHAPTER FIVE: CONCLUSION

### Overview

Whether talking with a friend over coffee or in a therapy session, people seek ways to cope with stress and receive comfort from others. This process is referred to as social support, a complex concept developed to explain why the social and psychological support of others helps an individual's health and well-being (Goldsmith, 2009). For many, social support is sought and received in social media environments. A study by Frison and Eggermont (2015) found that when an individual seeks social support on Facebook and it is subsequently perceived, a depressed mood decreases. Facebook offers a unique environment for social support as it requires an individual to first self-disclose. As a result, the user receives a comment or a Facebook reaction, such as a thumbs-up "like."

Scholars have found that this virtual endorsement appears to be "functioning more as a response action and less as a thoughtful behavior" (Lee et al., 2016, p. 334). This disparity in research continues with other studies showing that Facebook responses, or lack thereof, can negatively influence mental health outcomes, causing increased levels of depression and anxiety (Frison & Eggermont, 2015). In contrast, other research findings suggest that responses from Facebook "friends" provide a greater sense of social connectedness and offer coping strategies for the stress of day-to-day challenges (Naslund et al., 2016). Due to the gap in the literature, this study aimed to investigate the correlation between Facebook "likes" and perceptions of social support for social media users. Moreover, because social support is a multidimensional construct, often nuanced in its meaning, this study sought to understand the influence of a "thumbs up" on an individual's emotional experiences. Overall, the findings of this study suggest that receiving a "like" from a Facebook friend positively influences an individual's feelings of support.

In this chapter, the study's findings are summarized and then discussed in detail, followed by the practical implications of this research and its limitations. The primary aim of the following sections is to expand upon and explain the statistical analysis presented in Chapter Four and provide the implications and limitations of this research.

### **Summary of the Findings**

This section will discuss the study's findings, which were thoroughly analyzed and assessed to accurately answer all three research questions. As a result, three main findings emerged specific to the correlations between Facebook "likes" and (1) social support, (2) gender, and (3) age. In addition to the three research questions, data was collected on the importance of Facebook "like," its correlation to happiness, the perception of being cared for, and lastly, the 12 RAND Social Support Survey questions. This study sought to answer the following questions:

**RQ1:** How much are the perceptions about receiving a "like" to a post on Facebook correlated with the user's perceptions of social support?

**RQ2:** How much is the correlation between the frequency of receiving a "like" to a post on Facebook and the user's perceptions of social support moderated by the gender of the user?

**RQ3:** How much is the correlation between the perceptions of receiving a "like" to a post on Facebook and the user's perceptions of social moderated by the user's age?

For the first research question, results from this study showed that receiving a Facebook "like" is positively correlated with perceptions of social support from Facebook friends and family. The descriptive statistical analysis found that a significant proportion of Facebook users ( $n = 645$  or 44%) feel "Happier than before" after receiving a Facebook "like." This study validates that Facebook reactions, such as the thumbs up "like," play a role in an individual's mental health by revealing that happiness increases when they seek social support and receive

“likes” on their post. This finding implies that perceived social support through virtual endorsements on Facebook positively impacts mental health outcomes. Previous studies have reported mixed results on the relationship between social media use and social support, with some demonstrating a positive relationship (Manago et al., 2012). Other researchers have claimed that Facebook usage predicts adverse outcomes in life satisfaction and well-being, presenting the risk of developing depressive symptoms (Kross et al., 2013). Therefore, the data from this study is incompatible with previous research conducted by Burke and Kraut (2014), whose results suggested that one-click feedback, such as the Facebook “like,” was not associated with improvements in well-being. Nevertheless, the present study clarifies the discrepant findings of previous research.

For the second research question, the study did not find a significant correlation between the gender of the user and their perception of social support when receiving a Facebook “Like.” Many studies have investigated gender differences in both online and offline social support. A previous meta-analysis on gender differences and social support within SNS found that females give and receive more support on the sites than males (Tifferet, 2020). However, this present study was likely the first to evaluate the correlation between virtual endorsements, social support, and gender, filling a gap in the existing literature. This data provides further insight into the Facebook “like” as a variable in the social support process, where gender differences do not serve as a moderator in perceptions of social support.

For the third research question, one of the significant findings of this study was that age was indeed found to be a moderator in the association between receiving a Facebook “like” and perceptions of social support. Results of the regression analysis support the moderation effect, where the association between receiving a “like” and perception of social support was weaker in

the younger group than in the older group. The Pearson's correlation coefficient was highest among the > 54-year-olds ( $r = .682$ ). The regression analysis showed that age matters in how a "like" is perceived regarding social support. Due to a more robust correlation among older Facebook users, this suggests that a Facebook "like" is associated more positively with social support to older users. This data aligns with previous research demonstrating that Facebook is often considered a social support resource for aging individuals (Silva et al., 2018). This is an essential finding to understand better the relationship between the value and weight of Facebook "likes" for social support between age groups.

### **Receiving a "Like" is Important to Users**

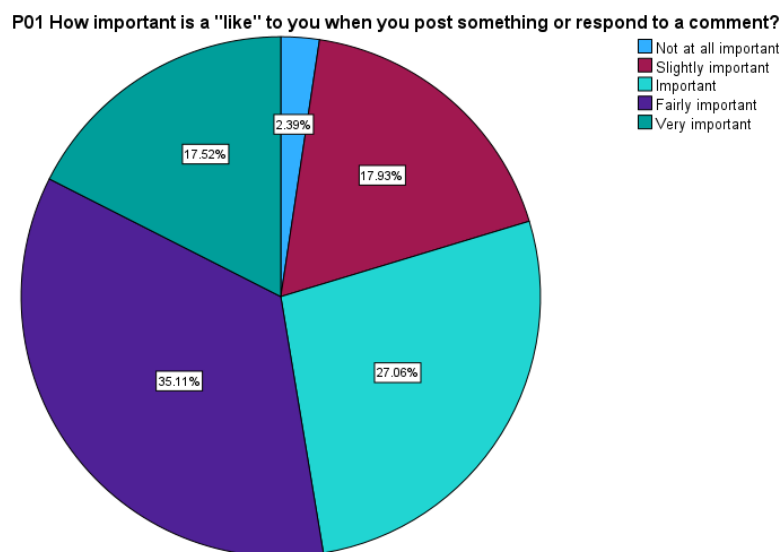
Results from this study demonstrate that many Facebook users feel that receiving a "like" after posting is important to them. Figure 8 illustrates, somewhat unexpectedly, that 79.69% of the respondents ( $n = 1,169$ ) perceived a "like" as important, whereas only 20.32% ( $n = 263$ ) perceived it as only slightly important. This is critical information to this research, as it signifies a strong positive association between sharing information and the audience endorsing it. A previous study by Calancie et al. (2017) reported that participants feel positive emotions after receiving multiple "likes," such as excitement, confidence, and peer approval. Another study found that while feelings of belongingness and self-esteem increase with more Facebook "likes," there are different values attached to the "like" based on whether it comes from a close friend or acquaintance (Reich et al., 2018). Some research has shown increased social isolation among users due to receiving no "likes" and negative self-evaluations (Cipolletta et al., 2020). High scores from this study's findings carry meaning related to the social effect of the "like" button in interpersonal communication. Although this was the first study to measure these correlations specifically, this data is generally compatible with previous research. When a symbol, such as a



thumbs up, is essential to users, there are possible social implications for both its presence and absence.

## Figure 8

### *Importance of a "Like"*



*Note.* Figure 8 illustrates the percentage results of how important a Facebook “like” is to participants after they post something or respond to a comment.

## Summary of Rand Social Support Questionnaire Results

This section includes a summary of findings from the 12 RAND Social Support Survey questions broken down into the three lowest and highest social support factors.

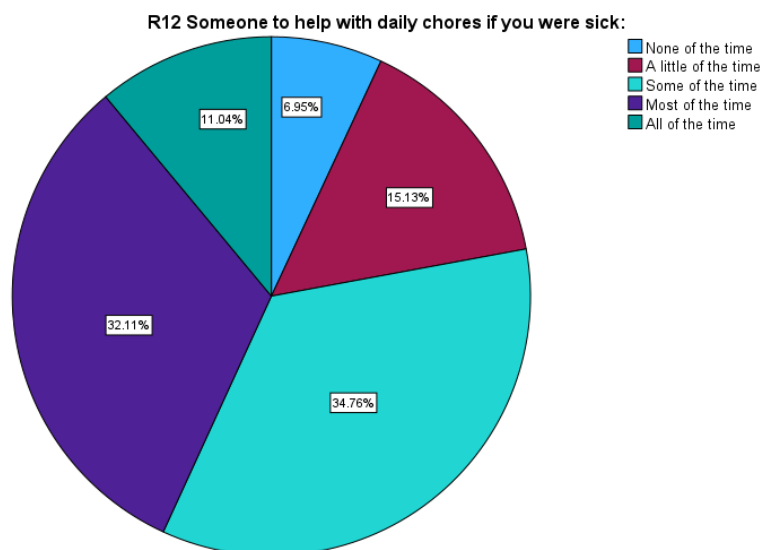
### *Three Lowest Social Support Factors*

Based on the descriptive statistics for the RAND Social Support Questionnaire, the three lowest social support factors calculated were (1) Someone to help with daily chores if you were sick, (2) Someone to help if you were confined to bed, and (3) Someone to take you to the doctor if you needed it. Research information on these three lowest social support factors is presented in Figures 9, 10, and 11. These RAND results imply varying types of social ties within the

Facebook network. When involving illness and care, “likes” from Facebook friends indicate weak tie strength from the Facebook network, specifically when an individual needs to be physically cared for. Though research has well established the use of social media and SNS for social support (Walther & Boyd, 2002), the results of this study have highlighted more than just emotional social support, where “liking” is associated with perceptions of social support that extend to our physical lives as well. In social support literature, *instrumental support* is defined as assistance that meets a person’s tangible needs (Li & Wang, 2021), such as transportation, medical care, meal preparation, monetary aid, etc. In addition, it includes acts of service and is considered a direct and practical type of support (Schultz et al., 2022).

### Figure 9

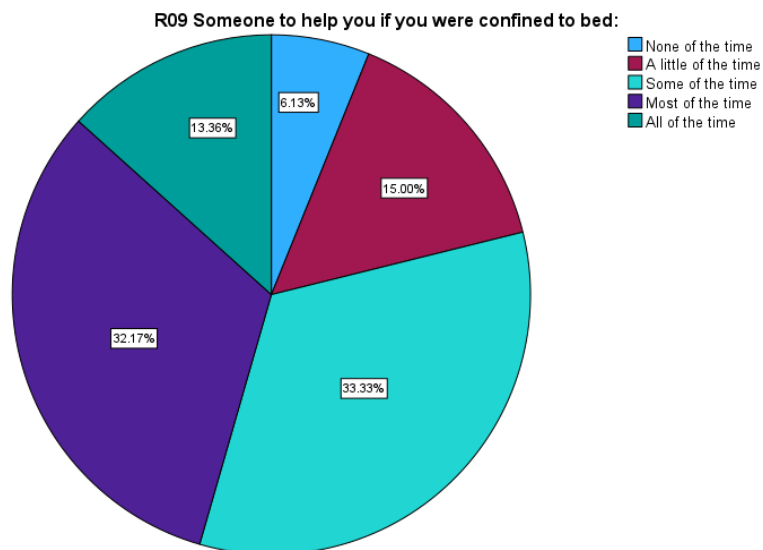
*Someone to Help With Daily Chores if You Were Sick*



*Note.* The pie chart in Figure 9 shows that 77.91% of the research participants ( $n = 1,143$ ) feel the Facebook friends who “liked” their posts would help with daily chores if sick.

### Figure 10

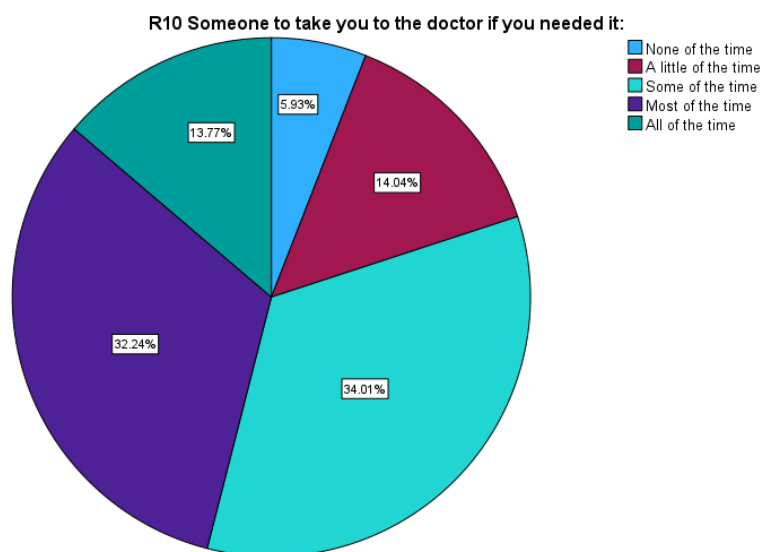
*Someone to Help You if You Were Confined to Bed*



*Note.* As seen in Figure 10, empirical results in this pie chart indicate that 78.86% of participants (n= 1,157) associate a Facebook “like” with a type of instrumental support.

### **Figure 11**

*Someone to Take You to the Doctor if You Needed*



*Note.* Figure 11 displays frequency results from how often Facebook users receive a “like” expressing support from someone who would take them to the doctor if needed.

### ***Three Lowest Social Support Factors***

On the other side of the spectrum, many RAND questions focused on emotional support and reported high percentages of “Some of the time” and “Most of the time.” The three highest support factors calculated were (1) Someone who understands your problems, (2) Someone you can count on to listen to you when you need to talk, and (3) Someone whose advice you want. The RAND Social Support Questionnaire results demonstrated strong social support properties in listening, giving advice, confiding in, giving suggestions, and understanding. These findings underline why people turn to social media platforms like Facebook, for their social support needs. Users can reach a wide variety of people with whom they can obtain a listening ear, a range of advice from multiple perspectives, and connections with those who understand their situation. This evidence aligns with previous research on Facebook network size and social support, which found that the quantity of an individual’s friends correlates to stronger social support predictors (Nabi et al., 2013). Conversely, time and distance limit face-to-face social support to a smaller audience.

### **“Likes” and Feeling Care For**

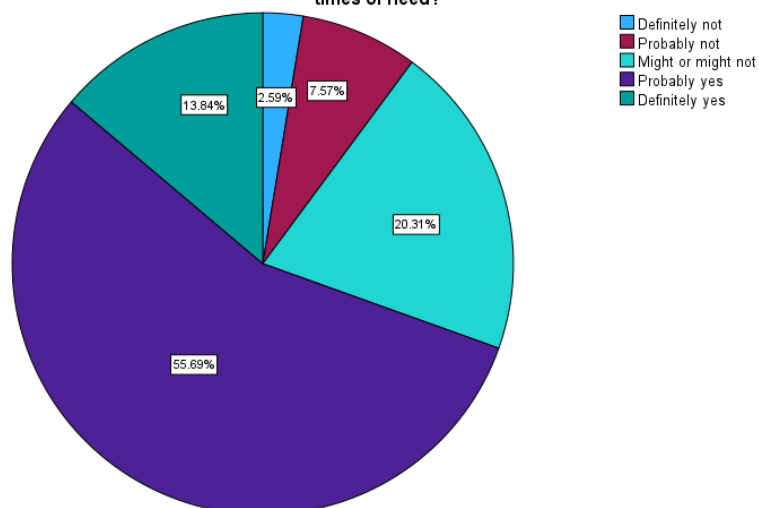
Another exciting aspect of this study’s findings comes from the question asked by participants, “Do you feel that “likes” provide a sense that you are cared for and that others will be there for you during times of need?” Illustrated in Figure 12, 55% of respondents (n = 807) reported, “Probably yes.” This finding suggests the positive effects of virtual endorsements on an individual’s perception of social support. Moreover, these endorsements provide further explanations regarding an individual’s motivation behind social media use, specifically for seeking and acquiring support from others. Suppose a user generally perceives that the recipients would be there for them during times of need. In that case, this speaks volumes about the imagined audience conceptualized during the self-disclosure process.

The imaginary audience refers to the conceptualized persons we picture on the other end of the message. Users often post for an intended audience: the known connections who are accepted friends and family. Studies have found that the anatomy of the Facebook network generally comprises 27% acquaintances, 24% active connections, 21% close connections, and 18% maintained connections. All are considered superficial connections except for close and maintained ones (Manago et al., 2012). However, data from this study revealed that regardless of the network composition, users generally feel that those within the intended audience are people who care for them. The more the individual feels they are receiving support from those who care for them, the more likely they are to positively associate the “like” with happiness.

## Figure 12

### *Likes Provide a Sense That You Are Cared For*

P03 Do you feel that "likes" provide a sense that you are cared for and that others will be there for you during times of need?



## **Discussion**

In the next section of this chapter, findings from the study are analyzed to explore further meaning and importance, supporting the study's overall conclusion.

### **The Facebook “Like” is Correlated to Social Support**

The first and primary research question sought to identify the correlation between Facebook “likes” and perceptions of social support. The results of this research have generally demonstrated that receiving a Facebook “like” has a positive relationship with social support and happiness. The relationship between virtual social media endorsements and perceived social support is unsurprising. When we self-disclose publicly, and a friend acknowledges us with the sentiment (e.g., empathy, sharing behavior, self-esteem, emotional validation), a virtual endorsement becomes a particular form of social support, a symbolic interaction that satisfies a support need. It is important to note that while supportive communication theories (e.g., person-centered theory) were not used to underpin this study, they seem fundamental to the data revealed.

### **Supportive Communication**

This data suggests that there are transformations taking place in supportive communication. Before social media, person-centered messages, within the comforting context, were primarily received through face-to-face or telephone communication, where the sender would attempt to validate the emotions of others. This was accomplished often using position-centered speech and nonverbals, such as direct eye contact, sympathetic expressions, and vocal warmth (Jones & Bodie, 2014). Although social media users do not receive these direct comforting messages through a virtual endorsement, they receive degrees of validation of their emotional experience from the individuals “liking” their posts. This analysis supports that

“liking” may contain a message dimension within person-centered messages, a symbolic cue that reflects relational or empathetic support.

A foundational question that sparked interest during this study was: When we need to feel someone’s empathy, can we receive it through a thumbs-up emoji? The “like” and its uses are diverse, and although it can be seen as content within the Facebook medium, the “like” is just another medium. The effect of the “like” on some users is strong and intense. From a McLuhanesque perspective, the Facebook “thumbs up” is an extension of ourselves and our senses. Thus, the “like” becomes the message. The medium is the message.

### **An Ecological Interpretation**

With the data showing a correlation, there is a secondary inquiry into the relationship between the “like,” social support, and immediacy. There are growing concerns that the social media environment provides social injustice regarding relationships (Alloway et al., 2014). During moments of stress and coping, the temporal context created by social media, like Facebook, becomes essential. Rather than waiting on a personal friend or family member to respond to a text or return a phone call, users can post on Facebook and, within minutes, have “likes” to their posts. Before this study was conducted, we would not necessarily know what that meant. This research raises new questions about the implications of immediate feedback in online social support. Facebook can provide “likes” to a post within seconds, so a user receives what is perceived as support within seconds. Moreover, in a drumbeat, the “like” can give some users a feeling of being “seen,” effectively remaking how social support is sought and received. Zuckerberg created a revolutionary platform that influences, augments, and encourages social connectedness. However, does the platform imprison social connectedness?

Turkle (2015) said, “This new mediated life has gotten us into trouble. A face-to-face conversation is the most human- and humanizing thing we do, but these days, we find ways around conversation. We hide from each other even though we are constantly connected” (p. 3). The results of this study show a positive correlation between receiving a “like” and reaching an audience of people who care about you. Given this, the question is: Will these feelings reroute social support to our screens? Importantly, this data reveals what online friendships can bring regarding social support and underscores technology's impact on our emotional experiences.

Neil Postman’s (1998) ideas on technological change are relevant to this discussion. He wrote:

Technological change is not additive; it is ecological...A new medium does not add something, and it changes everything. In 1500, after the printing press was invented, you did not have old Europe plus the printing press. You had a different Europe. (Postman, 1998, para. 17)

Postman’s (1998) ideas provide insight into the possible changes in how we seek and receive support. Rationally, many people would agree with Turkle (2015) that we need to “reclaim the conversation” (p.1). Still, at the same time, social media elegantly bridges the gap of social support for many users. This duality can be confusing and frustrating, a phenomenon that scholars have previously investigated and remains an underlying interest of this study. In addition, Postman (1998) offered a framework to build a discussion: What if the social support process happening online is not additive but ecological? Social support of 2023 may not be the social support of 1995, but what if it is a different social support process altogether? Sticking with this Postman (1998) philosophy, we always pay a price for technology. What is the cost of



turning to “likes” for social support instead of conversation? These implications for social support are yet to be known and warrant further exploration.

### **Practical and Theoretical Implications**

The present study was the first to provide empirical information on the correlation between Facebook “likes” and perceptions of social support. As such, several implications can be taken from this study. First, the findings support the idea that clicking the “like” button on a Facebook friend’s post can increase someone’s feelings of happiness. This is somewhat unexpected, as previous research has shown conflicting findings on using Facebook and its effects on an individual’s mental health (e.g., Frison & Eggermont, 2015). Second, the results of this study suggest that a virtual endorsement may also function as a comforting message or a way to help the recipient feel better. Supportive and comfort messages (Burlison, 1994) are mainly studied using language processing tools. Although the research has often intersected with social support research, it has commonly been researched under linguistics. Therefore, this current study could be an opportunity to further investigate the Facebook “like” emoji from the perspective of person-centered social support messages and how users perceive it as either a low, medium, or high person-centered language.

In light of this evidence, studying comforting message outcomes has added significance. Not only do comforting messages help the recipient feel better, but they also help the sender feel better (Burlison, 1994). This study focused on the receiver’s perceptions, though the results leave room for more empirical work associated with the sender’s perceptions. Future research should focus on understanding the relationship between clicking the “like” button on a Facebook friend’s post and social support intentions from the sender’s perspective. This could provide

further insight into the social support process when attempting to give support by clicking one of the Facebook reactions on a post.

The results of this study are in many ways helpful in understanding the motives of Facebook use for social support. For instance, 58% of this study's participants ( $n = 853$ ) responded feeling happier or a lot happier after receiving a "like," which suggests users think that receiving a "like" increases happiness and is correlated with feelings of support. This data contributes to the communication discipline by revealing social and individual factors that influence motivations behind social media use. For scholars interested in the uses and gratifications theory, these findings can be used to examine other predictors of Facebook use, such as correlations between the "like," self-disclosure, or self-presentation. For instance, this research could explore the uses and gratifications theory within the context of self-disclosing online to accumulate "likes." People may approach the decision to go to Facebook with a specific emotional need they want to fulfill, making the uses and gratifications model a functional perspective for future research. In summary, the motives behind self-disclosing on Facebook may be associated with several desirable social support outcomes, where getting "likes" may be one of them.

Knowing there is a correlation between receiving a "like," feelings of happiness, and perceptions of social support offers practical utility because people can reflect on its importance when considering whether or not to click the "like" button on a post. Unfortunately, they may not know which individual values it more than others. Still, this research does suggest that if someone decides to self-disclose online, they are likely seeking social support from others. Additionally, the finding that age moderates the association between "likes" and social support sheds new light on the importance of social media within the older adult demographic. This

knowledge can benefit the sender of the “like” as it provides insight into the value of the endorsement from the receiver’s end based on age differences.

Knowledge of intergenerational social media usage for support benefits friends, family members, colleagues, and secondary links who use Facebook to stay connected. Data from this study could help expand upon previous research, which has found that Facebook can help alleviate isolation and loneliness among older users (Aarts, 2018). This study used the theoretical constructs of Walther’s (1996) SIP theory as a guiding framework to better understand the interpersonal interactions of CMC. The theory argues that social information can still be conveyed within a computer-mediated environment despite the cues-filtered-out perspective, and given enough time and exchanges, interpersonal relationships can be just as effectively developed and maintained in CMC as face-to-face. Although this study did not seek to validate or refute SIP, the research findings had theoretical implications supporting the theory’s tenets. With this, future studies should investigate whether the “like” is viewed as an interpersonal exchange and, as a result, a type of interaction that maintains the relationship.

Drawing on the SIP theory, this study helps show that by studying emojis, we can better understand important interpersonal communication functions happening in a digital world. With 79% of the sample (n = 1,159) reporting that the reception of an emoji is considered “Important” to “Very Important,” this research suggests that communicators can use emojis to “put back in” social information in ways that satisfy fundamental human desires for social support. In other words, “likes” allow users to communicate social support information to Facebook friends, facilitating affective expression and connection. Thus, it seems that the “like” is used as a social support surrogate in CMC, which has implications for developing the SIP theory.

Emoji use in social media environments is a complex and nuanced concept that can be studied across several disciplines, such as sociology, psychology, and neurology. This research utilized Craig's (1999) sociopsychological tradition as a framework for exploring how users perceive the "like" as a social support mechanism. A person's perceptions are formed from an individual's experiences, beliefs, and cognitions. Examining the sociopsychological processes that influence meaning-making and communication warrants contemplation of how some social media users assign more or less value to the "like" than others based on their particular perceptions. The sociopsychological tradition helped this researcher better understand the psychological mechanisms and processes of social support that ultimately shape how social media users respond to "likes." Awareness of the psychological significance of the "like" among users bears implications for the motivations behind social media use, the potential mental health outcomes of the user based on their value of the "like," and the frequency of use as a social support mechanism.

This study only examined one of the six Facebook reactions available to the user: the thumbs-up "like" reaction. This opens up opportunities for future studies to investigate the perceptions of social support on the remaining five reactions – the "love" face, "ha-ha," "wow," "sad," and the "angry" face. Based on the results of this study, we know that there is a positive correlation between the "like" and social support. However, do the perceptions of social support vary when a different Facebook reaction is received? The analysis presented in this study suggests that the value placed on the "like" as a mechanism of social support poses important sociopsychological considerations to social media users, particularly those who turn to social media for their social support needs.

This study was interested in understanding the power of the “like,” which is a subsequent act after self-disclosure takes place and requires the user to consider aspects of self-presentation (Goffman, 1959), including the risks and rewards associated with publicly sharing private information for the sake of seeking support from others. Therefore, while this study shows users can experience social support online, it hinges on the individual’s decision to self-disclose first. However, this research raises new questions about the self-disclosure continuum. Self-disclosure is fundamental to relational intimacy and reciprocity. The correlation of “likes” and social support may have intriguing implications when disclosing intimate information online to accumulate “likes,” enhance intimacy with Facebook friends, and seek reciprocity.

Research tells us that while intimacy can produce liking and enhance reciprocity, too much can be considered inappropriate and lead to social rejection (Forgas, 2010). Future investigations can provide further insights into the role of the “like” in the self-disclosure process. When a Facebook friend shares personal news and another user “likes” the post, is there an enhancement of intimacy through this process? Does the user contemplate this connection before publicly disclosing information on Facebook? With the results of this study in mind, the next question becomes: What role does this correlation play in attempting to enhance intimacy and reciprocity between the user and their Facebook friends?

### **Limitations**

Although these findings about the correlation between a “like” and social support are enlightening, gaps in the knowledge must be filled. Most social support studies have had to consider contextual factors and the varying emotional needs of people, such as the fluctuating circumstances of when users post on Facebook, followed by the contextual factors of when users “like” a post on Facebook. The quantitative methodology of this study limited the understanding

of these contextual factors. In addition, social support is a complex cognitive process that changes based on situations, disclosure, intimacy, and many other factors. A future qualitative study would provide more detailed data on the circumstantial situations in which social support is perceived as both given and received from “likes” and can offer further analysis. Additionally, it is also possible that users may associate the Facebook “like” with other Facebook reactions such as sad, happy, caring, or angry endorsements. This study explicitly referenced using the thumbs-up “like” in the survey questions. Still, some users may have answered the questions with all the Facebook reactions in mind, which may mean there is a correlation between the other Facebook reactions and the social support process. The different Facebook reactions, with suggestive emoticon expressions, may serve as different nonverbal surrogates and thus enhance the perception of social support in the exchange process.

### **Conclusion**

This study sought to identify how a simple emoji influences social support experiences for Facebook users. The social media environment is expected to grow from a record 4.9 billion people globally to 5.85 billion users by 2027 (Wong, 2023). As for those who currently use social media, and with a projected growth of 9%, there is an increased need to better understand how the displacement of face-to-face communication into a world of emojis and textual comments is impacting our social support experiences. According to a 2023 large-scale study, the world needs social support now more than ever, with one out of every two people developing a mental health disorder sometime in their lives (Queensland Brain Institute, 2023). Based on these statistics, half of the world’s population will experience a mental health disorder within their lifetime (Queensland Brain Institute, 2023). This lends weight to the need to better understand how social support is sought and received online. Based on the findings presented in

this study, a substantial percentage of Facebook users are happier after they receive a “like,” showing a positive correlation between online support and happiness. This further supports how the proliferation of technology has already begun transforming the quality and quantity of our interpersonal communication interactions (Hall et al., 2018; Valkenburg & Peter, 2007).

Throughout this technological evolution, it has become clear that there is a certain truth behind what media ecologists like Postman (1998) and McLuhan (1962) bely: digital technologies do not just add to culture but change it completely.

A more poignant perspective comes from McLuhan’s contemporary, John M. Culkin (1967), who said, “We shape our tools, and after that, they shape us” (p. 70). This study further explored this idea by Culkin (1967) by examining how the emoji shapes us, its importance on happiness, and how instrumental and functional social support is perceived through the “like” mechanism. This study accomplished what it set out to do. First, by filling a gap in the existing literature on computer-mediated social support by offering detailed data on the correlations between the “like” and perceived support. Second, by providing further support for the SIP theory, which researchers can employ in future work to continue uncovering the nuanced ways social media environments influence our emotional experiences.

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## Appendix A

### Recruitment Letter Via Email

Dear Potential Participant:

As a student in the School of Communication and the Arts at Liberty University, I am conducting research as part of the requirements for a doctoral degree. The purpose of my research is to evaluate how receiving a Facebook “like” correlates to the perception of social support among users, and I am writing to invite eligible participants to join my study.

Participants must be 18 years of age or older and are active Facebook users who log in to the platform at least three times per week. Participants, if willing, will be asked to answer questions in an online survey. It should take approximately 10 to 15 minutes to complete the procedure listed. Participation will be completely anonymous, and no personal identifying information will be collected.

To participate, please click here:

[https://liberty.co1.qualtrics.com/jfe/form/SV\\_9FhFErnoIRVMB4W](https://liberty.co1.qualtrics.com/jfe/form/SV_9FhFErnoIRVMB4W).

A consent document is provided on the first page of the survey. The consent document contains additional information about my research. After you have read the consent form, please proceed to the survey. Doing so will indicate that you have read the consent information and would like to take part in the survey.

Sincerely,

Lina Rawlings

## Appendix B

### Recruitment Letter Via Social Media

#### Facebook

ATTENTION FACEBOOK FRIENDS: I am conducting research as part of the requirements for a Doctor of Communication degree at Liberty University. The purpose of my research is to better understand how receiving a Facebook “like” correlates to the perception of social support. To participate, you must be 18 years of age or older and an active Facebook user who logs in to the platform at least three times a week. Participants will be asked to complete an anonymous, online survey, which should take about 15 minutes. If you would like to participate and meet the study criteria, please click the link at the end of this post. A consent document will be provided on the first page of the survey. Please review this page, and if you agree to participate, click the “proceed to survey” button at the end.

To take the survey, click here:

[https://liberty.co1.qualtrics.com/jfe/form/SV\\_9FhFErnoIRVMB4W](https://liberty.co1.qualtrics.com/jfe/form/SV_9FhFErnoIRVMB4W)

#### Instagram

Are you a Facebook user and 18 years of age or older? Click here for information about a research study on the Facebook “Like” button as a form of supportive communication:

[https://liberty.co1.qualtrics.com/jfe/form/SV\\_9FhFErnoIRVMB4W](https://liberty.co1.qualtrics.com/jfe/form/SV_9FhFErnoIRVMB4W).

## Appendix C

### Consent Form

**Title of the Project:** The Power of the “Like”: A Quantitative Study on the Facebook Emoji as Social Support

**Principal Investigator:** Lina Rawlings, Doctoral Candidate, School of Communication and the Arts, Liberty University

#### Invitation to be part of a Research Study

You are invited to participate in a research study. To participate, you must be 18 years of age or older and an active Facebook user who logs in to the platform at least three times a week. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to take part in this research.

#### What is the study about and why is it being done?

The purpose of the study is to evaluate how receiving a Facebook “like” correlates to the perception of social support among users. Knowledge about the relationship between virtual endorsements and social support is vital and can provide insights into how communication technology helps shape online therapeutic interactions.

#### What will happen if you take part in this study?

If you agree to be in this study, I will ask you to do the following:

1. Participate in an online survey that will take, at most, 15 minutes.

#### How could you or others benefit from this study?

Participants should not expect to receive a direct benefit from participating in this study.

Benefits to society include increased public knowledge on the topic of Facebook “likes” and perceived social support.

#### What risks might you experience from being in this study?

The expected risks from participating in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

#### How will personal information be protected?

The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to the records.

Participant responses will be anonymous. Data will be stored on a password-locked computer. After five years, all electronic records will be deleted.

### **Is study participation voluntary?**

Participation in this study is voluntary. Your decision whether to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any questions or withdraw at any time without affecting those relationships.

### **What should you do if you decide to withdraw from the study?**

If you choose to withdraw from the study, please exit the survey and close your internet browser. Your responses will not be recorded or included in the study.

### **Whom do you contact if you have questions or concerns about the study?**

The researcher conducting this study is Lina Rawlings. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at. You may also contact the researcher's faculty sponsor, Dr. Carol Hepburn.

### **Whom do you contact if you have questions about your rights as a research participant?**

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the IRB. Our physical address is Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA, 24515; our phone number is 434-592-5530, and our email address is [irb@liberty.edu](mailto:irb@liberty.edu).

*Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered, and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.*

### **Your Consent**

Before agreeing to be part of the research, please be sure that you understand what the study is about. You can print a copy of this document for your records. If you have questions about the study later, you can contact Lina Rawlings using the information provided above.

## Appendix D

### Data Collection Instrument

#### Participant Criteria Questions

Are you 18 years of age older?

- Yes
- No

Do you log in to the Facebook platform at least three times a week?

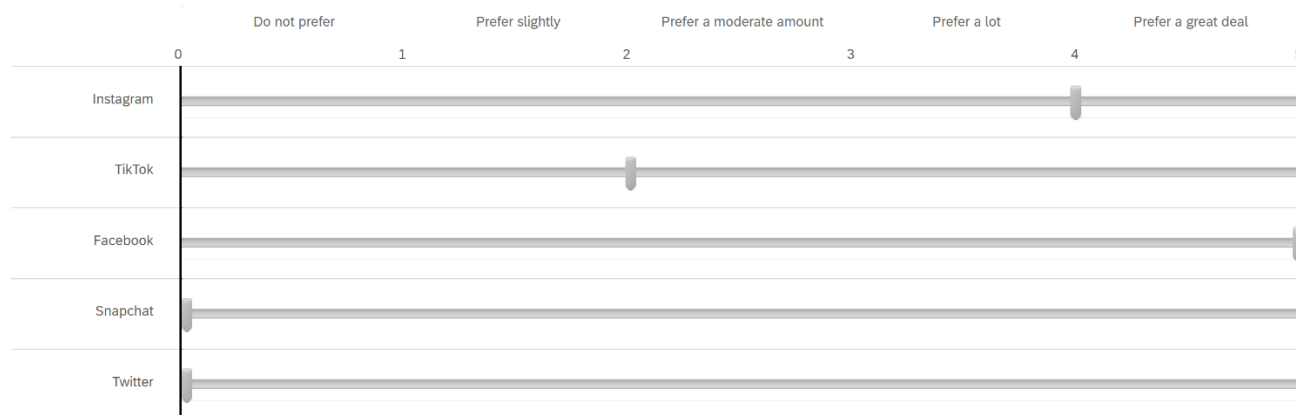
- Yes
- No

#### Social Media Use Questions

Do you use other social media platforms for social support?

- Yes
- No

If yes, rank the platforms by use for seeking and maintaining social support:



How often did you log in to your Facebook account in the last four weeks?

- Less than four times per week
- At least four times per week
- More than four times per week

How important is a “like” to you when you post something or respond to a comment?

- Not at all important
- Slightly important
- Important
- Fairly important
- Very important

After you receive a Facebook “like,” how happy do you feel?

- A lot less happy than before
- Less happy than before
- Just as happy as before
- Happier than before
- A lot happier than before

Do you feel that “likes” provide a sense that you are cared for and that others will be there for you during times of need?

- Definitely not
- Probably not
- Might or might not
- Probably yes
- Definitely yes

### **RAND Healthcare Social Support Survey Instrument**

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**Please indicate how often you receive a “like” expressing support for your posts on Facebook from each of the types of people listed below:**

---



	None of the time	A little of the time	Some of the time	Most of the time	All of the time
Someone you can count on to listen to you when you need to talk	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Someone to give you information to help you understand a situation	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Someone to give you good advice about a crisis	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Someone to confide in or talk to about yourself or your problems	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Someone whose advice you really want	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Someone to share your most private worries and fears with	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Someone to turn to for suggestions about how to deal with a personal problem	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Someone who understands your problems	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Someone to help you if you were confined to bed	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Someone to take you to the doctor if you needed it	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Someone to prepare your meals if you were unable to do it yourself	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5
Someone to help with daily chores if you were sick	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5

Source: RAND Healthcare (2022). [https://www.rand.org/health-care/surveys\\_tools/mos/social-support/survey-instrument.html](https://www.rand.org/health-care/surveys_tools/mos/social-support/survey-instrument.html)

### ***Demographic Questions***

To which gender identity do you most identify?

- Female
- Male
- Transgender Female
- Transgender Male
- Gender Variant/Non-Conforming
- Not Listed
- Prefer Not to Answer

What is your age group?

- 18 to 24
- 25 to 34
- 35 to 44

- 45 to 54
- 55 to 64
- 65 or over

What is the highest level of school you have completed or the highest degree you have received?

- Less than high school degree
- High school graduate (high school diploma or equivalent including GED)
- Some college but no degree
- Associate degree in college (2-year)
- Bachelor's degree in college (4-year)
- Master's degree
- Doctoral degree
- Professional degree (JD, MD)

Choose one or more races that you consider yourself to be:

- White
- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Pacific Islander
- Other

Information about income is essential to understand. Would you please give your best guess? Please indicate the answer that includes your entire household income in (previous year) before taxes.

- Less than \$10,000
- \$10,000-\$19,999
- \$20,000-\$29,999
- \$30,000-\$39,999
- \$40,000-\$49,999
- \$50,000-\$59,999
- \$60,000-\$69,999
- \$70,000-\$79,999
- \$80,000-\$89,999
- \$90,000-\$99,999
- \$100,000-\$149,999
- More than \$150,000

If an MTurk user: Copy this value to paste into your MTurk. `#{e://Field/Random%20ID}`  
When you have copied this ID, please click the next button to submit your survey.

## Appendix E

### RAND Healthcare Social Support Survey Instrument

**Please indicate how often you receive a “like” expressing support for your posts on Facebook from each of the types of people listed below:**

Item	1	2	3	4	5
Someone you can count on to listen to you when you need to talk:	None of the time	A little of the time	Some of the time	Most of the time	All of the time
Someone to give you information to help you understand a situation:	None of the time	A little of the time	Some of the time	Most of the time	All of the time
Someone to give you good advice about a crisis:	None of the time	A little of the time	Some of the time	Most of the time	All of the time
Someone to confide in or talk to about yourself or your problems:	None of the time	A little of the time	Some of the time	Most of the time	All of the time
Someone whose advice you want:	None of the time	A little of the time	Some of the time	Most of the time	All of the time
Someone to share your most private worries and fears with:	None of the time	A little of the time	Some of the time	Most of the time	All of the time
Someone to turn to for suggestions about how to deal with a personal problem:	None of the time	A little of the time	Some of the time	Most of the time	All of the time
Someone who understands your problems:	None of the time	A little of the time	Some of the time	Most of the time	All of the time
Someone to help you if you were confined to bed:	None of the time	A little of the time	Some of the time	Most of the time	All of the time
Someone to take you to the doctor if you needed it:	None of the time	A little of the time	Some of the time	Most of the time	All of the time
Someone to prepare your meals if you were unable to do it yourself:	None of the time	A little of the time	Some of the time	Most of the time	All of the time
Someone to help with daily chores if you were sick:	None of the time	A little of the time	Some of the time	Most of the time	All of the time

Source: RAND Healthcare (2022). [https://www.rand.org/health-care/surveys\\_tools/mos/social-support/survey-instrument.html](https://www.rand.org/health-care/surveys_tools/mos/social-support/survey-instrument.html)

## Appendix F

### Items to Measure Perceptions about “Likes” in Facebook

<b>Item</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
How important is a "like" to you when you post something or respond to a comment?	Not at all important	Slightly important	Important	Fairly important	Very important
After you receive a Facebook "like" how happy do you feel?	A lot less happy than before	Less happy than before	Just as happy as before	Happier than before	A lot happier than before
Do you feel that "likes" provide a sense that you are cared for and that others will be there for you during times of need?	Definitely not	Probably not	Might or might not	Probably yes	Definitely yes

## Appendix G

## Demographic Questionnaire

Item	Response							
	1	2	3	4	5	6	7	8
Are you 18 years of age or older?	Yes	No						
Do you login to the Facebook platform at least three times per week?	No	Yes						
Do you use other social media platforms for social support?	Yes	No						
How often did you log in to your Facebook account in the last four weeks?	Less than 4 times per week	At least 4 times per week	More than 4 times per week					
To which gender identity do you most identify?	Female	Male						
What is your age group?	18-24	25-34	35-44	45-54	55-64	65 or over		
What is the highest level of school you have	Less than high school	High school graduate	Some college but no degree	Associate degree	Bachelor's degree	Master's degree	Doctoral degree	Professional degree

completed or the highest degree you have received?								
One or more races that you consider yourself to be	White	African American	American Indian/ Alaskan Native	Asian	Hawaiian/ Pacific Islander	Other/ Mixed race		
Household income (1000\$) in (previous year) before taxes.	< 10	10-19	20-39	40-49	50-59	60-69	70-79	> 80 (90-99) (100-149) (> 150)