A qualitative study of digital citizenship practices and the fear of missing out: perceptions of middle school students and principals

by

Lucus Joseph Dalinghaus

B.S., Kansas State University, 2007
M.S., Peru State College, 2009

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF EDUCATION

Department of Educational Leadership
College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

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Abstract

The purpose of this study was to determine the perceptions of middle school students and principals regarding digital citizenship practices and how these practices and behaviors are impacted by the Fear of Missing Out (FoMO). A phenomenological qualitative research study was conducted through three student focus groups, one principal focus group, and six individual student interviews to answer the research questions. The investigation revolved around four topics: digital citizenship, interconnected digital platform usage, social media, and FoMO. Focus group and interview transcripts were transcribed and coded to generate five themes. The five themes that emerged from the data included: (1) Balancing Connections, Communication, and Appropriate Practices, (2) Relationships, Responsibilities, and Finding an Online Identity of Interests, (3) Characteristics of a Positive Digital Citizen, (4) Emotions and Feelings Shaped by Experiences, and (5) Disconnect Between an Understanding of Digital Citizenship and Reality of Practice.

Based upon the results of the study, the researcher recommends it would be appropriate for schools to implement technology classes and programs that educate students on how to properly utilize interconnected digital platforms and devices. Educating students about how to use the devices, the purpose of social media, and how to be a positive digital citizen would be beneficial. The FoMO influences students and should be considered when designing policies and school rules regarding interconnected digital media platforms. Furthermore, based on the results of this research study, efforts to develop positive digital citizenship habits should include direct instruction on interpersonal communication. Future research should center around the psychology behind automatic responses and the realization of conducting tasks without

cognizant awareness. Continued dialogue with students to better understand this phenomenon is warranted.

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Major Professor
Dr. Donna Augustine-Shaw

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Acknowledgements

The journey of obtaining this degree would not have been possible without the support and encouragement of several individuals. I am very proud and blessed to have achieved this goal but know full well that many people along the way had a hand in what has been accomplished. I would like to personally thank all of those who have had an impact throughout this endeavor.

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Dedication

This dissertation is dedicated to two very important individuals who have had a major impact on my life and pushed me to further my education. Both of my grandmothers, Mary Frances Hundley, and Mary Faith Dalinghaus were instrumental in encouraging me to achieve this honor. It is with great sadness that neither are here today to see the completion of years of hard work, but I know both would be proud of the effort I've made to finally push through and complete this degree.

Grandma Hundley was a major supporter for me pursuing a doctorate degree. When visiting with her, she would always ask for updates on my thesis and asked questions about my research. She unexpectedly passed away in the fall of 2015, and at that time, I was still dabbling about what exactly it was that I wanted to research. She was always willing to listen to my ideas and encouraged me to go in a direction of interest.

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In many ways, I feel I have followed the path of my Grandma Dalinghaus within the field of education. She was a lifelong teacher and for a time became a principal at a small Catholic school. Grandma Dalinghaus was very excited when I told her I planned to become a teacher, and she was always willing to give advice when asked. Grandma Dalinghaus and I spent many hours at her kitchen table when I came home from college just talking about school and life.

Grandma's death in April 2020 provided even more motivation to finish the task that I had started so long ago.

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Chapter 1 - Introduction to the Study

Technology permeates society and is found virtually everywhere; from home, to school, to the workplace, making it a routine of daily interactions. The ease of use and availability of various technological devices has provided access to technology like never before. As a result, technology use among young children and adults continues to increase exponentially, quickly becoming a central part of our lives (Lissak, 2018). Today's generation of students is growing up more technologically literate than any previous generation, mainly due to the increased availability of devices such as cell phones, video game consoles, mobile gaming devices, the internet, and instant messaging (Swan et al., 2005). In fact, today's students utilize more technology each day at school than previous generations have used in their lifetime (Bartholomew & Reeve, 2018). Such pervasive use has affected students. The advent of technology in schools has increased student motivation, allowed students to collaborate and communicate more frequently and efficiently, and provided students with a portable and readily available device to access internet resources (Vahey & Crawford, 2002).

In just a few years, the Internet has changed the way schools, businesses, and communities, among others; conduct their day-to-day business, learn, and communicate (Ellis et al., 2015). Also, daily habits and behaviors of individuals have changed due to the increase in new technologies and virtual communications using personal computers, tablets, and mobile phones (King et al., 2013). The invention of the mobile device has allowed technology to be literally delivered to the palm of one's hand. Huffman et al. (2019) attributes the increased usage of technology to the fact that devices are affordable, portable, and ubiquitous. Attenborough and Abbot (2018) reasoned the portability, acceptability, and flexibility of mobile devices has considerable potential for the field of education by allowing students to maximize their time and

benefit from situated learning which is a type of learning individuals participant in through watching and interaction in their environment.

However, incorporating technology into schools has not always been met with enthusiasm. While the adoption of technology in schools has been known to lag at times (Hennigan, 2014), more than half of the nation's PreK-12 school students now use various forms of technology tools in the classroom (Dodson, 2019). Nevertheless, many PreK-12 school districts have established one-to-one initiatives where each student is provided with a device. With one-to-one initiatives, students, teachers, and even parents are provided with devices such as computers, technology applications, and social media tools (Dodson, 2019). Consequently, today's students, who are continuously connected to the internet, can access online activities whether at home, school, or in many other locations (Walker, 2013). Technology has the potential to expand learning opportunities, provide better experiences, support continuous learning at any time, build twenty-first century skills, and increase engagement and motivation. The integration of technology into the educational realm has enhanced the teaching and learning process for students of all grade levels (Henderson et al., 2015).

The positive excitement, support, and perceptions of integrating technology into classrooms has created numerous educational opportunities for students and staff. Mobile devices provided through one-to-one initiatives or bring-your-own device programs have several benefits and positive uses. In fact, a major benefit of these programs is that they can deliver digital textbooks and other educational content to students at any time and at any location (Lee et al., 2013). This allows students to take their learning with them anywhere they desire to finish tasks and continue to learn outside of the traditional classroom setting (Hsu & Ching, 2012). Historical research on mobile devices has yielded several encouraging actions in the field of

education. Some of these include increased academic achievement, an improvement in attitudes, an increase in the engagement of students, higher motivation, increased peer interactions through collaboration, and higher motivation (Hwang et al., 2011; Seifert, 2015; Sung et al., 2010). However, one of the largest advantages of incorporating mobile devices into the classroom may very well be the ability to access a wealth of information in one place (Bartholomew & Reeve, 2018).

While there are several positives to integrating technology into the classroom through mobile devices, there are also instances where the best of intentions ultimately goes wrong. Disruptions in the classroom, cheating on assignments, and utilization of technology through inappropriate means are all less than desirable consequences of increased usage (Walker, 2013). Other issues including psychological health, physical health, depression, and addiction are also causes for concern (Gezgin, 2018). While living in a constantly wired society where something is happening 24 hours a day, seven days a week (24/7), students are having a difficult time putting down their devices to focus on what is important. Przybylski et al. (2013) termed the phrase "fear of missing out" or "FoMO" as a desire to stay connected to friends and others because by not doing so, one might be missing out on the "fun" or activities others are doing.

As schools implement and approve one-to-one policies and procedures, a considerable amount of time is devoted to monitoring programs and to ensure that devices are used safely. While school-issued devices can be controlled through district filtering policies and procedures, schools do not have this same luxury for personal devices, and the most popular personal mobile device in use today is the cell phone, also known as the smartphone.

Cell phones have quickly become an important part of daily societal life, and their use continues to expand rapidly among both youth and adults (Obringer & Coffey, 2007). In fact,

mobile phones are one of, if not the most important communication tool for young people today (Leung, 2017). From the way people interact with others to how they act socially, cell phones have changed society (Emmanuel, 2013). The increased integration of mobile phones into today's society has played a vital role in how individuals communicate with one another (Vinayak & Malhotra, 2017). In fact, throughout the past several years, mobile devices have been developed to grow communication from simply one-on-one interactions to exchanges that involve several people at one time (Gummesson, 2004; Huang et al., 2009; Tews et al., 2002).

Social media, which allows for the continuous ability to interact with several individuals at once, is a space made available on the web that also allows users to connect, share, communicate, and build social networks that group like interests ('Tayo et al., 2019). Social media has created a new way for individuals to communicate with one another; utilizing the conveniences of cyberspace. Today, just over 72% of the entire United States population utilizes some type of social media website (Dean et al., 2021). Social media has quickly become the primary and most comfortable way to communicate online. Popular social media sites today include Facebook, Twitter, Snapchat, YouTube, WhatsApp, LinkedIn, with Facebook and Twitter being the most widely used.

As individuals delve more deeply into cyberspace and utilize online tools at increasing rates, specific rules and procedures have been established to define what makes a good citizen within the online environment. The International Society for Technology in Education (ISTE) established the leading set of educational standards for technology integration in the educational setting (Ronan, 2018). The ISTE standards serve as guideposts across all educational disciplines to guide teaching and learning goals (Ronan, 2018). Within the standards available for students, educators, and educational leaders, the concept of digital citizenship spans all stakeholders.

Much like society that expects someone to know how to behave in a public setting, the ISTE standards set out to provide guidance on proper behavior within an online environment. Unfortunately, as one can imagine, individuals may not be fully aware of what it means to be a good digital citizen and how to effectively manage the technology in their lives.

Statement of the Problem

The increased usage of smartphones by students, coupled with the amount of information shared on social media, and an inability for individuals to walk away from either (FoMO) has left schools in a quandary when it comes to understanding how to handle and deal with situations at school. Often these unfortunate events occur due to a lack of education about the topic of digital citizenship and what it truly means to behave in a way that is appropriate in the online world. In fact, Dodson (2019) found over 80 percent of principals felt their administrative preparation programs did not address, discuss, or provide strategies to guide and monitor effective social media usage. Educators have the distinct responsibility of preparing students for life outside the classroom and setting them up with opportunities to be successful. As all educators learn to better deal with cell phones and social media in the classroom and how these devices are being used by students, it is important to reach a consensus and understanding as to what digital citizenship is and what it is not. Furthermore, a better understanding of the concept of FoMO may provide insight into the reasons why individuals feel an attachment to the cell phone and online activities.

On the home front, parents should become more aware of what their children are viewing and participating in while online. With a better understanding, parents will be able to better guide and monitor what their children see online. Additionally, students will become more aware of the

potential dangers of too much time spent online and how their actions can severely affect their futures.

Research Questions

This research study contained one overarching research question and two sub-questions that provided the framework for investigation and exploration.

- How do middle school students and principals perceive the use of cell/smartphones, social media, and technology use as defined in the digital citizenship standards in ISTE?
    - What impact does the fear of missing out (FoMO) have on digital citizenship practices?
    - What positive/negative digital citizen characteristics are exhibited by middle-school aged students?

Purpose of this Study

Dobson and Jay (2020) described the representation of children online as a growing concern, especially with the advent of social media. Additionally, research suggests that educators and families need to reflect on the exposure and pressures children experience in a highly technological world. Most certainly health and safety concerns may result from overuse. Specific training about appropriate use of social media in the educational setting should also be offered (Dobson & Jay, 2020, Dodson, 2019). Moreover, Abrams (2019) found the literature to be limited and mixed on social media's influence on health. Dodson (2019) felt more research should be conducted to gather the perceptions of rural schools and principals on the educational uses of social media, computers, and smartphone use.

The purpose of this study was to determine the perceptions middle school students and principals have regarding the necessary characteristics to be a good digital citizen and how these characteristics are impacted by the FoMO. As the use of technology within schools has increased, there has been a disconnect about using this new technology appropriately. Even though schools have been providing some education and guidance on this topic for students, there seems to be a lack of understanding as students sometimes think they will never be negatively impacted by an experience involving smartphones or social media. Also, a sense of frustration exists among parents about how to properly monitor their child's usage of technology in the home setting. Administrators are also seeing an increase in disciplinary issues due to technology violations whether it be through cell phones or social media. Middle school students face social pressure caused by the increased use of cell/smartphones and social media which effects relationships and peer interactions.

The goal of this study was to gather the perceptions from two different groups about digital citizenship and how the FoMO impacts digital citizenship practices/behaviors in middle school-aged students. As themes developed, the researcher identified similarities and differences in the perceptions among principals and middle school students related to the digital citizenship standard and the impact of FoMO. Digital citizenship for students is defined as "students recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model ways that are safe, legal, and ethical" (ISTE Standards: Students, 2016, p. 3). Digital citizenship for leaders has been described as the "use of technology to increase equity, inclusion, and digital citizenship practices" (ISTE Standards: Education Leaders, 2018, p. 7). For leaders, this occurs when they ensure technology is accessible to all students, when responsible, safe, ethical, and legal use of technology is being

displayed, and as students are provided with engaging and authentic learning opportunities, among other things (ISTE Standards: Education Leaders, 2018). The researcher would ultimately like to create a comprehensive training program that is practical and meaningful for use in schools and to guide students, parents, teachers, and administrators in working toward the outcomes of becoming a responsible digital citizen. Additionally, schools will be able to use this information to form policy and procedures for technology use within their districts. Parents will be able to use this information to set guidelines or rules as to how technology will be utilized within their household. This information will build understanding regarding the characteristics of a good digital citizen as perceived by middle school students and principals.

Theoretical Framework

This research study is grounded in parts of attachment theory, self-determination theory, and social comparison theory. Each of these theories has been incorporated as part of previous research studies through a wide range of topics, both within education and outside of the field. Also, each of the three theories plays a key role in determining perceptions individuals may have regarding digital citizenship. Application to the stated theories and this research study is represented in the following examples. The attachment theory contains several concepts pertinent to FoMO. The self-determination theory and how individuals are motivated by their surroundings correlates to both FoMO and digital citizenship. Both FoMO and digital citizenship concepts are featured prominently in the social comparison theory as individuals make comparisons between their own lives and the lives of others.

Attachment Theory

Sherrell and Lambie (2018) describe attachment theory as a framework for understanding individual differences in how people rely on their partners for security and support. At its most

basic level, attachment theory is an individual's typical predisposition for closeness in an emotionally important relationship that fosters protection, safety, and a platform for security (Bowlby, 1980). For example, a child forms an attachment to his/her parents because they represent love and security or someone whose opinion the child values. Additionally, attachment theory is a typical emotional distress reaction that results when the acceptable limits of closeness are exceeded (Bowlby, 1980). Furthermore, attachment theory can be related to an individual's beliefs about his/her worthiness of care or lovability (Pistole & Watkins, 1995). Other characteristics of attachment theory include understanding the expectations about one's accessibility, and knowing the strategies, rules, and expectations for considering and regulating interpersonal relationships (Sherrell & Lambie, 2018). In summary, attachment styles develop based on what individuals believe about themselves and their world (Bowlby, 1980).

As one could assume, factors affecting attachment can begin at an incredibly young age. Attachment styles developed during childhood can influence interpersonal relationships later in life (Sherrell & Lambie, 2018). Since these attachment relationships remain important throughout a person's life span, it is important to establish positive relationships and interactions early in life (Bowlby, 1980).

Blackwell et al. (2017) put this idea into practice as their research indicated the "attachment style individuals had with their parents may influence the extent to which people fear social exclusion" (p. 71). Attachment style can affect the use of social media because social media is generally used to maintain and develop relationships (Blackwell et al., 2017). Anxiety may develop in individuals who seek feedback using social media. As an example, those who are anxiously attached could demonstrate insecurity in their relationships which could result in high levels of social media use to maintain sought-after relationships (Blackwell et al., 2017). Social

media also provides anxious individuals with a meaningful form of communication as they can spend more time thinking about what they want to say to avoid awkward pauses that often occur in real conversations (Kandell, 1998). Consequently, knowledge of the aspects of attachment theory is important to consider as young people may develop an attachment through relationships formed and supported by social media usage.

The concept of FoMO is paramount for those who are considered anxiously attached. Such individuals are infatuated with what others may be doing and may feel a sense of loneliness when others are having experiences in which they are not included. Additionally, because a significant amount of time is spent on social media, the opportunities for an anxiously attached individual to feel he/she is missing out on activities is higher than for those who may not be using social media as frequently.

Summary of Attachment Theory

Lac et al. (2013) states that attachment theories are "based on the view that human beings have an intrinsic and universal desire to be accepted by others" (p. 1579). Posting on social media and the experience of FoMO are two areas in which individuals seek attachment or the desire to know what others think of them. Attachment theory can help explain why individuals post the content they do on social media and can help determine how one may act or react differently while on an online environment. While all humans may have an innate desire to be accepted by others, the motivation behind the reasons why can be explained through the self-determination theory which is discussed in the next section.

Self-Determination Theory

Self-determination theory (SDT), whose central concepts involve intrinsic and extrinsic motivation, has been used in several studies to explain human motivation through a wide range

of settings including education (Komiyama & McMorris, 2017; Ryan & Deci, 2017). SDT assumes individuals possess "an active tendency toward psychosocial growth and integration," which drives them to "seek challenges, to discover new perspectives, and to actively internalize and transform cultural practices" (Ryan & Deci, 2002, p. 3). Goldman et al. (2017) determined people are naturally motivated to self-improve; yet this tendency can be supported or discouraged by one's social environment.

Emery et al. (2016) list autonomy, competence, and relatedness as the three universal and innate needs through which social context influences development. This was further expanded by Ryan and Deci (2017) to include the environment as a factor that influences development. Komiyama and McMorris (2017) determined optimal motivation is derived from an individual's need for autonomy, competence, and relatedness. SDT asserts people are naturally motivated to self-improve; yet their drive can be supported or discouraged by one's social environment (Deci & Ryan, 1985). Komiyama and McMorris (2017) encourage teachers to provide autonomy, competence, and relatedness through opportunities for students to feel in control of their own behaviors, to engage in target activities, and for students to feel connected to others. For example, in educational settings, teachers often allow students to set classroom rules as a form of autonomy.

Autonomy refers to the idea that an individual is the source of one's own actions (Goldman et al., 2017). Individuals feel autonomous when they internalize their behavior because of their own free will (Ryan & Deci, 2002). Autonomy is a person's need for feeling that he/she is acting out of his/her own will in conjunction with his/her personal values as opposed to feeling as though his/her behavior is coming from coercion or pressure (Grolnick & Raferty-

Helmer, 2013). Przybylski et al. (2013) describe autonomy as self-authorship or personal initiative.

In addition to autonomy, competence is another element of SDT. Goldman et al. (2017) refer to competence as a feeling of effectiveness in one's ongoing interactions within a social environment. Przybylski et al. (2013) describe competence as the capacity to effectively act on the world. Deci and Ryan (1985) believed individuals experienced competence when they encountered challenging opportunities that allowed them to express their true capacities. Further, Deci and Ryan (2000) determined the need for competence reflects one's desire to feel effective when interacting with one's environment. When the need for competence has been fulfilled, feelings of self-efficacy and self-esteem may be at the center of more general feelings of well-being (Emery et al., 2016).

The final major component of SDT theory is relatedness. Relatedness is simply described as perceiving a connection to others (Przybylski et al., 2013; Ryan & Deci, 2009). Emery et al. (2016) define relatedness as "a need for one to have deep and meaningful connections with others in addition to a need for broader connections to society in general" (p. 613). Goldman et al. (2017) explain "relatedness occurs when individuals develop a sense of belongingness with their peers, community members, or with others whom they respect" (p. 170). Furthermore, the need of relatedness is typically satisfied when people experience social support and feel close to others (Deci & Ryan, 2008).

The three needs of autonomy, competence, and relatedness are essential to grasp the full scope of self-determination theory. Emery et al. (2016) reasoned "when these needs are filled via social context, an individual is in the position to maintain optimal functioning and achieve positive personal growth" (p. 613). There are times; however, when a need may go unfulfilled.

When this occurs, an individual's overall psychological health and well-being are at risk (Ryan & Deci, 2000a). Emery et al. (2016) explained when needs are left unfulfilled, "individuals may fall into patterns where they chase empty extrinsic goals and/or use compensatory behaviors to temporarily relieve negative emotions" (p. 613). Vansteenkiste and Ryan (2013) found further frustration occurs based upon the effects of this need replacement and compensation which creates a cycle of non-optimal functioning.

The construct of the FoMO and increased social media use are examples of what may occur when these needs go unfulfilled. Individuals may reach out through social media to help meet the need of relatedness with others. While individuals may demonstrate high autonomy with the use of social media, following the rules of proper use (competence) and the inability to relate (FoMO) with the experiences one is having may cause additional issues that the individual may not be able to effectively handle. This study has the potential to gather perceptions from individuals regarding their social media/smartphone use and how the self-determination theory fits into their use and desired outcomes of promoting healthy digital citizenship practices.

Self-determination theory has been applied to student motivation, and there is a clear differentiation between internal and external motivation (Deci et al., 1991). The SDT is constructed through three types of student motivation: intrinsic, extrinsic, and amotivation (Vallerand et al., 1992). According to Stephens and Pantoja (2016), motivation is initiated through internal or external regulation sources. Additionally, Goldman et al. (2017) identified intrinsic, extrinsic, and amotivation as the three major forms of student motivation in existence today. Each of these forms of motivation may help explain why social media use and the FoMO play key roles in the development of responsible digital citizens. Each of these areas will be explored in more detail in chapter two.

Summary of Self-Determination Theory

Goldman et al. (2017) suggests "scholars should recognize the importance of psychological needs and the role they serve between classroom interactions and students' intrinsic motivation to learn" (p. 186). This could lead to a change in classroom communication that considers a student's autonomy, competence, and relatedness as it correlates to motivation. Reeve (2002) notes teachers should focus on guiding rather than controlling behaviors because students achieve, learn, and stay in school when teachers support their autonomy. Emery et al. (2016) found negative feelings toward oneself may occur if students are faced with environments and experiences perceived as not providing positive and constructive feedback and do not allow for opportunities that are challenging. Further, an undermining of competence under the lens of SDT can become dangerous as the continued lack of caring about one's needs can lead to lowered motivation that is pressured or controlled (Emery et al., 2016). Self-determined actions play a role in how mobile devices are used by students in school and in the formation of relationships for potentially productive and destructive reasons (Stephens & Pantoja, 2016). The SDT is another lens one can look through to better understand the concept of FoMO (Przybylski et al., 2013). In the next section, social comparison theory (SCT) is discussed as an additional framework for understanding the focus of this study's research.

Social Comparison Theory

Festinger's (1954) SCT suggests individuals have a drive to determine their progress and standing on multiple aspects of their lives and compare themselves to others to do so. Furthermore, there is an inherent desire for individuals to evaluate themselves. In situations where objective criteria for evaluation is not available, individuals compare themselves to others (Festinger, 1954). More recently, Charoensukmongkol (2018) interpreted the theory to suggest

individuals are motivated to compare themselves to others who they are like to better understand their own abilities and performance.

As young adolescents move toward creating self-identities, greater levels of social comparison and feedback-seeking occur (Harter, 2012). When individuals are uncertain about where they stand on an issue or trait, social comparisons with others in the environment occurs so they obtain information and feel more comfortable (Festinger, 1954). Ridolfi et al. (2011) indicate social comparison is a result of an individual's perceived similarity to the comparison target.

Festinger (1954) determined that comparing oneself to others takes on two forms: social comparison of ability and social comparison of opinion. Festinger (1954) found humans have a drive to evaluate their opinions and abilities. Ultimately, individuals look towards comparisons of others after evaluating their own opinions and ideas first (Park & Salmon 2005; Quade et al., 2019).

Social Comparison of Ability

The social comparison of ability is showcased as judgmental and competitive as it compares achievement and performance (Yang et al., 2018). Since social comparison of ability is competition-oriented, a determination between superiority versus inferiority is often evident (Yang et al., 2018). Park and Baek (2018) feel people view comparison targets as competitors. Students who compare their grades with others is an example of social comparison of ability. Students may find social media to be a medium that unfairly compares individuals based upon both academic and physical ability. As a result, such comparisons may make a student feel inadequate to the individual with whom he/she compares himself/herself.

Social Comparison of Opinion

The social comparison of opinion includes comparisons of attitudes, thoughts, beliefs, and values (Yang et al., 2018) and is typically free of the competitiveness and judgment present in the social comparison of ability. Park and Baek (2018) view comparison targets as role models, consultants, or informants. In the educational setting, teachers, athletes, and upperclassmen often fill this role. Opinion comparisons help one learn about facts and social norms, construct or modify one's value systems, and regulate behaviors as opposed to distinguishing bad from worse (Yang et al., 2018). Also, the focus is on the collection of information to learn more about the context and the self (Suls et al., 2000), which allows an individual to make informed decisions instead of rash judgments (Yang et al., 2018).

Asking for the opinions of what others might do in a similar situation is an example of social comparison of opinion. When an individual observes a difference of opinion, social approaches are taken to reduce opinion gaps. These often include persuasion and discussion (Yang et al., 2018). Festinger (1954) hypothesized that social comparison of opinion relates better to social outcomes, such as higher social capital and social connectedness due to its non-competitive and more communicative nature.

Upward/Downward Comparisons

Yang et al. (2018) found that to achieve accurate self-evaluation, individuals compare themselves with those who seem to be similar. Individuals do not tend to evaluate their opinions or abilities by comparison with others who are too different from themselves (Festinger, 1954). Quade et al. (2019) suggested that once a similar other has been identified, comparisons occur with these others and emotion responses occur. Festinger (1954) defined upward social comparisons as a comparison to someone perceived to be superior to an individual to gain

information that may motivate self-improvement. This occurs if the individual feels the comparison will not be harmful (Festinger, 1954). Downward comparisons are defined as a comparison to someone who is perceived to be inferior to the individual (Festinger, 1954), which is driven by the desire to improve self-esteem as the comparison shows the individual that he/she is in a relatively desirable position (Festinger, 1954; Wills, 1981).

However, comparisons to people considered better than oneself can lead to negative consequences for mental health (Fardouly et al., 2018). Furthermore, Nesi and Prinstein (2015) summarized findings that suggest negative social comparison on social media may contribute to lower life satisfaction (Krasnova et al., 2013) and increased rumination and depression (Feinstein et al., 2013). Ridolfi et al. (2011) summarized research indicating that when upward comparisons are made, feelings of self-identification are triggered and the individual is motivated and enthusiastic about self-improvement (Buunk & Ybema, 1997; Collins, 1996). In contrast, if an upward comparison is made to a target not like the individual, a negative feeling of inadequacy may occur if the individual believes he/she cannot become like the target he/she is comparing (Buunk & Ybema, 1997; Collins, 1996; Ridolfi et al., 2011).

Furthermore, upward comparisons can create negative emotional reactions which could include disgust or contempt (Cohen-Charash, 2009; Dunn et al., 2012; Tesser et al., 1988; Tesser & Smith, 1980) while downward comparisons may induce positive emotions, such as pride (Buunk et al., 2005; Gibbons, 1986; Klein, 1997; Smith, 2000; Wills, 1981). Upward and downward comparisons may also go against the norm depending on the behavior, attribute, or situational factor being compared (Blanton et al., 2000; Buunk et al., 1990). Information shared on social media, however, is not always a true reflection of an individual's life. Users of social

media typically display socially desirable and highly elegant images through selective self-presentation (Gardner & Davis, 2013; Yang & Brown, 2016).

Upward social comparisons, comparing oneself with superior rather than inferior others, are typically more common on social media than downward comparisons (Vogel et al., 2014). These comparisons can sometimes cause poor well-being due to rumination and negative interpersonal emotions (Feinstein et al., 2013). Even though individuals are not expected to make upward comparisons if it is damaging to their self-esteem in the domain of appearance-related comparisons, it frequently happens (Stronge et al., 2015). However, Park and Baek (2018) determined that people who performed social comparison of opinion on social media experienced less upward contrastive emotions such as depression and envy and reported higher life satisfaction.

Summary of Social Comparison Theory

As millions of people utilize social media to share life updates, social media users have unlimited opportunities for social comparison (Yang et al., 2018). The social comparison process is particularly relevant in today's digital age since social media allows users to frequently access others' daily updates (Yang et al., 2018). Social media is one forum in which social comparison increases (Stronge et al., 2015). Festinger's (1954) SCT is considered leading research when attempting to explain the correlation between social media and social comparison (Charoensukmongkol, 2018). In many instances, content posted in social media typically enhance self-presentation, causing individuals to be more prone to social comparison (Charoensukmongkol, 2018). The likelihood of engaging in social comparison on social media increases considerably over the comparisons made in daily life due to the limitless potential to expose many target comparisons (Charoensukmongkol, 2018). Johnson and Knoblach-

Westerwick (2014) agree with this assumption, stating that social media is well situated for social comparison due to the existing knowledge of a friend's qualities and characteristics. Therefore, the widespread use of social media by middle-school students along with their tendency to experience FoMO, fits the narrative described in SCT.

Significance of the Study

Based on the perceptions of middle school students and principals of their understanding about the significance of digital citizenship and the FoMO in the school setting, this research study may help schools consider ramifications for school policy and needed training programs. Educational programs could be established to help students and staff better understand the responsibilities inherent in digital citizenship and the role cell phones/smartphones and social media play in this area. Schools will be able to take an active role in ensuring the safety and well-being of students by instituting guidelines, policies, procedures, and curriculum that educate students about these topics along with gaining a better understanding about the misconceptions regarding the beliefs of both students and principals.

This research study may also help schools recognize problematic behavior in students and establish early-intervention practices and training programs to aid students, as necessary. An extension of this research may include communication with mental health practitioners to help guide students through the concept of FoMO and provide strategies about how to cope and set healthy limits on accessing electronic information currently available 24/7. Additionally, schools can consider the need to implement training programs for students, parents, teachers, and administrators that detail the positives and negatives of smartphones, social media, and digital citizenship practices as outlined in the ISTE standards.

Limitations of the Study

This study has the following limitations: (1) Due to the fact that the research took place at small rural schools in the Midwest, the results may not be generalizable to a much larger school population. The opinions, attitudes, mannerisms, and other attributes of the population selected may not match the same attributes of a larger school setting. (2) The interviews conducted are conducted on a voluntary basis which may or may not elicit the most meaningful responses from the most reliable individuals. (3) The researcher is taking the participants at their word and is hopeful the participants will be willing to have an open and honest discussion about their experiences and feelings regarding the research topics. (4) This study is limited to middle school students. For this study, middle school students are defined as students in seventh and eighth grades. Students were chosen from these grade levels because middle school is typically when students receive their first smartphone. The perceptions of middle school students may be different from high school students due to their lack of experience with smartphones and social media. (5) Additionally, school personnel may not be able to elaborate on specific situations due to confidentiality reasons.

Delimitations of the Study

Those invited to participate in this qualitative study were serving in the roles of principals and middle school students in three small rural schools in the Midwest. The small rural schools researched have an approximate student population of 225-260 students in grades PreK-12. Class sizes range from 15-25 students per class with the student population having little diversity. Parents and other participants in the educational setting could have been selected for this study. However, the researcher felt the positions chosen would provide the best opportunity and most relevant individuals from whom to gain information to answer the research questions outlined in

this study. Middle school students are just beginning to utilize these devices and are very impressionable. Creating a research study on this age group provided an excellent opportunity to educate this age level of students before negative habits become commonplace.

Definitions of Terms

The following terms are defined as they relate to the topic of this study and of importance to this dissertation:

ISTE Standards: the leading set of standards for technology integration in education.

Digital Citizenship: the norms of appropriate, responsible behavior regarding technology use (Ribble, 2017).

Digital Citizenship for Students:

> "1.2: Digital Citizen: Students recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal, and ethical."
>
> "1.2.a: Students cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world."
>
> "1.2.b: Students engage in positive, safe, legal, and ethical behavior when using technology, including social interactions online or when using networked devices."
>
> "1.2.c: Students demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property."
>
> "1.2.d: Students manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online." (ISTE Standards: Students, 2016, p. 3)

Digital Citizenship for Leaders:

> "3.1: Equity and Citizenship Advocate: Leaders use technology to increase equity, inclusion, and digital citizenship practices."
>
> "3.1.a.: Education leaders ensure all students have skilled teachers who actively use technology to meet student learning needs."
>
> "3.1.b: Education leaders ensure all students have access to the technology and connectivity necessary to participate in authentic and engaging learning opportunities."
>
> "3.1.c: Education leaders model digital citizenship by critically evaluating online resources, engaging in civil discourse online and using digital tools to contribute to positive social change."
>
> "3.1.d: Education leaders cultivate responsible online behavior, including safe, ethical, and legal use of technology." (ISTE Standards: Education Leaders, 2018, p. 7)

Mobile Device: a technology tool that may contain a telephone, internet connectivity, a camera, e-mail, messaging, a calendar, apps, audio, video, and an address book (Walker, 2013).

Cell Phone: a handheld device that allows users to communicate through voice and/or text messaging. For this research study, the terms cell phone and smartphone will be used interchangeably.

Smartphone: a handheld device that allows users to communicate through voice and/or text, in addition to connecting with others through the internet, play games, watch videos, and access information for educational and research purposes (Chotpitayasunondh & Douglas, 2016). For this research study, the terms cell phone and smartphone will be used interchangeably.

Social Media: an online platform that allows users to connect, share, communicate, build social networks, and establish relationships with people who may share the same interests as the user (‘Tayo et al., 2019).

Addiction: “a negative and pathological condition that is evaluated through subjective, behavioral, and physiological symptoms such as preoccupation, loss of control, and withdrawal” (Gezgin, 2018, p. 167).

Fear of Missing Out (FoMO): “pervasive apprehension that others might be having rewarding experiences from which one is absent. FoMO is characterized by the desire to stay continually connected with what others are doing” (Przybylski et al., 2013, p. 1841).

Interconnected Digital Platforms: A combination of smartphones, social media, and other electronic devices and/or applications that individuals utilize to communicate and interact through technology and the internet.

Researcher Background

The researcher of this study has been an educator for nearly fifteen years working in small rural schools in the Midwest. The field of technology and its applications to the classroom have been an interest for several years, beginning with time spent as a business and computer teacher. By trade, business and computer teachers are expected to stay up to date on new technologies and innovations that have the potential to elicit positive impacts on classroom practice. In many instances, the business and computer teacher not only educate students about new technological trends but also serves as a guide for other educators in the building in technology.

For the past nine years, the researcher has had the pleasure of moving from managing a classroom as a teacher to leading as a building principal. While the job of a principal is

rewarding, it also has challenges. Student discipline, staff issues, and curriculum updates are just a few of the many directives and activities in which a principal is expected to give his or her attention. Technology has played a major role in several facets of the researcher's administrative journey.

Technology and more specifically, cell phones and social media, have completely changed education. Today, schools are expected to police many student activities, even when those activities do not occur on school property. The opportunity to gather more information about this topic and discuss the information with students, parents, and other educational professionals will hopefully bring light and clarity to an issue that is growing in importance.

Summary

The major focus of this research study is about the ISTE Standards for Students (2016) Standard of Digital Citizenship and the sub-standards in which the main standard is based. FoMO is a major construct that many individuals encounter daily through their interactions in an online and wired environment. Middle school students are more prone to developing complications related to FoMO due to their constant desire to keep up to date with their friends and acquaintances and a strong developmental need to engage and connect with their peers as they form and develop their own identity. Building principals are conflicted in providing freedoms to students while at the same time creating policies that maintain a learning and responsible student focus.

As society continues to become more technologically advanced, there is need for students to become more aware of positive digital citizenship practices and understand how they can control their FoMO within the educational setting. Smartphones and social media have been a game changer in the field of education, and principals have the responsibility of staying ahead of

issues in understanding how these tools affect students in schools. The following chapter contains the research that has been conducted on the topics of smartphones, social media, and FoMO as well as a focus on digital citizenship as outlined in the ISTE standards. The information presented provides a historical context of where the researcher started along with current trends and practices. The research specifically focuses on smartphones and social media as these are the two tools commonly utilized by individuals who participate within the online environment.

Chapter 2 - Review of the Literature

Characteristics of Students and Technology Use

Adolescence, a period of rapid development both socially and physically, can significantly impact the well-being of students within a school setting (DeLay et al., 2017). Educators have a distinct responsibility to keep students engaged in the learning process to ensure content is learned and that students succeed. Kuh (2009) defines student engagement as the time and effort devoted to any behavior tied to educationally desirable outcomes, which includes academic success, graduation, and skill development. Maintaining student engagement is a precept of their positions with active and collaborative learning strategies a hallmark of maintaining positive engagement (Gallegos & Nakashima, 2017).

To increase and maintain student engagement, educators need to implement strategies, concepts, and tools that are meaningful to students. In a sense, this means meeting the students where they are. The current generation of students experience electronic media as a central part of their lives (Lissak, 2018). Bartholomew and Reeve (2018) found students believe that mobile devices should be integrated into K-12 classrooms. Whether educators are ready or not, technology is here to stay, and a focus now on how it can be used productively and responsibly must be required in teacher preparation programs and in guiding students in their learning (Hollandsworth et al., 2017).

ISTE Standards

Standards play an integral role in ensuring a strong curriculum has been established and will prepare students for the future (Smith & Mader, 2016). In 1998, ISTE Standards for Students were published as the National Education Technology Standards (NETS) (Smith & Mader, 2016). Revisions to the standards occurred in 2007, which included an update that

focused on how students use technology, moving away from just learning about technology tools (Smith & Mader, 2016). ISTE gathered input from over 2,000 educators during the 2016-2017 school year to assist in the redesign process of the technology standards (Parra et al., 2019). This process resulted in the most recent 2016 version (Ronan, 2018). The ISTE standards "serve as a framework for innovation and excellence in learning, teaching, and leading" (ISTE Standards: Students, 2016, p. 2). Furthermore, "as a body of work, the suite of standards has guided educator practice, school improvement planning, professional growth, and advances in curriculum" (ISTE Standards: Students, 2016, p. 2).

ISTE is known for promoting the proper use of technology while at the same time using its standards to increase the capacity for teaching and learning (Bucci et al., 2003; Thomas & Knezek, 1999).

Several organizations and individuals find the ISTE standards to be the gold standard of technology integration in education and serve as useful benchmarks for those who wish to guide students in a meaningful direction for technology use (Ronan, 2018). Currently, standards have been developed for students, educators, and education leaders. Furthermore, these technologically specific standards serve as a guide for proper technology integration with special emphasis being placed on what proficiency looks like when using different technological tools (O'Neil & Krause, 2019; Smith & Mader, 2016).

The ISTE standards for educational leaders include five different areas of concentration: (1) Equity and Citizenship Advocate; (2) Visionary Planner; (3) Empowering Learning; (4) Systems Designer; and (5) Connected Learning (ISTE Standards: Education Leaders, 2018). These standards are designed to provide guidance to educational leaders as they look to integrate technology tools, devices, and behaviors into their buildings.

Bucci et al. (2003) describe the ISTE educator standards as vital information necessary for successful teacher preparation in technology-literacy and effective integration of technology into the classroom. Several teacher preparation programs are utilizing the ISTE standards to revamp their teacher education programs to further the integration of technology in schools (Bucci et al., 2003). In fact, the ISTE Standards have been embedded in the Council for the Accreditation of Educator Preparation (CAEP) 2019 which establishes requirements to obtain and maintain accreditation for most teacher preparation programs in the United States (O'Neil & Krause, 2019). O'Neil and Krause (2019) agreed that "there has been an increased emphasis in supporting both teachers and students to maximize educational experiences through a digitally connected world" (p. 1289).

The 2007 ISTE standards for students focused on student behaviors such as creativity, innovation, communication, collaboration, and critical thinking (Smith & Mader, 2016). In 2016, the updated standards built on the 2007 information determined how technology amplifies learning. The ISTE Standards for students include seven themes that span all grade levels which include: (1) Empowered Learner; (2) Digital Citizen; (3) Knowledge Constructor; (4) Innovative Designer; (5) Computational Thinker; (6) Creative Communicator; and (7) Global Collaborator (ISTE Standards: Students, 2016).

For this study, a focus will be devoted to the standard of digital citizen. The ISTE Standard for Students labeled as Digital Citizen is similar to the ISTE standard for education leaders of equity and citizenship advocate. With the onset of social media and other digital platforms, the concept of digital citizenship and the ideas that surround the constructs are of utmost importance.

Digital Citizenship

The concept of citizenship originates from the time of both the Romans and early Greek democracies which are considered the basis of democracy for the world today (Saleem, 2018). Justice, equality, and impartiality are additional reasons citizenship has been linked to human history (Saleem, 2018). The International Encyclopedia defines citizenship as membership in a state or some unit of governance (Saleem, 2018). Saleem (2018) further defined citizenship as a word to express one's condition when determining an individual's legal and political situation in society. Other descriptors of citizenship include housing, membership, duties and tasks, and an ability to function with and provide for a group (Saleem, 2018). Citizenship can also be described as an individual who participates with, belongs to, and follows along with a group of individuals, laws, and customs (Saleem, 2018).

Digital citizenship is a way to incorporate the ideas of citizenship within a digital construct. More specifically, Saleem (2018) considers digital citizenship as thinking "about digital technologies and how to use them, employ them appropriately and responsibly to facilitate student participation in the broadest sense throughout the various activities in society" (p. 42). Furthermore, digital citizenship has become a hot topic among educators, researchers, and parents among others due to the increase in incidents involving cyberbullying, online harassment, and sexting (Kwan & Skoric, 2013; Phillips & Lee, 2019; Wolak et al., 2007).

Several definitions of digital citizenship exist. Digital citizenship has been defined as the norms of appropriate, responsible behavior in using technology (Phillips & Lee, 2019; Ribble, 2017). Common Sense Education, which provides resources for educators on the concept of digital citizenship, defines digital citizenship as "the ability to think critically, behave safely, and participate responsibly in a digital world" (Casa-Todd, 2018, p. 15). Digital citizens have also

been defined as those who use technology in the proper manner creating a model for behavior when using various digital environments (Isman & Gungoren, 2014; Kim & Choi, 2018; Ribble, 2011; Searson et al., 2015). Saleem (2018) described digital citizenship as "the preparation of students to use computer technology in an effective and appropriate way and how various technological programs can be used effectively" (p. 44).

Saleem (2018) further defined digital citizenship as "the group of rules and appropriate and responsible behaviors that should be followed in the digital world in order to optimize the use of technology and the internet" (p. 42). Simply put, digital citizenship describes how to deal with digital media technology and modern techniques in a way to build, develop, and focus on learning for all students (Saleem, 2018). Digital citizenship is also considered by many to be a group of ideas, principles, programs, and methods for all education stakeholders that serve as guidelines for those who have a need to use technology (Saleem, 2018). Digital citizenship could be considered a group of common norms followed by individuals to advance their standing in society (Saleem, 2018).

Digital citizenship is also a set of rules that define the proper criteria, controls, behaviors, and traditions when using technology to keep individuals safe from potential dangers (Saleem, 2018). Digital citizenship guidelines and rules help protect young people online; especially considering it is difficult to provide protection for everything they may encounter (Saleem 2018).

However, digital citizenship is not simply teaching the skills about the use of digital tools but includes the process of preparing students for life within the digital world (Kim & Choi, 2018). Ribble (2017) has broken down the concept of digital citizenship into nine distinct themes: (1) digital access; (2) digital commerce; (3) digital communication; (4) digital literacy; (5) digital etiquette; (6) digital law; (7) digital rights and responsibilities; (8) digital health and

wellness; and (9) digital security. Casa-Todd (2018) described the "necessity to educate students about navigating online spaces in creative, critical, healthy, and ethical ways in context rather than in isolation as a foundation for learning and connecting in our online world" (p. 15). Educating students about digital literacy is one more important factor of digital citizenship.

Kim and Choi (2018) stated ISTE has also established nine digital citizenship components which are applicable to both students and administrators:

> (1) equal rights and access for all; (2) treating others with respect in online environments; (3) no stealing or damaging others' digital work, identity, or property; (4) appropriate decisions when communicating through digital channels; (5) using digital tools to advance learning and keeping up with changing technologies; (6) responsible online purchasing decisions while protecting payment information; (7) upholding basic digital rights in digital forums; (8) protecting personal information from forces that might cause harm; and (9) limiting physical and psychological health risks of technology. (p. 157)

When the ISTE standards were revamped in 2016 in developing the current standards, several new descriptors and explanation strands were added to the standards to provide more guidance. The ISTE Standards for 2016 for students describe digital citizenship occurring when "students recognize the rights, responsibilities, and opportunities of living, learning, and working in an interconnected digital world, and they act and model in ways that are safe, legal, and ethical" (ISTE Standards: Students, 2016, p. 3). Furthermore, ISTE Standards: Students (2016) expects students to

> "(a) cultivate and manage their digital identity and reputation and be aware of the permanence of their actions in the digital world; (b) engage in positive, safe, legal, and ethical behavior when using technology, including social interactions online or when

> using networked devices; (c) demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property; and (d) manage their personal data to maintain digital privacy and security and be aware of data-collection technology used to track their navigation online." (p. 3)

The ISTE Standards for 2018 for education leaders describe the role of an equity and citizenship advocate as "leaders using technology to increase equity, inclusion, and digital citizenship practices" (ISTE Standards: Education Leaders, 2018, p. 7). Education leaders should

> "(a) ensure all students have skilled teachers who actively use technology to meet student learning needs; (b) ensure all students have access to the technology and connectivity necessary to participate in authentic and engaging learning opportunities; (c) model digital citizenship by critically evaluating online resources, engaging in civil discourse online and using digital tools to contribute to positive social change; and (d) cultivate responsible online behavior, including the safe, ethical, and legal use of technology." (ISTE Standards: Education Leaders, 2018, p. 7)

The current standards provide a guideline for digital citizenship within an online environment; however, there is still a need to maintain current and consistently updated materials on the topic (Phillips & Lee, 2019). Most notably, there is a lack of research available that specifically defines digital citizenship despite how much technology has infiltrated society (Atif & Chou, 2018). Young adults have been negatively impacted by the lack of general knowledge of digital citizenship by their adult counterparts, resulting in a panic response when trying to use new technological tools, devices, and software (Casa-Todd 2018; Jenkins et al., 2015). It is important that new standards or competencies be developed to assist in creating a comfortable

environment for youth as technology-based communication and social interactions become the norm (Phillips & Lee, 2019).

There are several potential dangers of life online. These dangers include but are not limited to cyberbullying, sexting, harmful contact, and threats. Several states have proposed and passed legislation that requires formal education showing students how to use technology effectively to maintain safety, privacy, health, and well-being (Gleason & von Gillern, 2018). These mandates have provided educators across all disciplines with reasons to engage their students in activities that promote civic engagement and digital citizenship (ISTE Standards: Students, 2016; Gleason & von Gillern, 2018). To address these issues, it is important to find ways to extend technological access to all individuals regardless of background. A good starting point would be in the areas of technology and digital rights (Saleem, 2018).

Managing Personal Data, Privacy, and Technology

Cell Phones (Definition and Characteristics)

People currently live in a world where individuals are expected to connect to their devices 24/7 (Vinayak & Malhotra, 2017). In 2011, 52% of zero- to eight-year-old children had access to a mobile device. This number increased to 75% by 2013 with data showing in the high 90% range in 2018 (Chassiakos et al., 2016, Lissak, 2018). Also in 2018, nearly 75% of families owned some type of mobile device (Lauricella et al., 2015; Lissak 2018). Jimenez-Morales et al. (2020) found "widespread use of technology among young students with 71.6% of girls and 68.2% of boys using a mobile device" (p. 20). Bartholomew and Reeve (2018) determined the overall excitement, support, and perceptions of using mobile devices appears to be positive. For this study, mobile devices are considered any device with which individuals can access the internet without the struggle of being tied down to a location. Mobile devices may include

smartphones, cell phones, laptop computers, Chromebooks, or any other device in which a physical cable is not needed to connect to the online world.

Pelleg et al. (2013) suggest smartphones, tablets, and other mobile devices are overtaking desktop personal computers in popularity, especially among young people. Emanuel (2013) found a growing number of students filling in their time between classes using their smartphone to text, talk, listen to music, play games, check financial documents, or use a variety of applications (apps) downloaded to their phone. Furthermore, Emanuel (2013) found safety, connecting with friends, work-related communication, entertainment, and tools to be the main reasons college students use their phones. Attenborough and Abbot (2018) learned the ownership of mobile devices had already eclipsed that of desktop personal computers by 2014 with Hischier and Wager (2015) concluding consumers were purchasing additional devices rather than simply replacing one device with another. Over the past several years, ownership of laptops, cell phones, and iPods have increased dramatically (Kee & Samsudin, 2014; Rideout et al., 2010). Oberst et al. (2017) concluded:

> smartphones and other handheld devices with permanent internet access have revolutionized the way online social interaction is performed, creating infinite online opportunities, mainly because technology allows users to access the internet and communicate with others whenever and wherever they desire. (p. 53)

While there are several types of mobile devices available for consumer purchase, this study will specifically focus on smartphones and cell phones due to their current popularity among young consumers. The terms smartphone and cell phone will be utilized interchangeably throughout this study. Furthermore, smartphone adoption among teenagers has increased significantly which allows easier access to the internet at any time (Kee & Samsudin, 2014;

Lenhart, 2013). Traditionally, cell phones were simply used to make phone calls and send or receive text messages while smartphones provide users with the ability to access the internet. With today's rapidly changing technological advancements, nearly all cell phones have the capability to access the internet, limiting the differences between the two devices. Cell phones today are not just about calling and texting but instead include the functionality to be a complete multimedia device with several capabilities (Grant et al., 2015; Lenhart et al., 2010).

Traxler (2016) noted that since smartphones give access to everyday activities and interactions, they have had a significant impact on society and culture in personal communication. In a United Kingdom study, 19-to 24-year-old students felt their cell phone was more important than television (Leung, 2017). Additionally, these devices provide users with the opportunity to connect with friends, family, colleagues, play games, entertain, educate, and research (Chotpitayasunondh & Douglas, 2016). Gezgin (2018) found smartphones have enabled individuals to communicate with one another and access information for well over a decade. Additionally, Emanuel (2013) found cell phone usage to increase when students are bored or when they need to gather information in a timely manner. While texting is typically the feature most often used by students with nearly 20 texts per day being sent from anywhere to between four to nine different people (Emanuel 2013), Korucu and Usta (2016) found individuals also use smartphones for social needs, local weather and forecasts, dependency, and simplification of life among other uses. Since much of the current research on this topic has been conducted on college-age students, there is a definite gap in the literature regarding research on secondary students and more specifically, those of middle-school age.

In the educational context, Grant et al. (2015) found that until now, the adoption of mobile devices in the K-12 setting has been slow because schools have policies in place that ban

the use of such devices (Grant et al., 2015; Katz, 2005; Lenhart, 2010; Project Tomorrow, 2012). School districts have viewed the devices as disruptive and non-educational in nature based on recurring issues in the classroom (Grant et al., 2015). Smetaniuk (2014) found problematic phone use does occur and should be taken seriously. Even though mobile devices have a tremendous potential in the classroom, most schools see these devices as a disruption that should be managed and possibly excluded from the learning environment (Lenhart et al., 2010; Grant et al., 2015). Grant et al. (2015) found 57% of middle schoolers and 55% of high schoolers reported the greatest obstacle to technology in the classroom was that students were not able to use their own device. Emanuel (2013) argued that cell phones are here to stay, and educators would be wise to implement policies and practices that enable students to utilize the technology in a safe and educational manner. Based on such varied perceptions, it is obvious that the issue must be discussed and addressed.

Although technology can be a distraction in the classroom, it has also been used as a tool to increase engagement and interaction (Gallegos & Nakashima, 2017). Integrating technology into the classroom meets students where they are and allows them to use a device with which they are comfortable (Emanuel 2013). Student participation and interest seems to increase in courses where technology was used when tied to a lecture or classroom activity (Kay & Lauricella, 2011; Witecki & Nonnecke, 2015). Stephens and Pantoja (2016) reported an increasing number of instructors have identified mobile devices as permeating the learning environment and becoming more commonplace in classrooms. In fact, “handheld devices support learning outside the classroom, twenty-four hours per day, seven days a week” (Swan et al., 2005, p. 99).

Mobile technology has been shown to make a profound impact on learning (Premadasa & Meegama, 2016). The use of these technologies has become a popular tool in schools across the globe, especially in the field of higher education (Brett, 2011; Premadasa & Meegama, 2016). Mobile devices, such as laptop computers, mobile phones, tablets, wearables, and similar devices have significantly influenced information access and usage (Bilos et al., 2017). Most young people today carry a device which allows them to play games, listen to music, connect to the internet, and watch videos (Kee & Samsudin, 2014). Rideout et al., (2010) found mobile devices have become one of the primary ways in which teenagers interact with and learn from each other, thus, quickly becoming a media delivery platform for youth. Furthermore, Bilos et al. (2017) determined mobile devices with social media and wireless connectivity allow for personalized learning opportunities for both teachers and students.

Walker (2013) determined that internet access anytime and anywhere provided a prevalent example of how mobile devices are used today. Additionally, Premadasa and Meegama (2016) found mobility and instant communication capabilities of mobile devices to be two of the most important factors affecting the learning process. Mobile devices that are constantly connected to the internet allow for interaction and collaboration and create opportunities for content creation and communication (Bilos et al., 2017; Gikas & Grant, 2013).

The popularity of smartphones and the fact that they have lessened in price over the past several years has quickly led to more time using them to access social media platforms (Gezgin et al., 2017). Today's smartphones also can take pictures, e-mail, connect to the internet, engage in text messaging, and include features such as a calendar, notepad, audio, video, alarm clock, and address book (Walker, 2013). Additionally, smartphone applications extend the functionality of the device for a variety of purposes (Walker, 2013).

Most smartphones also contain a notification feature that has unfortunately led to an increase in the habit of frequently checking the device for various updates (Gezgin et al., 2017; Oulasvirta et al., 2012). Today, there seems to be a stigma attached with not having a cell phone as they have become virtual extensions of their owners (Emanuel, 2013; Leung, 2017). Frustration, anger, and isolation are just a few of the feelings and emotions that students may experience when losing their phone or mobile device (Fox, 2006; Leung, 2017). Hence, the importance of the mobile phone is evident and paramount as the constant social connection has become the norm for many of today's youth (Lin et al., 2015).

Positive Uses of Cell Phones

Throughout the review of literature, several themes regarding the positive uses of cell phones come to light. The themes relevant to this research study include education and learning styles, access/connectivity, interactions, and portability. Each of these positive uses are described below.

Education and Learning Styles

Liu et al. (2014) identified multiple enabling modalities and defended mobile phone use in the classroom by pointing out several learning paths for differentiated learning. Support for language and content learning, differentiated instruction support, and more time for learning are also stated advantages (Bartholomew & Reeve, 2018; Liu et al., 2014). In addition, students feel a sense of "improved learning" from the use of mobile phones in the classroom (Bartholomew & Reeve, 2018, p. 52). Walker (2013) revealed clear evidence that students acquire benefits from the utilization of their devices and often find creative ways to incorporate device use into classroom assignments. Gallegos and Nakashima (2017) describe the use of mobile devices for educational purposes as significantly expanding innovative possibilities for student learning.

In one study, students had an overall favorable opinion of using cell phones in the classroom as evidenced by their enjoyment in class (Tessier, 2013). Cell phones help students with learning, improve student success, and were used as a tool for learning. Overall, Tessier (2013) found the use of cell phones in the classroom to be a positive experience for students. Cell phone technology also increases opportunities for learning because students are already familiar with the devices and use them for various communication needs (Cristol & Gimbert, 2014; Mupinga, 2018; Vali, 2015).

Access/Connectivity

Johnson et al. (2011) found one of the positive factors of smartphones to be the connectivity, or always-on capability, which allows for instant access of large amounts of information. Bartholomew and Reeve (2018) concluded, based on student responses, the access of information to be the chief advantage of the use of mobile phones in the classroom. Additionally, the mobile device provided opportunities to supplement classroom instruction, access a variety of learning tools, and to allow students to learn through a variety of mediums (Bartholomew & Reeve, 2018). Cell phones also provide an avenue for students to access data within the classroom (Prensky, 2005; Tessier, 2013). Tessier (2013) expanded that when given the choice, students routinely utilized their cell phones to find information for class which led to a greater enjoyment in the classroom.

Interactions

A key advantage of using mobile devices in the classroom is interactions with others through communication or the sharing of material. Liu et al. (2014) found the ease of creating and sharing artifacts an important tool when using the devices. Walker (2013) determined individuals can connect with teachers, other students, or subject experts with ease through the

connectivity of the phone. These connections help students increase student engagement and interest about a topic (Walker, 2013). Additionally, Gallegos and Nakashima (2017) summarized that a mobile device, when used in a structured and controlled manner, can promote student engagement, and increase active collaboration among students (Chen et al., 2010; Diemer et al., 2012). Kamibeppu and Sugiura (2005) found the use of cell phones creates wider, deeper, and better relationship-building with friends, and student engagement increases significantly when mobile technology is integrated into the classroom environment (Gezgin et al., 2017).

Furthermore, mobile technology in the classroom precipitates more timely feedback from instructors to students (Mupinga, 2018; Schiola, 2015; Vali, 2015). Additionally, cell phones in the classroom also provide students with a sense of safety, improve their time management skills, and allow them to keep in touch with friends and family (Aoki and Downes, 2003; Emanuel, 2013; Tessier 2013).

Portability

One key advantage of smartphones is that they can be carried by individuals at any time (Kee & Samsudin, 2014; Pegrum et al., 2013). Their small size allows for greater mobility and easier access, and they can access the internet anytime and anyplace (Brown, 2009; Walker, 2013). Hsu and Ching (2012) concluded users can take mobile devices anywhere they desire to complete necessary tasks and their portability and flexibility allows for maximizing time (Attenborough & Abbott, 2018). Positive advantages of cell phones include affordability, portability, usability, and accessibility.

Negative Uses of Cell Phones

Throughout the review of literature, several themes developed regarding the negative uses of cell phones. The information has been grouped into the following themes:

disruptions/distractions, inappropriate use, health, and academic dishonesty. Walker (2013) summarized the three key areas of concern as disruption, cheating, and inappropriate use. In a study conducted by Bartholomew and Reeve (2018), students identified distraction, cheating, and viewing inappropriate material as the three major negative uses of cell phones in the classroom/school setting. Each of these themes is described in more detail below.

Disruptions/Distractions

Alt (2015) found technology may disrupt and occupy students' time, leading to higher levels of student stress. In several instances, educators have found cell phones to be a problem because of the constant distractions students encounter while using them (Gilroy, 2004; Maddox, 2012; Project Tomorrow, 2010; Tessier 2013;). Student distractions and decreased student engagement have routinely been cited as clear negative uses of cell phones in the classroom (Alberta Education, 2012; Bartholomew & Reeve, 2018; Swan et al., 2005). Moreover, students have also self-reported that cell phones can be a distraction in the school setting (Stephens & Pantoja, 2016; Wurst et al., 2008). Emanuel (2013) concluded today's college students struggle to strike a balance between leisure and learning as they are constantly tied to their cell phone. In the digital age, it is difficult for students to prioritize between engaging in social interactions a cell phone provides and being academically productive (Emanuel, 2013; Head & Eisenberg, 2011).

Walker (2013) cited a report on mobile learning in Europe that indicated negative social attitudes identify mobile phones as disruptive devices. Additionally, unstructured laptop usage correlates with increased off-task use and reduced time spent on-task (Kay & Lauricella, 2011; Witecki & Nonnecke, 2015). This reinforces an earlier study by Fried (2008) showing that students using laptops were more distracted than those who did not, and consequently, students

had reported lower levels of understanding of class content. Kay and Lauricella (2011) reasoned that although technology can be used to enhance learning, when implemented in an unstructured way, it can have a negative impact on the learning process and encourage off-task behavior. Witecki and Nonnecke (2015) also discovered a negative correlation between smartphone use and student course engagement. Additionally, sleeping with phones, waking up to notifications, and feeling an urge to check messages right way in the morning all significantly led to problem behaviors regarding cell phone usage. (Akilli & Gezgin, 2016; Hato, 2013).

Additionally, instead of students spending time at the learning task required, Mupinga (2018) found that many students who view the cell phone as a distraction spend their time on social media, listening to music, and playing online games. Furthermore, students spent nearly 21 percent of class time using their digital device for non-class purposes (McCoy, 2016; Mupinga, 2018). In fact, according to Mupinga (2018) the cell phone can clearly be labeled as a distraction due to the numerous times individuals check their text messages and social media throughout the day.

Inappropriate Use

As one can deduce, there are several indicators of inappropriate use of a smartphone; as an example, “texting while driving” presents both inappropriate use and a potential safety hazard (Gezgin, 2018). Other examples of inappropriate use of the cell phone includes the potential for harassment (Lenhart et al., 2010), increased student disciplinary problems (Thomas & McGee, 2012), and cyberbullying (Walker, 2013). Walker (2013) found although there have been several cases of bullying through text messaging and social media, schools have been indecisive as to how these activities should be handled. Adding to the confusion, is whether it is a school issue if it happens off school property. While cyber-bullying is a concern, other issues include using the

phone to plan student-led absences from school such as calling in a bomb threat or potentially overloading phone lines during emergency situations (Maddox, 2012; Obringer & Coffey, 2007). The evolution of the cell phone to include photo and video capabilities demonstrates additional concerns about privacy and sexual harassment (Maddox, 2012; Obringer & Coffey, 2007).

The ISTE Standards for 2016 highlighted five specific concerns educators should consider when implementing mobile technology in the classroom (Huffman et al., 2019). These areas included (a) cyberbullying; (b) potential for public dissemination of information originally intended for a limited audience; (c) ease and speed with which digital materials can be shared; (d) risk of unethical use of archived materials; and (e) parental and student consent for recording classroom activities.

Health

Manual, spinal, and cervical health problems, psychological stress and depression, and poor sleep quality are negative health effects of cell phone usage (Gezgin, 2018). Gezgin's research indicates problematic and excessive use of smartphones can lead to an increase in psychological problems, especially among young people (Bianchi & Phillips, 2005; Biglu & Ghavami, 2016). Chotpitayasunondh and Douglas (2016) argued that despite the benefits of smartphones, concerns regarding their potential adverse effects on students' mental health, physical health, and quality of social interactions are significant issues. Katapally et al. (2018) found excess screen time in youth has been affiliated with poor health outcomes which include anxiety, depression, smoking, drunkenness, and drug use. These behaviors are directly associated with the increasing use of electronic and digital media which allow youth to constantly access social media (Katapally et al., 2018; Lenhart et al., 2010, Schurgin-O'Keefe & Clarke-Peterson, 2011). It is for many of these reasons that schools are implementing policies to restrict

smartphone use while school is in session. Additionally, students seem to be lacking soft skills, such as learning to hold and have conversations with one another due to the increased use of technology.

Academic Dishonesty

Increased cell phone usage in the classroom has the potential to lower academic achievement and increase the probability of cheating on assignments. Bartholomew and Reeve (2018) found that although there is a major push to place mobile devices into schools, placing them in classrooms may be detrimental to student achievement. Duncan et al. (2012) concluded "cell phone use is significantly correlated with reduced learning outcomes as students who reported no cell phone use earned significantly higher grades than those who used their phone during class" (p. 9). Consequently, school officials are becoming more and more concerned with the impact cell phones have on students' classroom work (Maddox, 2012, Obringer & Coffey, 2007).

There is also an increased potential for cheating as students may use their phones to store notes, text classmates, and take pictures of exams or other homework assignments (Maddox, 2012; Parmet, 2005). Vinayak and Malhotra (2017) determined that students who used their mobile phones during class were unable to concentrate fully on their studies which led to low academic performance. This lack of focus resulted in a negative relationship between students' mobile phone use and their studies.

Managing Digital Identity, Reputation, and Online Actions

Social Media (Definition and Characteristics)

Sociability is defined as a human's desire to socialize with others through mediated technologies when viewed through a technological sense (Junglas et al., 2013; Lin et al., 2015).

Social networking sites, or web-based virtual communities, allow individuals to meet their need for sociability through on online environment (Oberst et al., 2017). Social networking sites and services provide individuals with opportunities to communicate and share information (Cheung et al., 2011; Gezgin et al., 2017; Lin & Lu, 2011;). Social media is widely used to encompass the various computer network tools and technologies that enable people to use the social aspects of the internet to communicate and collaborate among users (Tezci & Icen, 2017). Furthermore, Tezci and Icen (2017) consider social media to be a tool for users to create content through social means and share what they have created through text, audio, and images within a community setting.

Social media, although rapidly changing, has origins as far back as 1969 when CompuServe was used as an online service (Banks, 2007). Its modern origination is noted closer to 1997 when the internet was created whereby individuals could create personal profiles and make friends with other people (Boyd & Ellison, 2007; Tezci & Icen, 2017). During the middle 2000s, upgrades to internet services allowed users to not only access information on the web but also participate in discussions around various topics (Bulu et al., 2016). Today, social media can be considered part of the fabric of American life with most Americans checking their accounts several times throughout the day (Abrams, 2019; Smith & Anderson, 2018). According to Massie and Folk (2019), the number of active social media users increased from 970 million in 2010 to 1.96 billion in 2015. With the number of individuals utilizing social media sites today, it is reasonable to assume that social media has become an essential technology tool for daily life (Gezgin et al., 2017; Yin et al., 2015). Nearly 73% of adult online users are on a social networking site, and 84 percent of adults aged 18-29 use Facebook; making it evident that social media has become one of the primary sources of communication today (Duggan & Smith, 2013;

Gezgin et al., 2017). Additionally, nearly 67% of people between the ages of 18-29 actively use social media (Aksoy, 2018). Specifically, to adolescents, Boer et al., (2020) found "in 2018, 45% of adolescents in the United States aged 13-17 reported being online almost constantly, while in 2015 this was 24%" (p. 853).

Han (2019) described social media as a factor in creating a society in which information sharing and communication are constant and instantaneous. Social media both amplifies and expands social capabilities (Mourlam, 2014; Shriky, 2003). In the modern sense, social media platforms include Twitter, Facebook, Instagram, Snapchat, Music.ly, YouTube, TikTok, and LinkedIn. Facebook, Twitter, Instagram, and Snapchat are some of the most popular (Casa-Todd, 2018; Huffman et al., 2019). Due to the high levels of use, these social media platforms are considered central forces in people's lives (Abrams, 2019) with use varying across age, socioeconomic status, digital access, and education levels (Han, 2019). Social media platforms intrigue those who are in neuroticism because it provides them the opportunity to receive feedback and reassurance from others in an environment that is not necessarily face-to-face. (Blackwell et al., 2017; Kandell, 1998).

Social media is a variety of web-based platforms that facilitate social connection and information sharing (Drouin et al., 2019) and provides affordances for connecting, networking, accessing resources, posing questions, and exchanging ideas (Dunlap & Lowenthal, 2009; Lemon, 2019; Nielson et al., 2013; Poore, 2012). Boateng and Amankwaa (2016) defined social media as any application that allows users to converse and interact with one another. It is simply an online space that allows people to connect, share, communicate, and establish or maintain connections with others for various purposes ('Tayo et al., 2019). Social media can also be characterized as a set of web-based applications that allow for the creation and exchange of

content that has been generated by various users (Kaplan & Haenlein, 2010; Szeto et al., 2016). ‘Tayo et al. (2019) also described social media as an online platform that allows people to build networks and relations with others who may have similar interests, backgrounds, and connections. Social media is simply the interaction among individuals in which information is created and shared and can be described as technology that facilitates social interaction, makes collaboration possible, and enables deliberation among people at the global level (‘Tayo et al., 2019).

Boyd and Ellison (2007) defined social media as internet-based services that allow individuals to construct public and semi-public profiles, articulate a list of other users with whom they share a connection, and traverse their list of connections and those made by others within the system. Ali et al. (2016) further described social media as a collection of applications which include Facebook, Twitter, WhatsApp, LinkedIn, and YouTube, that link people together through the information they share. This description was built upon an explanation offered by Junco et al. (2010) that social media is a collection of internet websites, services, and practices that support collaboration, community building, participation, and sharing. ‘Tayo et al. (2019) summarized social media as the platform that gives individuals an opportunity to interact to allow opinion sharing among users. Thus, social networking websites are virtual communities that allow people to connect and interact with one another (Gezgin et al., 2017; Murray & Waller, 2007). Aksoy (2018) also defines social media as an environment in which people come together to share data, relationships, and content using internet communication channels.

Social media applications can be considered a broad term that entails a variety of technology applications that may include blogs, microblogs, forums, dialogues, images, sounds, videos, networks, profiles, and other social networks (Aksoy, 2018; Eley & Tilley, 2009; Tezci

& Icen, 2017). Consequently, social media provides a platform for active communication between friends and allows for access to new information through new acquaintances (Alt, 2015; Burke et al., 2010; Lankshear & Knobel, 2011). Bulu et al. (2016) determined that social media users can share and distribute ideas, post news about relevant topics, and access and find information while using social media tools. Essentially, social media can be used for a variety of purposes through a variety of means. Social media has several uses; some of which may include staying up to date on the happenings of friends, learning about news and events, leisure time, entertainment, and sharing information with and about others (Aksoy, 2018; Bridgestock, 2016; WERSM, 2016). Some of these activities are positive; others are negative.

Additionally, Teczi and Icen (2017) determined that social media functions as web-based sites that allow social communication where users create their own online communities to share information with others. Lemon (2019) described the structure of social media and its common features as profiles, connections, sharing, and reciprocity that provide opportunities to transfer personal use to professional use within the learning context. Within the educational setting, Tezci and Icen (2017) believe social media allows interaction between teachers and students and creates materials that are easily shared among school stakeholders. Charoensukmongkol (2018) understands social media as a virtual community where people can unite with family and friends regardless of location.

The field of social media can be described as encompassing large social media trends influencing the establishment of both emotional connections and intimate relationships between individuals which has caused an increase in social media usage and has changed the way individuals relate with one another (Hand et al., 2013; Oh et al., 2014; Sherrell & Lambie, 2016, Sherrell & Lambie, 2018).

Of all age groups, the Pew Research Center (2016) indicates young adults appear to be the most prolific users of social media (Drouin et al., 2019). Alt (2015) described millennials as heavy users of social media relative to the general population. Students of this age use social media extensively for communication with peers, including other students in their classes (Ophus & Abbott, 2009; Subrahmanyam et al., 2008). Commenting on friends' pictures, commenting on friends' pages or walls, sending private messages, sending instant messages, buying items, obtaining news and current events, and sharing content are all reasons why individuals may spend time in an online environment (Kee & Samsudin, 2014). 'Tayo et al. (2019) found the advent of social media has significantly impacted students in both their academic and social lives and use it to make connections. In 'Tayo et al.'s (2019) study, undergraduate students were found to spend, on average, two to three hours per day on social media.

On the other end of the age continuum, more than half of preadolescents use social media despite being under the minimum age for having a social media account (Fardouly et al., 2018; Ofcom, 2017). Preadolescence is also a time of change and autonomy: physically, cognitively, and socially. Social media provides youth with a location to interact with others to determine what is normal and desirable (Brown & Larson, 2009; Eccles, 1999; Fardouly et al., 2018).

Massie and Folk (2019) found social media as a dynamic and growing field of study since it is increasingly being used in higher education (Dahlstrom & Bichsel, 2014) and has great potential for educational context (Blazer, 2012; Gulbahar et al., 2017). The ways to teach and learn have been dramatically affected by the growth of social media (Szeto et al., 2016). Conversely, as the student use of social media has increased, there has been a decrease in the number of teachers using social media platforms in the classroom (Dodson, 2019). Dodson (2019) found that by 2013, one in five teachers had integrated social media into their teaching.

By 2016, however, nearly 86 percent of K-12 teachers reported not having integrated social media into lessons and another 62% indicated they did not plan to do so (Chang, 2016; Dodson, 2019). While K-12 teachers had training regarding technology integration, nearly 62% had little to no training on how to communicate with parents and students on social media (Chang, 2016; Dodson, 2019).

Recently, Dobson and Jay (2020) found that children have become subject to highly visible representation across social contexts. Social media has quickly replaced e-mail and instant messaging as the go-to communication tool for teens (Garcia et al., 2013; Oberst et al. (2017). The sites allow young people the opportunity to construct their social identities (Oberst et al., 2016) through an ability to control profiles and express their desired self-presentation (Oberst et al., 2017).

Fardouly et al. (2018) summarized a growing body of research that suggests making more connections to others on social media may explain the link between spending more time browsing social media and body image concerns (Holland & Tiggemann, 2016) and depressive symptoms (Steers, 2016) among young adults and adolescents. Research has found the link between time spent on social media and life satisfaction to be inconclusive (Huang, 2017) but does suggest that making comparisons on social media is linked with life satisfaction among young adults over time (Fardouly et al., 2018; Frison & Eggermont, 2016).

Passive social media use, which involves browsing other people's social media content, has been linked to a decrease in well-being. However, active social media use, which includes posting content and interacting with others, may increase well-being (Fardouly et al., 2018; Lin et al., 2016) Individuals with low self-esteem find social networking sites appealing; nevertheless, their self-disclosures project more negativity than positivity which leads to

unfavorable responses from others (Forest & Wood, 2012; Smetaniuk, 2014). Additionally, social media use could lead to social media addiction, whereby one is unable to control one's social media use, eventually interfering with other life tasks (Blackwell et al., 2017; Ryan et al., 2014). Finally, Blackwell et al. (2017) found extroverted individuals are at a higher risk of addiction to social media because they crave social interaction.

Social Media Positives

Throughout the review of literature, several positive benefits of using social media were presented and described. Przybylski et al. (2013) determined social media provides a copious amount of information that allows for easy access to real-time information about activities, events, and conversations happening across diverse social networks. Social networking sites have become an essential technological tool for human life (Gezgin et al., 2017; Yin et al., 2015). The literature has been grouped into four distinct themes demonstrating positive uses for social media. These include (1) engagement/connectedness, (2) communication, (3) support, and (4) access to information. Each of these four themes are described in further detail.

Engagement/Connectedness

Sowash (2019) described social media and online groups as having the ability to offer collegiality, professional development, and community engagement through the constant collaboration of conversations, or in other words, always knowing that someone is available to discuss situations and issues as needed. Additionally, social media offers a perfect avenue for keeping students engaged with one another online (Sowash, 2019). Social media tools like Facebook, Myspace, Instagram, Google+, and others provide exciting learning and teaching tools that encourage teachers and students to make connections to ideas, skills, and concepts in a twenty-first century learning environment (Dodson, 2019).

Social media can also be used to promote the active participation of students in producing content which allows the activities to become powerful tools leading to engagement in content sharing and self-presentation on the internet (Charoensukmongkol, 2018; Lee & Ma, 2012) Additionally, social media is used to develop and maintain relationships with family and friends (Ariate et al., 2015; Charoensukmongkol, 2018). The use of social media improves students' learning opportunities, fosters collaboration, allows for communication, and enhances critical thinking (George & Dellasega, 2011; 'Tayo et al., 2019). Social media encourages students to interact with those that have a direct interest in their education; one another, their teachers, and larger school communities (Pardo, 2013; 'Tayo et al., 2019).

Communication

Mason (2019) discovered social media provides a voice to under-represented audiences where they can speak out on issues important to them with a wider group of people. For example, Twitter has provided an outlet for teachers to voice concerns that gives them a sense of agency that they may not have had before (Mason, 2019). Social media technology also offers new ways of disseminating information, especially among those difficult to reach (Abrams, 2019).

In a survey conducted by Dodson (2019), 96% of respondents agreed that social media is an effective and valuable tool when communicating with parents. Social media increases interactions, enhances communication, collaboration, participation, and allows for information sharing and discussion (Gulbahar et al., 2017). Additionally, organizing activities, communicating, and making plans all increased efficiency using social media (Gezgin et al., 2017).

Support

Social media has also been helpful to individuals who may be going through similar health conditions as the platform provides a way to communicate with one another regarding similar treatments and symptoms. Additionally, results of a study involving college students by Drouin et al. (2019) found social media to be a form of social support among friends. Social media has been shown to influence instructors, students, and other stakeholders to unite with one another to promote knowledge construction in the educational process (Boateng & Amankwaa, 2016; 'Tayo et al., 2019).

Social media also provides an outlet in which one can listen and share thoughts, emotions, and opinions (Alexander, 2014; Hans, 2019). Some social media users generate crowdsourcing to gather more information and create social cohesiveness to gain support (Alexander, 2014; Han, 2019). Social media promotes satisfaction of an individual's need to belong in a technologically dominated society (Oberst et al., 2017), and social media helps to promote social capital and facilitate knowledge sharing among users (Charoensukmongkol, 2018; Ellison et al., 2007; Nielson, 2016).

Access to Information

Social media enables users to access information and education-related materials (Talaue et al., 2018; 'Tayo et al., 2019). Among several uses, 'Tayo et al. (2019) found major social media uses to be for socialization, information, and academic purposes. In addition to being an avenue to generate research data, social networking also has been found to help educators tap into a culture of sharing to engage in different practices, teaching strategies, educational issues, and technologies (Alexander, 2014; Crane, 2012; Han, 2019; Lemon, 2019).

Social Media Negatives

Using social media sites has both negative and positive effects because of the various ways the internet can be used (Subrahmanyam & Patricia, 2008; 'Tayo et al., 2019). Unfortunately, since adolescents can access social media on their smartphones at anytime and anywhere, it is much more difficult for parents to monitor their children's activities (Fardouly et al., 2018). Lemon (2019) determined that social media use raises risks for consideration. Accessing appropriate content, online harassment, and cyberbullying are a few of the negative effects of social media ('Tayo et al., 2019). Additional negative risks associated with social media include a reduction in face-to-face communication and personal interaction, time spent with friends and family, loss of time, and taking away from daily chores (Bulu et al., 2016; Storm & Storm, 2004).

Health/Wellness

Social media has had negative effects on the well-being of individuals (Abrams, 2019; Richards et al., 2015; Shakya & Christakis, 2017; Sidani et al., 2016). Extensive social media use can negatively affect psychological outcomes including one's overall well-being (Alabi, 2013, Alavi et al., 2011; Alt, 2015). Facebook use over time was associated with declines in self-reported physical and mental health (Abrams, 2019; Shakya & Christakis, 2017). Furthermore, inappropriate use of social media can negatively affect people's physical and psychological health (Bright et al., 2015; Charoensukmongkol, 2018). Charoensukmongkol (2018) found interpersonal relationship deterioration and social isolation present in those who used social media extensively. Moreover, burnout and lower job performance were also concerning (Brooks & Califf, 2016; Nongpong & Charoensukmongkul, 2016; Tang et al., 2016).

Additionally, social media use also signified an increased risk of anorexia by promoting thin ideals and facilitating access to communities of people involved in anorexic behaviors (Abrams, 2019; Sidani et al., 2016). A research study conducted with adolescent girls in Australia found that spending more time on social media was associated with more body image concerns (Tiggeman & Slater, 2014) and greater depressive symptoms (Fardouly et al., 2018; Tiggeman & Slater, 2015). Typically, users of social media make upward comparisons, which can negatively influence body image and mood (Fardouly et al., 2017; Fardouly et al., 2018). Charoensukmongkol (2018) also determined that teenagers who obsessively engage in self-presentation on social media could be more susceptible to psychological stress and narcissism (Chua & Chang, 2016; Fox & Moreland, 2015).

Exposure to too much content that friends post on social media can lead to envy among individuals as they compare themselves to one another (Charoensukmongkol, 2018; Chou & Edge, 2012). Teenagers exposed to the life events of others posted on social media leads to engagement of social comparisons which may cause them to feel envious of what is being seen in friends' posts (Charoensukmongkol, 2018; Tandoc et al., 2015). Finally, Abrams (2019) also found social media platforms aid people in the acquisition of illegal drugs.

Drouin et al. (2019) cited several authors that described potential health risks when using social media. Social media usage was negatively related to the overall amount of social support individuals perceive themselves to have (Colak & Duggan, 2016) and was related to depression (McDougall et al., 2016). Social media also has a negative causal effect on mood (Sagioglou & Greitemeyer, 2014), especially when negative comparisons are made (de Vries & Kuhne, 2015) or individuals do not receive the social support they seek (Frison & Eggermont, 2015). Drouin et al. (2019) also determined that social media can cause stress, especially for students who already

exhibit high levels of depression and anxiety. Nesi and Prinstein (2015) summarized several research studies implying that social media sites are associated with depressive symptoms (van den Eijnden et al., 2008), short-term declines in subjective well-being (Kross et al., 2013), romantic jealousy (Muise et al., 2009), and the belief that others are happier and living better lives than oneself (Chou & Edge, 2012).

Inappropriate Use

School officials struggle at times to determine when and how to intervene when students and teachers use social media in negative, inappropriate, and confrontational manners, especially when these events occur off school property and/or during the summer months (Camera, 2016; Dodson, 2019). Drouin et al. (2019) found that those who use social media may be subject to victimization (i.e., being teased, being ignored, or having negative remarks posted about them online) (Cole et al., 2017). ‘Tayo et al. (2019) found some students have engaged in negative use such as sexting, hacking, fraud, and scams. Furthermore, students sometimes use social media to post embarrassing, humiliating, and hurtful contents in text, photos, and videos (Fodeman & Monroe, 2009; ‘Tayo et al., 2019). Cyberbullying increased among students as a direct result of their increased usage of social media (Lenhart et al., 2015; ‘Tayo et al., 2019). Cyberbullying, internet, and game addiction are all unintended consequences of too much time spent on social media (Bulu et al., 2016; Spada, 2014). Unfortunately, many young individuals lack the knowledge and maturity to properly use information online and instead use social media in ways that are detrimental to their future (Casa-Todd, 2018; Losh & Jenkins, 2012).

Educational Issues

Social media may get a bad reputation in the educational field because of the argument between First Amendment rights and the challenges that exist in the school building which

causes many difficulties for schools (Ahn et al., 2011; Dodson, 2019). Dodson (2019) reviewed the issue of telling teachers not to respond to posts they see online and reminding teachers not to take what they read and see personally.

Study habits are also affected by social media. Time spent by students on social media negatively affects their time spent studying in general (Junco & Cotton, 2012; 'Tayo et al., 2019). A study by Owusu-Acheaw and Larson (2015) concluded that the use of social media had affected students' academic progress as most students used social media for chatting rather than for academic reasons. Furthermore, Oberst et al. (2017) cited several studies that linked an association between time spent on social media and lower grade point averages (Kirschner & Karpinski, 2010), less connection to peers (Barker, 2009), lower self-esteem (Kalpidou et al., 2011), and higher depression (Lin et al., 2016).

Overuse

Most students spend too much valuable time on social media platforms (Pempek et al., 2009; 'Tayo et al., 2019). Rideout (2012) revealed that young people spend nearly double the amount of time on social media as they do in school each year. Unfortunately, students become so involved in social media activities that they become addicted to the medium ('Tayo et al., 2019). 'Tayo et al. (2019) found internet addiction and distraction to be major influences on undergraduate students. In some instances, addiction to social media can squander an individual's time that could be used for other tasks ('Tayo et al., 2019) and can serve as a point of frustration in an individual's life (Christakis & Moreno, 2009). Addiction issues notwithstanding, the sharing of personal information on social media can also lead to privacy and security risks (Charoensukmongkol, 2018; Tsay-Vogel et al., 2016).

‘Tayo et al. (2019) found excessive use of social media takes time from students and directs them toward non-constructive, unethical, deceptive, and improper activities. Students have been found to utilize social media to pass the time and for other purposes that distract them from academic engagement (‘Tayo et al., 2019). Texting is a primary off-task behavior of students during class (Stephens & Pantoja, 2016; Watulak, 2010). The need to constantly be in contact with someone can drive students’ off-task behaviors. Mobile communication is used by young people to remain in contact with social networks causing mobile dependency (Lin et al., 2015; Rice & Hagan, 2010). In effect, social monitoring may lead to the emergence of compulsive checking behaviors, and excessive engagement in social media may lead to negative psychological consequences (Oberst et al., 2017). While social media is unlikely to go away anytime soon, it is important for students to understand how this technology can be utilized in a meaningful way through positive, safe, legal, and ethical behaviors.

Engaging in Positive, Safe, Legal, and Ethical Behavior through Social Interactions

Fear of Missing Out (Definition and Characteristics)

Przybylski et al. (2013) define FoMO as “a pervasive apprehension that others might be having rewarding experiences from which one is absent and a desire to stay continually connected with what others are doing” (p. 1841). In more general terms, it is a continuous fear that other people are having fun without one’s presence, or it is the fear that others have and/or are having experiences that one is not but one wishes he/she was a part of (Blackwell et al., 2017; Gezgin et al., 2017). FoMO simply describes the feelings of someone who just cannot say no to being online, even though he/she may already have enough to do (Hanlon, 2016). Furthermore, anxiety about relationships may increase when people fear social exclusion

(Blackwell et al., 2017). This anxiety can lead to an impulsive urge to use the internet and social networking sites when offline (Buglass et al., 2017)

Elhai et al. (2016) described FoMO as a reluctance to miss important information which results in the need to stay frequently connected to social networks. FoMO relates to a strong need to stay online, receive messages, and passively or actively participate in social media activities (Buglass et al., 2017). Tomczyk and Selmanagic-Lizde (2018) further state that in addition to staying continuously connected, FoMO may present an impulsive desire to participate in online games and surf other types of websites or web pages.

Chotpitayasunondh and Douglas (2016) also describe FoMO as the fears, worries, and anxieties people have in relation to being in or out of touch with events, experiences, and conversations taking place without them. FoMO can debilitate individuals by arousing their insecurities which leads to an overuse of the smartphone (Carbonell et al., 2013; Chotpitayasunondh & Douglas, 2016). Need satisfaction, life satisfaction, and mood are all affected by the anxiety being felt when someone fears he/she is being left out of something (Chotpitayasunondh & Douglas, 2016; Przybylski et al., 2013).

Gezgin et al. (2017) reasoned that with the increase in the number of technological tools available for use with real-time interactions occurring as they never have before, FoMO has increased. Alt (2015) further explained FoMO plays an essential role in the explanation of social media engagement. As individuals become more connected to social networking sites, FoMO increases. Described by Buglass et al. (2016) as the "psychological state in which people become anxious that others within their social spheres are leading a more interesting and socially desirable life" (p. 248). A study by Watulak (2010) determined a student's need to be constantly in contact with his/her social network results in off-task behaviors in the learning environment

such as using the device or searching social media websites during instruction. Hato (2013) found FoMO as a reason for individuals to constantly check smartphones to follow the actions of other individuals or groups. FoMO also fuels the importance of awareness of the most up-to-date news, social happenings, and social events (Gezgin et al., 2017).

Nearly three-quarters of young people have reported they experienced FoMO at some point in their lives (Adams et al., 2017; Alt, 2015). Przybylski et al. (2013) developed a scale which determines varying levels of FoMO elicited by individuals. They also determined that individuals with high FoMO tend to use social media sites and smartphones more often than those who have what is considered low FoMO. Gezgin (2018) summarized the works of several researchers indicating high FoMO tends to increase the usage rates of social media for young people which leads to problematic smartphone use.

FoMO can be used as a descriptor to explain why individuals may need to frequently scan for updates and constantly engage in social media which may occur in situations including driving a car, participating in lessons, or being present in conversations (Alt, 2005; Chotpitayasunondh & Douglas, 2016; Oberst et al., 2016; Przybylski et al. 2013; Turkle, 2011). Oberst et al. (2016) argues FoMO plays a major role in maladaptive phone use and potential negative consequences for adolescents. Chotpitayasunondh and Douglas (2017) concluded that FoMO was a predictor of smartphone addiction.

Increased social media and smartphone use are characteristics of FoMO with individuals continually engaged in activities that compel individuals to maintain a constant connection. Individuals with high FoMO typically overuse their smartphones to meet their satisfaction needs. Gezgin et al. (2017) believe the reason behind the urge to follow people is linked to the FoMO.

Vanden Abeele and van Rooji (2016) agree that FoMO has a significant impact on the problematic use of social media, and it is important to understand the impact on today's youth.

In response, Gezgin et al. (2017) recommended spending more time on real-time social activities, such as jogging, trekking, or other sports activities and having more discussions on current affairs with colleagues, friends, and family to avoid high levels of FoMO. Consequences of FoMO, such as sleeping disorders in children and young persons, lack of academic motivation, and passivism in classrooms can occur if not managed properly (Gezgin et al., 2017). Adams et al. (2017) suggest FoMO can be so strong that it often leads to a lack of boundaries and can cause students to excessively wait on other's opinions, actions, and even potential actions that delay sleep to engage in social behavior or waiting for socializing to happen.

User Behavior, Motivation, and Addiction

Addiction can be defined "as the continuous use of something for the sake of relief, comfort, or stimulation, which often causes cravings when it is absent" (Vinayak & Malhotra, 2017, p. 1102). Individuals may be considered addicted to their smartphone or social media sites when they begin to exhibit actions that demonstrate dependency. A few of these actions may include heavy use, withdrawal from others, or loss of interest in activities they once deemed desirable (Vinayak & Malhotra, 2017).

Hooper and Zhou (2011) classify user behavior into six categories: (1) addictive; (2) compulsive; (3) habitual; (4) dependent; (5) mandatory; and (6) voluntary. These categories provide a greater understanding and broaden the definition of what addiction can be and is. Technological addictions are a subset of behavioral addictions (Griffiths, 1998; Vinayak & Malhotra, 2017). Griffiths (2000) concluded excessive mobile phone use includes preoccupation, mood modification, tolerance, withdrawal, conflict, and relapse. Gezgin et al. (2017) suggested

that negative changes in behavior are present with smartphone and social media overuse. Youth with little to no life satisfaction struggle with behavior changes and frequently check the profiles of groups, friends, and family with whom they are connected (Gezgin et al., 2017; Hato, 2013).

Leung (2017) pointed out that technological addictions involving excessive human-machine interactions develop when people rely on the device to provide psychological benefits. Technological addictions as behavior addictions involve man-machine interaction and are characterized as either passive or active (Griffiths, 2000; Smetaniuk, 2014). A few characteristics of internet addiction include a variety of activities such as non-stop thinking about the online environment, struggling with self-control, and displaying a lack of interest in activities involving loved ones. Internet addiction can also be characterized as dependence on the internet through psychological means (Chou et al., 2005; Ellis et al., 2015). Excessive use of the mobile phone to obtain pleasurable outcomes does lead to addiction (Charlton, 2002; Leung, 2017; Orford, 2001) Furthermore, Ellis et al. (2015) estimate that internet addiction affects at least one in eight Americans. Internet addiction can be linked to the FoMO (Gezgin et al., 2017; Kandell, 1998).

Smartphone addiction is a major issue pertinent to smartphone use. Gezgin (2018) defines smartphone addiction as "a negative and pathological concept that is evaluated through a system of subjective, behavioral, physiological symptoms such as preoccupation, loss of control, and even withdrawal symptoms" (p. 167). More and more people have become problematic smartphone users which has caused concern about the overuse of the device; and much like the internet has, in some cases, led to addiction (Chotpitayasunondh & Douglas, 2016). Furthermore, Gezgin (2018) determined that the increasing use of social media sites coupled with the need to constantly check mobile devices can be considered a predictor of smartphone addiction. Unfortunately, "smartphone addiction is spreading among young people and is triggered by

using social networking sites" (Gezgin, 2018, p. 174). Chotpitayasunondh and Douglas (2016) determined that problematic smartphone behavior is related to internet addiction with similar consequences from both.

Vinayak and Malhotra (2017) feel society's addiction to smartphones has changed the way humans interact with one another and has significantly altered the way people communicate. Leung (2017) stated that mobile phone usage can both directly and indirectly affect many aspects of human relationships and human interactions. Gezgin (2018) reasoned that smartphones are convenient ways for individuals to access social media sites due to their portability and continuous connectivity. Social networking sites trigger excessive and uncontrollable use which can lead to smartphone addiction and dependency in young individuals (Jeong et al., 2016).

Health issues, which are prevalent among those addicted to video games and the Internet, have begun to surface with those who overuse their smartphone devices (Beranuy et al., 2009; Chotpitayasunondh & Douglas, 2016; Lee et al., 2015). Signs that point to addiction in young people include lack of attention and aggressive tendencies with behavioral problems such as nervousness, undesirable temperaments, and mental distraction displayed by those who overuse smartphones (Chotpitayasunondh & Douglas, 2016; Davey & Davey, 2014; Park & Park, 2014). Chotpitayasunondh and Douglas (2016) found "problematic smartphone use to be associated with withdrawal, intolerance, compulsive behavior, and functional impairment" (p. 10). Interpersonal relationship problems, an inability to form trusting relationships, interference with other social activities, and compulsive smartphone checking also are characteristics of inappropriate use (Chotpitayasunondh & Douglas, 2016). Finally, intrinsic, extrinsic, and amotivation may provide a lens into the addictive tendencies exhibited by an individual.

Intrinsic Motivation

Intrinsic motivation originates in an individual's innate desire to explore and understand the world around him or her (Deci & Ryan, 1985; Ryan & Deci, 2017). Stephens and Pantoja (2016) found a person's actions to be more intrinsically motivated when he/she acts in a self-determined fashion. Komiyama and McMorris, (2017) found intrinsic motivation "to be independent from one's desires to engage in activities because of societal values and expectations; thus, it is fundamentally different from extrinsic motivation" (p. 62). Intrinsic motivation can be labeled as state-like or trait-like as determined by Goldman et al. (2017). While Christophel (1990) described state motivation as a situational construct that refers to the effort put toward a task or content area at any given time, Richmond (1990) defined trait motivation as a relatively stable construct that refers to the overall drive students have toward studying and learning in general.

In the realm of education, students are said to be intrinsically motivated when they engage in activities for the pure sense of enjoyment (Komiyama & McMorris, 2017). Intrinsically motivated students engage in proactive learning behaviors due to the pleasure and satisfaction they receive from completing the task (Vallerand et al., 1992). Reeve (2002) determined student attitudes, communication behaviors, and success are products of a student's intrinsic motivation to learn. Furthermore, Ryan and Deci (2000a) reasoned that when individuals are intrinsically motivated, they participate in activities that are interesting to them, and in doing so, they learn, develop, and expand their capabilities.

A significant amount of research has been conducted to understand and promote conditions which increase a student's intrinsic motivation in the classroom. Researchers define academic motivation as an intentional behavior to engage in actions that allow an individual to

achieve their desired academic outcomes (Deci et al., 1991). Goldman et al. (2017) found intrinsically motivated students were able to flourish across academic settings in comparison to extrinsically and non-motivated students. Ryan and Connell (1989) identified that students with higher levels of intrinsic motivation are likely to enjoy learning and show more positive emotions in class than students who feel their learning is regulated by external forces. Goldman et al. (2017) summarized that intrinsically motivated students demonstrate greater academic achievement in the classroom. Miserandino, 1996 stated intrinsically motivated students demonstrate higher college retention rates. Students who are extrinsically motivated typically show less success in remaining in college (Vallerand et al., 1997).

To better understand how the different types of motivation affect an individual, it is important to go into more depth about what they mean. The different types of motivation may better explain why the FoMO affects individuals in different ways. Intrinsic and extrinsic motivation concepts may also explain the differences in social media/smartphone use by individuals.

Extrinsic Motivation

While self-determined actions are internally regulated, it is possible for external factors to drive motivation (Stephens & Pantoja, 2016). “Extrinsic motivation occurs when other people or stimuli, external to the object of study, provide the motivational push” (Stephens & Pantoja, 2016, p. 465). Ryan and Deci (2000b) refer to extrinsic motivation as the performance of an activity to attain some separable outcome. For example, positive social behavior in the classroom setting is rewarded with candy, no homework, or extra recess time. Stephens and Pantoja (2016) found the approval of others to feel a sense of self-worth is a key component of being extrinsically motivated.

Ryan and Deci (2017) determined there are four types of extrinsic motivation: external, introjected, identified, and integrated. External regulation can be described as motivated by course requirements, earning rewards, or avoiding punishment. Introjected regulation and identified regulation are similar in that individuals participate in activities because of the values associated with those activities. However, in introjected regulation, it is important for activities to be assimilated into the individual's own value and belief systems, rather than something influenced by the environment (Komiyama & McMorris, 2017). Komiyama and McMorris (2017) found "integrated regulation to be the most internalized form of extrinsic motivation because individuals engage in activities based upon the values associated with those activities" (p. 62).

Amotivation

The concept of amotivation is represented by the lack of intention that drives intrinsic and extrinsic motivation (Komiyama & McMorris, 2017). Vallerand et al. (1992) defined amotivation as a lack of motivation or the feeling that an individual's behaviors are controlled solely by external forces. Gagne and Deci (2005) describe amotivation as displaying no intentions for behavior and being oblivious to why one is doing what they are doing. Ryan and Deci (2017) further describe amotivation as a lack of competence, control, value, and a resistance toward being controlled.

Today's students have a heightened sense of insecurity and unease, especially if someone is not responding to their messages in a timely manner. Individuals who feel ignored by friends often experience a great amount of anxiety (Kamibeppu & Sugiura, 2005). The effects of this anxiety can also lead to poor grades because too much time is spent on online activities (Chou et

al., 2005; Ellis et al., 2015). The term nomophobia is defined as the anxiety individuals get when they cannot find their phone, run out of battery, or have no network coverage (Mupinga, 2018).

Legal and Ethical Issues

Maddox (2012) found most school districts across the United States maintain written policies regarding the use of cell phones. Some of these policies prohibit students from using technology devices such as smartphones at school during specified times; other districts ban phones from the school building entirely (Maddox, 2012). As a way of maintaining order, policies typically involve confiscation of a cell phone for a specified period of time by a teacher or administrator for an infraction or violation of policy (Maddox, 2012).

Unfortunately, policies on cell phone use are mainly punitive in nature with little emphasis being placed on educating students on more appropriate use of the device. Schools have a difficult time finding a place during the school day to incorporate digital citizenship and proper smartphone/social media use curriculum. Several schools have begun to provide guest speakers or presenters to discuss the dangers of improper use, but many of these activities are one-time presentations with little expansion or follow-through of the concepts.

Maddox (2012) explained the Supreme Court of the United States has given schools a wide range of latitude to maintain order and discipline in schools as this is a goal of compulsory education. This allows wide discretion for school officials in setting regulations and enforcing disciplinary consequences (Maddox, 2012). While Diamentes (2018) agrees “schools are allowed to make rules to control student behavior, and to control disruptions, it is noteworthy that schools do not have absolute control and unlimited power” to do whatever they please from a disciplinary standpoint (p. 404). Schools should establish policies that are grounded in research and reasoning as a one-size-fits-all approach may not be appropriate for all situations.

Kim and Choi (2018) described ethics and etiquette applied to technology as "acknowledging the rights of others and taking responsibility for one's own actions which also includes protecting intellectual property rights and refraining from cyberbullying online" (p. 156). Kim and Choi (2018) summarized several research studies describing the promotion of ethical consciousness from the lack of cyber-bullying, etiquette, and sense of responsibility that respects the rights of others and the individual (Jones, 2014; Nation et al., 2003). Gereluk (2017) explains the importance of suitable and accountable conduct in cyberspace as being an important dimension of ethics. The lack of training and preparation for stakeholders on appropriate use and etiquette for social media and cyberbullying is a concern (Ribble & Miller, 2013).

COVID-19 Pandemic

The COVID-19 Pandemic of 2020 reshaped the way students were educated. Many schools shut the doors for in-person learning in the spring of 2020 which required some form of online learning. Remote learning was a relatively new concept for school districts and the students they served. Most students saw an increase in the amount of time they were expected to be online to communicate with teachers and their classmates. It remains to be seen if the emphasis on remote learning led to a greater sense of FoMO, but it is likely an increase in social media and smartphone use was witnessed as students were unable to physically interact with their peers.

Rural Education and Technology Usage

Arnold et al. (2007) determined the definition of rural can reference several attributes including "population density, geographic features, and level of economic and industrial development" (p. III). The wide-open spaces of the Midwest provide a comfortable living arrangement for those who choose to reside there. The low population density, lack of traffic,

and slow pace of life is a benefit for many. Students who once dreamed of leaving their small town for the big city often find their way back to the rural areas to raise their own families and continue family traditions. For all the benefits of rural areas, there are certainly drawbacks as well. For instance, small towns in rural areas typically lack the conveniences of their big city counterparts. Small towns in rural areas may or may not have a grocery store, doctor office, gas station, or other common amenities that urban areas may take for granted.

Schools located in rural communities are very much the same as their communities. Arnold et al. (2007) described the difficulty in setting educational policy due to the differences in how institutions define rural. Financial resources are limited due to the lack of students and/or the number of families available to draw a tax base from. Rural schools many times struggle with teacher retention as the lack of desirable amenities in these communities deter educators from relocating or staying for very long. Additionally, "Congress has acknowledged that rural districts need additional support in meeting achievement requirements" (Arnold et al., 2007, p. 3). The availability of technology in these schools and small towns also leaves more to be desired.

The onset of the COVID-19 Pandemic created an environment within rural education whereby technology use seemed more commonplace than ever before (Wargo & Simmons, 2021). However, challenges still persist in creating equitable technology experiences for rural students. Wargo & Simmons (2021) found "despite the federal E-Rate program, which allocates billions to telecommunications entities, many rural schools still do not meet the Federal Communications Commission connectivity goals" (p. 35). Rural schools, which are spread out and miles away from urban areas, typically lack conveniences and technology access.

Over the past several decades, state and federal dollars have been distributed through various programs and initiatives to lessen the gap in technology between rural and urban areas.

The lack of appropriate and adequate infrastructure continues to hinder the progress in providing a level playing field for rural education schools in comparison to their urban education centers. Wargo & Simmons (2021) argue "there is a need for future research to explore power dynamics and issues of equity associated with rural schooling instead of merely pointing out what rural schools do not have compared to their non-rural counterparts" (p. 42).

Technology has led us to a more global society where individuals can connect with one another in an instant regardless of where they are located. Technology devices and programs also allow students to connect with others who may have the same interests which, unfortunately, is sometimes a drawback of rural areas. However, Arnold et al. (2007) found diversity in rural America continues to grow. Wargo & Simmons (2021) felt as "learners everywhere face global and local challenges, scholars can and must assist rural practitioners, policymakers, and advocates toward making informed decisions about technology in ways that benefit rural learners and communities" (p. 43).

Summary

The literature reviewed includes a rich and thorough presentation of the positives, negatives, and uses of smartphones and social media in the educational setting as well as the value of understanding digital citizenship responsibilities. However, despite this knowledge, there is still a disconnect present between effective and proper use of the technology by students. While students and administrators may understand the background, positives, and negatives; school personnel are still witnessing inappropriate use by students as it relates to the expectations outlined in the digital citizenship standards. The literature reveals a clear lack of research in digital citizenship understanding by middle school students. Middle school students are the youngest legal users of smartphones and social media sites which makes the examination of

smartphone and social media use, the portrayal of the FoMO, and how the goals of digital citizenship as outlined in the ISTE standards, might contribute to responsible online behavior. In addition, the perceptions of school principals who provide guidance and structure to define practice in action at the middle school level add depth in understanding the needs and motivation of middle-aged students. Therefore, this research study aims to gather the perceptions of selected middle school students and their respective principals about social media/smartphone use and how the FoMO affects digital citizenship practices. These discussions are critical as the online journey of middle school students informs educational planning in implementing the goals of the ISTE standards and in reviewing implications for curriculum, policy, and training as preventative measures in promoting responsible online use.

Chapter three will discuss the methods the researcher employed to gather perceptions of both middle school students and building principals. Focus group sessions and individual interviews will provide the data to develop themes on how both groups are affected by digital citizenship, smartphone usage, social media, and the FoMO.

Chapter 3 - Methodology

The purpose of this study was to determine the perceptions of middle school students and principals of smartphone and social media use in relation to the FoMO and the concept of digital citizenship. The results of this study will serve to inform leaders about educational curriculum planning, innovative technology tools, and reviewing policies and procedures for implementing technology. In addition, a central aim of the study is to provide data that highlights increased responsibilities of digitally informed students at the middle level and themes that describe productive digital citizen behaviors when using smartphones and social media. The perceptions of middle school students and principals are important to better understand the needs and motivation of students to instill digital citizenship expectations, responsible use, and enriched understanding for students. This study was a qualitative research study with focus group sessions and individual interviews of middle school students and a focus group for principals.

Bhattacharya (2017) defines methodology "as the blueprint, design, or master plan of the study" (p. 6). Qualitative research methods were best suited for the questions posed in this study as it has the best potential to gather the ideas, perceptions, insights, and experiences of the participants. According to Creswell (2007), qualitative research is often used because there might be an issue or concern that warrants further exploration. It is important that a need has been established that may lead to the study of a group in which variables can be explored and measured. Denzin and Lincoln (2005) describe qualitative research as practices that can change the world through the collection of varied types of data gathered within a natural setting. Creswell (2007) defines qualitative research as "beginning with assumptions, a worldview, the possible use of a theoretical lens, and the study of research problems inquiring into the meaning individuals or groups ascribe to a social or human problem" (p. 37).

Qualitative research is typically conducted in the natural setting of those being studied to uncover patterns and themes in the data being analyzed. This allows the researcher to make predictions as to why events occur as they may (Creswell, 2007). These predictions further consider the knowledge of the researcher, why the information is valued, and the methods used to accomplish the task (Creswell, 2003). Qualitative research may best be described as a process of gathering data through interviews, document analysis, and observing participants (Aksoy, 2018, Creswell, 2013, Glesne, 2010). Qualitative methodology allows a researcher to focus on the thoughts, feelings, and emotions of participants in the context of their environment (Adams et al., 2017; Strauss & Corbin, 1998).

There are several attributes within qualitative research that help to differentiate it from quantitative research. These differences include a natural setting, the researcher as a key instrument, the collection of multiple data sources, inductive data analysis, and interpretive inquiry. Utilization of these research techniques allow the researcher to gain a deeper understanding about the topic in question (Creswell, 2007). Qualitative research is typically used when a researcher desires to allow individuals to share their stories to better understand the setting and context of the participants in examining a current problem or issue (Creswell, 2007).

Research Paradigm

Simply stated, a paradigm is a set of beliefs that guide how procedures are done (Guba, 1990). Each paradigm in qualitative research is dependent on the beliefs the researcher brings to the study (Creswell, 2007). Multiple research paradigms can be used based upon their compatibility with one another, although, most researchers pick only one research paradigm to limit confusion (Denzin & Lincoln, 2005).

This research study utilized the social constructivism paradigm with the goal of the research to rely, to the fullest extent and as much as possible, on the participants' views of the situation. In a social constructivism paradigm, Creswell (2007) describes the questions as being broad and general which allows participants to construct their own meaning of the situation. This is often done through discussions and interactions with others. In a qualitative study, the posing of open-ended questions allows the researcher to listen to and observe the interactions of the participants as they answer and respond to probing questions based upon their own knowledge of the topic. In this way, the researcher can better understand those being researched by focusing on how they understand and interact with the issue at hand (Creswell, 2007). Additionally, researchers fully immerse themselves into the research setting, making comparisons between their own backgrounds and understandings with those involved in the research (Creswell, 2007). The goal of the researcher in social constructivism is to make interpretations of how others view the world (Creswell, 2007). Social constructivism is best characterized as individuals seeking an understanding of the world in which they live and work. Researchers form their understanding of how things exist through their interactions with others.

Research Questions

This research study contained one overarching research question and two sub-questions that provided the framework for investigation and exploration.

- How do students perceive the use of cell/smartphones, social media, and technology use as defined in the digital citizenship standard in ISTE?
    - What impact does the fear of missing out (FoMO) have on digital citizenship practices?

- What positive/negative digital citizenship characteristics are exhibited by middle-school aged children?

Research Design

Creswell (2007) describes the qualitative research design process "that begins with philosophical assumptions that the inquirers make in deciding to undertake a qualitative study" (p. 15). The backgrounds, thoughts, opinions, and ideas of the researcher lead to a well-rounded qualitative study (Creswell, 2007). My background as a school administrator and parent of middle school students provided a perspective that allowed relatedness to the students and principals participating in this research study.

Creswell (2007) argues that "there is no agreed upon structure for how to design a qualitative study" (p. 41). Bhattacharya (2017) agrees that there is more than one way to design and construct a qualitative study. The design of this study was focused on the psychologist Moustakas' (1994) approach to phenomenological research. The Moustakas approach adds structure to analyzing the data which is helpful for inexperienced researchers (Creswell,2007). It has been determined that the research problem on the FoMO in the context of digital citizenship expectations was best examined utilizing a phenomenological approach because it was imperative to understand several individuals' common and shared experiences of this topic. By gaining a better understanding of shared experiences, the researcher developed an understanding of the perceptions of selected middle school students in three rural Mid-western schools and their principals to inform current school practices in leading technology-based innovations.

According to Bhattacharya (2017), "the overarching question asked in phenomenology focuses on the meaning, structure, and essence of the lived experiences of a phenomenon for a person or group of people" (p. 98). The goal was not necessarily to study the phenomenon but

instead the essence of the experience of the phenomenon. Data was collected from individuals who have experienced the phenomenon of smartphone and social media use, the FoMO, and ideals around digital citizenship expectations and practices. Data included transcripts from focus group sessions, transcripts from in-depth interviews, and field notes from observations during the sessions. Interview sessions and focus group sessions were conducted using a virtual platform (Zoom) and recorded. For this research project, the best method to obtain data and information about student and principal perceptions of digital citizenship and the FoMO was through the phenomenology lens and process of focus groups and interviews.

Defining the Phenomena

Creswell (2007) defines a phenomenological research study as the "meaning for several individuals of their lived experiences of a concept or a phenomenon" (p. 57). The focus is on describing what all participants have in common as they experience a phenomenon. Bhattacharya (2017) describes phenomenological studies "as having deep philosophical roots that inform specific methodological procedures and require participants to reflect on their experiences in sufficient detail as part of experiencing a phenomenon" (p. 27). Qualitative researchers identify a phenomenon, otherwise known as an object of human experience. For this research study, the phenomenon of research was the smartphone and social media use of middle-school students and the concept of the FoMO within the digital citizenship standard framework. The researcher collected data from those who have experienced the FoMO, on their understanding of digital citizenship, and general use of cell/smartphones and social media to develop a composite description of the experience of all participants.

Creswell (2007) reasons "phenomenology provides a deep understanding of a phenomenon as experienced by several individuals and understanding the common experiences

can be valuable for several social groups" (p. 62). Further, Bhattacharya (2017) reasoned that a phenomenology research study is used to determine what a shared experience means to the participants to make correlations and predictions as to how the experience may affect others.

Bhattacharya (2017) found the following to be true of phenomenology. Phenomenology "accounts for people's understanding of their lived experience of a phenomenon; focuses on lived experiences of a phenomenon; questions the meaning made of the phenomenon being experienced, and essence of the shared experiences of the phenomenon" (p. 64). When a researcher seeks to better understand the lived experiences of study participants, the focus is clearly a major goal and tenet of phenomenological studies (Bhattacharya, 2017).

Creswell (2007) indicated hermeneutic phenomenology and psychological phenomenology as two separate approaches to phenomenological research. In van Manen's (1990) research, hermeneutic phenomenology is characterized "as research oriented toward lived experiences and interpreting texts of life" (p. 4). Van Manen (1990) describes phenomenological research as not necessarily a set of rules but instead interactions among activities. These activities involve the researcher first turning to a phenomenology that is of interest to them to the reflection of essential themes or what constitutes the nature of the lived experience. A description of the phenomenon is provided with a strong relation to the topic of inquiry. Phenomenology is seen as an interpretive process in which the researcher undertakes an analysis of the told expressions of research participants.

Moustakas (1994) describes psychological phenomenology as "focused less on the interpretations of the researcher and more on a description of the experience of the participants." It is important for the researcher to gain a fresh perspective of the phenomenon being researched by blocking out their own predispositions (Creswell, 2007). This research study contained facets

of both hermeneutic and psychological phenomenology as the researcher made connections between the experiences of the participants and interpreting those meanings with real-life experiences.

Unit of Analysis

The unit of analysis for this study consisted of selected students who were currently enrolled at the middle school level and their respective school principals. For this study, middle school was defined as students in seventh and eighth grades. Students of these grade levels are typically twelve to fourteen years old. Middle school students were selected because this developmental time presents great change in maturity, independence, responsibility, and opportunity. While students as young as second grade now have smartphones, middle school students begin to realize that the functionality of the smartphone provides them with wide ranges of usage. In fact, several social media policies prohibit users from creating an account until they reach middle-school age. Many students will have their first exposure to social media, text messaging, and searching the Internet without guidance once they reach middle school.

Over the past decade, students have been using technology tools at a younger age. Unfortunately, students utilize this technology with little knowledge of proper digital citizenship practices. By the time more formal instruction occurs in middle school, some students have already been searching and posting online for several years. It is important for students to understand the possible ramifications of improper technology and social media use. Providing students with an opportunity to share their ideas about digital citizenship assisted the researcher in establishing a knowledge base of where students are and what they still must learn. This knowledge base helped to address the gap in literature around middle level students and the posed research questions.

As middle school students become more independent, the ramifications of FoMO become real. Students use smartphone and social media to stay connected with others. However, middle school students are known to push the boundaries within their own households and the loss of the smartphone and its social media privileges is a widely used and popular discipline technique. Without these devices, middle school students may experience a disconnect from friends that may be difficult to overcome. Unfortunately, many students have not had any proper training about what a positive digital citizen is and how they should behave while online or using a device. While the digital citizenship standards provide basic rules that all users should follow in an online environment, a lack of awareness of these standards leads to a disconnect between what is and what is not appropriate.

As discussion occurred throughout the focus group sessions and interviews, the perceptions of students about FoMO and digital citizenship helped lay the foundation for future growth and instruction. Additionally, discussing these issues with middle school students helped lead to productive guidelines and procedures that could be put in place prior to students reaching high school. The earlier students understand the importance of their decisions, the more likely it is that they will be sheltered from making inappropriate decisions that could harm them in the future. Employment, scholarships, and academic ambitions can all be affected by poor choices made by young students lacking in digital citizenship knowledge and unstructured and uninformed use of social media and smartphones. The better educated students are at an earlier age, the better chance they have of making positive choices regarding technology usage.

Limitations

The most anticipated obstacle for this study were the ramifications of the COVID-19 Pandemic that affected the entire world. Beginning in the fall of 2019, the COVID-19 illness

began infecting countries in Asia and quickly spread to the United States. By March 2020, major areas of the United States began witnessing significant case numbers forcing the closure of school buildings. School districts across the nation quickly transitioned to some form of remote learning or shut down learning altogether. In many instances, students were out of the physical school building for six months or longer.

The COVID-19 Pandemic continued to affect schools during the 2020-2021 school year and into the 2021-22 school year. While some districts resumed normal operations, others shifted to remote learning or a hybrid learning model. Even districts that returned to normal operations, initiated policies that significantly changed the public education experience. Mask mandates, social distancing, cancelling of field trips, and even limitations in who could visit school buildings became the new normal. In March 2020, the schools in this study closed for the remainder of the school year due to state mandate. However, unlike many schools, the schools in this study returned to in-person learning the fall of 2020 and remained in-person throughout the pandemic.

The COVID-19 Pandemic shifted this study as the researcher experienced an inability to enter the physical school building and meet with students face-to-face due to the ever-changing landscape of health mandates. In anticipation of restrictions, an online meeting platform through Zoom was used to conduct focus groups and interviews. This was an unfortunate development as much can be observed in a face-to-face setting through body language and mannerisms.

A second obstacle was the willingness of students to participate and administrators, school boards, and parents allowing the research study to occur. Some students were not willing to share their perceptions of a digital world, and others may not have felt the most comfortable answering questions that might have intruded into their personal preferences when using an

online environment. The COVID-19 Pandemic may have restricted access to students as administrators and school boards set policies and procedures that did not allow these types of interactions. In addition, because the researcher was also a building principal, student participants may have been more reluctant in their responses. The selection of more outgoing students from the focus group sessions for student interviews may have also denied an opportunity for those not as outgoing to provide their input in a more individualized setting.

A third obstacle was the assumption that the physical isolation caused by the COVID-19 Pandemic led to an increased influence and higher levels of use of social media and smartphones due to increased communication supported by mandatory isolation and focused use of technological tools. Students who had not been in school had not had the opportunity to learn about digital citizenship practices and may have experienced greater than average opportunities of the FoMO. If the participants did not have a clear understanding of these concepts or, contrary to what might be expected, had not experienced the phenomenon, it was difficult to forge a common understanding among participants. Further, Bhattacharya (2017) determined that in a phenomenology research study, a researcher "may never get to one single essence; cultural critique may be missing and the focus on one phenomenon may not always be present. The existence of multiple essences may also be present" (p. 65).

Participant Recruitment, Setting, and Selection

A pilot study was conducted by the researcher with three students prior to the main research study being conducted to gather information on the focus group and interview questions. Willis and National Center for Health Statistics (1994) proposes the idea of a cognitive lab which allows a small group of students to answer the focus group and interview questions to think out loud and explain how they are processing the questions. During this pilot

study, the researcher made note of any observations and issues. While the answers to the questions were not of importance, student input on the experience was important as it allowed the researcher to make any adjustments or changes to the process and questions. The consent form for the pilot students was collected from the parents and consenting students prior to the cognitive lab and was adapted from the parent and student consent forms found in the appendices.

Participants for this research study were recruited from three small, rural schools in the Midwest. Each school is classified as a division one or division two school based upon the state's activities association classification of schools. Division one and division two schools typically have high school (grades 9-12) enrollments of between 25 and 100 students. Small, rural schools were chosen based upon the researcher's familiarity with the size and similar characteristics of students. The researcher has fifteen years of experience in small, rural schools and has a firm understanding of the characteristics that make these schools unique from much larger educational settings. Rural schools are typically slower to adapt to trends than their urban counterparts due to the proximity and availability of resources and lack of cultural diversity. Additionally, rural schools, which may be isolated from many of the urban conveniences, often-times lack resources present in much larger schools. As data was analyzed, the researcher was better able to make determinations, recommendations, and generalizations from these similar perspectives. Table 3.1 provides a timeline for the research study.

Table 3.1. Research Timeline

Timeframe	**Activity**	**Location**
Week 1	Pilot Questions with Students	Researcher's Site
Week 1	Consent Letters/Informational Meeting	Site One Site Two Site Three
Week 2	Conduct Focus Group Sessions	Site One

	Approximately one hour each	Site Two Site Three
Week 3-4	Conduct Interviews Conduct Principal Focus Groups	Site One Site Two Site Three
Week 5-8	Transcribe and Analyze Data	
Week 9-12	Write Chapters 4 and 5	

Methodology Process

Three rural Midwest pre-school through twelfth grade schools were chosen for this study. The building principals at each location requested permission from the school superintendent for their building to participate in the research study and returned a signed consent form indicating permission had been granted (see Appendix A). The researcher labeled each of the schools as Site A, Site B, and Site C. The building principal of each school site also provided a consent to participate in one focus group session with the researcher. The consent outlined the study and their responsibilities (see Appendix B). Research commenced following approval by the Kansas State University Institutional Review Board (IRB).

The building principals provided a count of students in his/her respective middle schools. The researcher provided student and parent consent forms for every middle school student in each of the three schools. Through the consent process, each parent had the opportunity to review the details of the research study and provide consent for the focus group and, if selected, an interview. A student signature was also required for participation. The researcher provided the schools with enough copies of the parent permission letter (see Appendix C) and the student permission letter (see Appendix D) for every middle school student in each respective school. The forms were delivered to each school by the researcher and were handed out to each middle school student by school personnel.

Each set of consent forms were placed in an envelope for the students in seventh and eighth grade to return. After approximately one week, the researcher picked up the permission packets from a designated school personnel contact from the parents and students who returned forms and consented to the research study. While no school had 100 percent consent participation, there were enough consent forms to reach the five to seven threshold per site for the study. Site A had thirteen returned consents, Site B returned five consents, and Site C returned nine consents. A random draw was conducted by the researcher to narrow Site A and Site C to seven participants. Each consent was placed face down and mixed up with the researcher selecting seven participants through a random draw. The researcher ensured all consent forms were signed and completed for the five to seven students randomly selected for the research study.

The research study began with an informational meeting held with the selected students and the researcher. This allowed the researcher an opportunity to meet the students, explain the process, and answer questions from the students. The first focus group Zoom session was set up with Site A and initially contained seven students. At the beginning of the focus group session, one participant lost internet connection and dropped from the study. The remaining six participants took part in the focus group session following the focus group protocols provided in Appendix E. Zoom focus group sessions were then set-up and conducted with Site B and Site C. The five students from Site B and the seven students from Site C, who all consented to the research study, did participate in the Zoom sessions. Each focus group lasted approximately 45 minutes. During each focus group, the researcher asked a question and then allowed the middle school participants to expand and share their own experiences and ideas. The researcher monitored responses and participation to ensure all individuals had an opportunity to share their

ideas. All Zoom sessions were recorded through the Zoom recording feature which provided a data source for transcription. Each of the three focus group sessions were transcribed with individuals identified by a code (i.e., Student A, Student B).

The Zoom recordings were reviewed and transcribed using a word processing document for each of the three student focus group sessions. Each transcript was printed and briefly edited to correct any spelling mistakes. Original thoughts and sentence stems were retained to provide an accurate reflection of the students' responses. Each recording was reviewed a second time to ensure the accuracy of the transcripts. The recording feature of Zoom also helped with note taking and allowed the researcher to view body language and mannerisms of participants during data analysis. The notes and background information taken during the focus group sessions were used to fine-tune the interview protocol questions. Consequently, the interview sessions allowed the researcher to go more in-depth into areas that required additional clarification.

For the student one-on-one interview sessions, the researcher selected two individuals from each school to participate using the Zoom virtual platform. Participant selection was the researcher's choice based upon two factors. The first factor was the willingness of individuals to participate in a follow-up interview. Factor two involved how outgoing individuals involved in the focus group sessions were. The researcher selected students who were more vocal in the focus groups to participate in the interviews due to their age as middle school students and comfort with answering questions. The researcher felt there was a better opportunity to gather richer data from those who already demonstrated a willingness to share within the focus group setting. For Site A and Site B, the decision on who to ask to participate was clear cut. Both school sites had students that were willing to answer questions and provided significant information during the Zoom sessions. Site C had one student who met all criteria. The second

student at Site C came across as shy or possibly not wanting to elaborate on his/her responses but did participate in the interview. The students selected did expand upon the information they provided in the focus group sessions. It was possible that the role of the researcher as a building principal may have influenced the willingness of participants to share more information. It is also worth considering that an alternate approach to interview selection may have provided a different perspective from students. For instance, the individual interviews may have provided a voice for those students who were not as outgoing during the focus group sessions.

The purpose of the interview process was for the interviewees to dig deeper and elaborate on ideas discussed during the focus groups but also to provide insight on the phenomenon posed in the research questions on a more personal level. The interview process began with Site A. Students were placed in an office, one at a time, and participated in an interview with the researcher through Zoom (see Appendix F). Site C was completed next with students participating individually from their school library. Finally, Site B involved two students participating individually from a classroom. All six Zoom interview sessions were recorded through the Zoom recording feature. At the conclusion of the interviews, all six recordings were viewed and transcribed by the researcher. Each of the student interview transcripts were transcribed into a word processing document with individuals identified by a code (i.e., Student A, Student B). Following the initial transcription, the recorded interviews were reviewed again to ensure accuracy of the transcripts.

As the focus group and interview process concluded with middle school students, the principal Zoom session was scheduled. The purpose of the principal focus group session was to gather their perceptions about similar issues explored during the student focus group sessions and interviews. Each principal participated in the focus group Zoom session from their individual

school offices. The principal focus group protocols were followed, and each principal was observed to be very willing to answer and elaborate on the questions (see Appendix G). The Zoom session was recorded through the Zoom recording feature. At the conclusion of the principal focus group session, the researcher viewed the Zoom recording and transcribed the conversation into a word processing document. Once the transcript had been completed, the researcher reviewed the Zoom recording once more to ensure accuracy.

Once all transcripts had been created and printed, the researcher began the coding process to breakdown the data to develop themes. The coding process began with phase one coding through a priori followed by the In Vivo coding process to assist in disseminating the data. Additionally, code mapping was also used to reach the final categories or themes of importance.

Data Analysis

Qualitative interviews are simply conversations and interactions between the person asking questions (interviewer) and those being asked the questions (interviewee) (Bhattacharya, 2017). Interviews can be characterized in several ways which may include formal, semi-structured, in-depth, open-ended, informal open-ended, or natural questions (Bhattacharya, 2017).

According to Creswell (2007) researchers of a phenomenological study "go through the data, which would include interview transcripts, field notes, etc., and highlight significant statements, sentences, or quotes, that provide a better understanding of how individuals experienced the phenomenon" (p. 61). Once the data has been sifted through, the researcher is able to develop similar areas of meaning which become themes (Creswell, 2007). These themes and significant statements become important data sources of consideration when descriptions are written to illustrate the experiences of the participants (Creswell, 2007). Once the data has been

coded and reviewed for themes, the researcher is able to create descriptions that connect the phenomenon with the experiences of the participants (Creswell, 2007). A table including the focus group and interview questions aligned with the research questions and theoretical framework has been provided (see Appendix H). The data was organized using the following four areas: digital citizenship, interconnected digital platform usage, social media, and the FoMO. The researcher used a FoMO quantitative scale survey developed by Przybylski et al. (2013) to formulate some of the protocol questions. An example of questions adapted from the quantitative survey (Przybylski et al., 2013) include:

> "1. I fear others have more rewarding experiences than me."
>
> "2. I fear my friends have more rewarding experiences than me."
>
> "3. I get worried when I find out my friends are having fun without me."
>
> "4. I get anxious when I don't know what my friends are up to."
>
> "5. It is important that I understand my friends' "in jokes.""
>
> "6. Sometimes, I wonder if I spend too much time keeping up with what is going on."
>
> "7. It bothers me when I miss an opportunity to meet up with friends."
>
> "8. When I have a good time, it is important for me to share the details online."
>
> "9. When I miss out on a planned get-together, it bothers me."
>
> "10. When I go on vacation, I continue to keep tabs on what my friends are doing." (p. 1847)

Furthermore, the researcher relied on best practice described by Creswell (2007) to develop the focus group and interview protocols. The ISTE Standards for students and leaders (2018) in digital citizenship also served as a reference for developing the survey questions.

Creswell (2007) states that focus groups are “advantageous when the interactions among interviewees will yield the best information, when interviewees are similar and cooperative with one another, and when time is limited, and when individuals interviewed one-on-one may be hesitant to answer questions” (p. 133). One drawback of focus groups is the opportunity for one or two individuals to take over the conservation, not allowing others a chance to speak. However, effective focus groups are those in which the participant is not afraid to share their views and express their opinions (Creswell, 2007).

The analysis of the student focus group, student interviews, and principal focus group generated meaningful transcripts allowing the researcher to code data to determine consistent themes in relation to the research questions. Similarities and differences were noted amongst the data from the three primary data sources. Data between the student focus group sessions, student interviews, and principal focus groups was ultimately compared using the four categories of digital citizenship, interconnected digital platform use, social media, and FoMO.

It was the goal of the researcher to share findings from the students and principals related to the central research questions of the study through an examination of the data, identifying differences and similarities, and developing themes reflective of participant group responses. Bhattacharya (2017) defines data analysis as “the process that allows for deep insights that reflect how the researcher integrated theoretical and analytical frameworks, previous understanding of literature, and the focus of the research purpose and questions” (p. 149-150). Inductive analysis was utilized to interpret the data from the research study. Bhattacharya (2017) describes inductive analysis as the process of looking through data and presenting it in a way that identifies patterns or themes.

Once the data collection from the student focus groups, student individual interviews, and principal focus group concluded, the researcher developed a coding process to disseminate the information and develop themes. Through coding, themes were established. The themes were applied to the research questions and theoretical frameworks along with comparison to the focus group responses and interviews designed to gather more in-depth information.

Creswell (2007) describes the process of data analysis in a qualitative study as organizing the data into themes through a coding process, narrowing down what the codes are, and then displaying the data through discussion, charts, or graphs. The raw data containing focus group and interview transcripts was analyzed and categorized through a first phase a priori coding process using codes developed from the research questions, a second phase In Vivo coding process, and assistance with the process of code mapping. Saldaña (2016) states that a priori coding provides a temporary outline of codes enabling a researcher to analyze data focused on research goals and questions. A priori coding allowed the researcher to build on the depth of the literature review and protocol organization in the initial analysis of the data. Having a sense of how the data might be represented, provided a provisional structure for the data.

The InVivo coding process was utilized to decipher the patterns emerging from the transcripts. Creswell (2007) defines the coding process as "describing, classifying, and interpreting qualitative data to develop codes or categories for the purposes of sorting text and/or visual images" (p. 152). The coding process from the student and principal focus group sessions and the one-on-one interviews with selected students were compared for similarities and differences. Through this coding process, the raw data was categorized around the four topics of digital citizenship, interconnected digital platform usage, social media, and FoMO. The categories and their relationship to the topics of interest led to the development of five themes

derived from the data to offer insight into the proposed research questions. The process of data analysis followed Creswell's (2007) guidance for analyzing data within a phenomenological research study whereby data was be organized, read through, described, classified to develop significant themes, interpreted as to how the phenomenon was experienced, and finally, presented in a clear and concise narrative. The researcher will present findings and provide implications and recommendations based upon these findings offered by the research study participants.

Subjectivity Statement

Bhattacharya (2017) finds it "imperative for qualitative researchers to be transparent regarding their values, beliefs, and assumptions with which they operate and how such things interact and inform their studies" (p.36). As a PreK-12 principal, the researcher has witnessed firsthand the impact of smartphones and social media on students both positively and negatively. The researcher is of the belief that further instruction is necessary to teach students the positive and negative influence of smartphones and social media. Students need more instruction in digital citizenship to ensure they are making appropriate choices while online. However, simply telling students about the positive and negative impact is not enough. Follow-up activities and active learning experiences should be at the forefront of any educational program to let students know how important the topic is to them individually. Based on the experience of the researcher, students sometimes fail to realize that the choices they make online at a young age can have detrimental effects on future career and academic opportunities.

Trustworthiness

Creswell (2007) reasons that "regardless of the approach of qualitative inquiry, the researcher faces many ethical issues that occur during data collection and in the analysis and

dissemination of qualitative reports" (p. 141). Schools are bound to federal laws such as the Family Educational Rights and Privacy Act (FERPA) and Individual with Disabilities Education Act (IDEA) which may have had a significant impact on this study. Student confidentiality was of the utmost importance. To ensure responses remained confidential, student names were changed, and identifiable information was altered or rephrased when necessary. The researcher made special note of these changes. This process allowed the middle school students and principals an opportunity to speak openly and freely on the issues of smartphone and social media use.

Additionally, the researcher looked to build trust with each participant by sharing the importance of this study and providing significant background information as to why the study was important to middle school students. To help accomplish this, the researcher met with the potential students prior to the focus group. A welcoming environment, where students could share their thoughts, concerns, feelings, and ideas was created. Prior to participation, the researcher obtained parental consent and student permission for the study. Parents and school administrators were also fully aware of the questions being asked and the process being followed for the research study. A short biography of the researcher along with the purpose of the study was provided to parents and school administrators in the information/consent letter. The researcher also extended an opportunity to the principals to review the preliminary findings, developed into themes, to ensure accuracy of the interpretation of the researcher in the data collection process.

Trustworthiness in this study was enhanced in three ways. First, the narrative account of the research process in this manuscript constitutes a data audit trail that the empirical journey in detail. Second, member checking was conducted through sharing the research results with the

building principals to ensure accuracy of data. Finally, peer debriefing was conducted with a retired English teacher who provided guidance and feedback to the researcher and offered suggestions based upon her interpretation of the data.

Carlson (2010) describes trustworthiness as "how much trust can be given that the researcher did everything possible to ensure that data was appropriately and ethically collected, analyzed, and reported" (p. 1103). Creswell (2007) recommends that qualitative researchers should partake in at least two separate validation strategies to demonstrate a sense of transparency and trustworthiness to accurately represent the data. The researcher conducted the strategies of a data audit trail, member-checking, and peer debrief to ensure trustworthiness of data and maintain credibility of the research study according to this standard.

Throughout this study, the researcher created a data audit trail of all documents to ensure accuracy, reliability, and validity of the data. Carlson (2010) describes an audit trail as "keeping careful documentation of all components of the study" (p. 1103). The data audit trail is revealed in the research steps presented in this manuscript to allow a clear understanding of the research process and outcomes. The data audit trail is a transparent account of the decisions and thinking of the researcher guiding data collection and development of the findings. For this study, all consent forms, focus group notes, interview notes, focus group video recordings, interview video recordings, and communications among participants were securely saved to allow opportunity for the data to be reviewed or accessed for clarification or further understanding. Data was stored on a password protected computer, accessible to only the researcher. All data will be maintained by the researcher for a period of three to five years after the publishing of this study.

Saldaña (2016) describes member checking as a process in which the researcher "consults the participants themselves during analysis as a way to validate the findings" (p. 38). Creswell

(2007) also describes member-checking as an opportunity to "solicit participants' views of the credibility of the findings and interpretations" (p. 208). This process "involves taking data, analyses, interpretations, and conclusions back to the participants so they can judge the accuracy and credibility of the account" (Creswell, 2007, p. 208). Ultimately, the process of member checking allows the researcher to gather the opinions of the participants to ensure an accurate representation of the data. Prior to starting the individual student interviews, the researcher reviewed summarized focus group data with each individual interviewee as he/she had participated in his/her respective focus group sessions. This provided the interviewer an opportunity to refresh the participant on previously shared material and allowed the participant to fix any potential misconceptions. At the conclusion of each interview, the researcher also reviewed student responses and asked clarifying questions as necessary to ensure accuracy. Student participants were also provided an opportunity to ask any clarifying questions or update their responses if they felt it was necessary. Member checking of the findings for the entire group of students who participated in the focus groups and later those who participated in the interview process was not conducted due to confidentiality reasons as directed by the IRB process.

At the conclusion of the principal focus group session, the researcher asked for clarification and received feedback and input about principal responses. As the researcher began coding data, information was shared with the principal participants about the main themes as they began to emerge. As the researcher shared some of this information, the principal participants were intrigued by the connections being made and the meaningfulness of the data to inform practice. Principals were also given the opportunity to review interpretations and final themes from the research study.

A third process, known as peer debrief, was conducted to assist in the trustworthiness of data. Creswell (2007) defines peer debriefing as "an external check of the research process" (p. 208). Peer debriefing allows for an outside entity to review the data, ask questions, and provide feedback on items to think about while disseminating the results of the study. Hail et al. (2011) described working with a disinterested peer who they define as "someone who's not an immediate stakeholder in the outcome of a project, but who is a knowledgeable source on the topic" (p. 74). The process of a peer debrief was conducted through discussions with a retired high school English teacher who has had some experience with the topics contained in this study through her former position. Through discussions, the peer debriefer was asked to review the various codes and offer feedback on connections between the codes and themes that developed. The peer debrief process allowed for a reflective opportunity for the researcher as the peer asked several "did you think of this" or "have you considered that" type questions. The peer debriefer was asked to offer a comparison and contrast with the participant data from students and principals in the research study. As the peer debriefer read through the codes and potential themes, she offered suggestions about how to refine and define various concepts that resulted from the data. One area noted by the peer debriefer was that of mental health. Initially, the researcher had not considered mental health factors resulting from interconnected digital platform usage. Through this process, the peer debriefer identified this as an important topic to emphasize and further explore. Ultimately, student wellness related to social media use became a valuable recommendation.

Summary

Best practice of digital citizenship for middle school students and the subsequent phenomena of FoMO caused by an increase of interconnected digital platform and social media

usage was of particular interest to the researcher due to the prevalence of these issues within schools. To gain more information about how digital citizenship, FoMO, and interconnected digital platform use and social media affects middle school students, it was important to gather perceptual data from middle school students and their principals to add to the literature in this area.

The use of focus groups and interviews provided the best opportunity to gather the most meaningful data. Focus group sessions allowed participants to respond in a group setting for ease of response and to allow the responses of all participants to guide and frame the discussion. As one participant shares his/her experiences, others could build upon the information with examples from their own lives. Structured interviews allowed the researcher to take information gathered from focus groups to accumulate more specific feedback. Individual interviews also provided an opportunity for participants to provide deeper meaning to the research questions presented.

The ability to analyze the qualitative data allowed the researcher to make connections between focus groups and interview participants in the various research study participant groups. Themes were developed and applied to the research questions to determine current digital citizenship practices, the affect FoMO had on middle school students, and the usage patterns of interconnected digital platforms and social media. These gathered perceptions served to inform this qualitative study through the process outlined in this chapter as well as to collect and analyze data leading to meaningful findings related to the proposed research questions.

In Chapter 4, the data will be presented and organized using the four categories outlined in the ISTE digital citizenship standard (ISTE Standards: Students, 2016). These four categories are digital citizenship, interconnected digital platform usage, social media, and the FoMO. In

Chapter 5, the findings will be connected to the literature and theoretical frameworks along with identifying recommendations and implications for future research opportunities.

Chapter 4 - Data Analysis

Research of the literature indicated a significant gap pertaining to the best practices of digital citizenship for middle school students and the subsequent phenomena of FoMO. While research has previously been conducted on college-aged students over the topic of interconnected digital media devices, there was very little foray into examining these issues with middle school students. With students receiving interconnected digital media devices and obtaining access to social media at young ages, a qualitative study was important to study proper digital citizenship practices in relation to interconnected digital platforms, social media, and the FoMO phenomena. For this study, data collected from student focus group sessions, individual student interviews, and a principal focus group session were analyzed. Each student in the study was a middle school aged student and all three principals were leaders of PreK-12 schools in rural Midwest region schools.

Purpose Statement

Dobson and Jay (2020) described the presence of children online as a growing concern, especially with the advent of social media. Additionally, research suggests that educators and families need to reflect on the exposure and pressures children experience in a highly technological world. There are most certainly health and safety concerns that may result from overuse. Specific training about appropriate use of social media in the educational setting should also be offered (Dobson & Jay, 2020, Dodson, 2019). Moreover, Abrams (2019) found the literature to be limited and mixed on social media's influence on health. Dodson (2019) felt more research should be conducted to gather the perceptions of rural schools and principals on the educational uses of social media, computers, and smartphone use.

The purpose of this study was to determine the perceptions middle school students and principals, in a small rural school setting, had regarding the necessary characteristics to be a good digital citizen and how these characteristics are impacted by the FoMO. As the use of technology within schools has increased, there has been a disconnect about using this new technology appropriately. Even though schools have provided some education and guidance on this topic for students, there seems to be a lack of understanding as students sometimes think they will never be negatively impacted by an experience involving smartphones or social media. A sense of frustration also exists among parents about how to properly monitor their child's usage of technology in the home setting. Furthermore, administrators are also experiencing an increase in disciplinary issues due to technology violations whether it be through cell phones or social media. Middle school students face social pressure caused by the increased use of cell/smartphones and social media which affects relationships and peer interactions.

The goal of this study was to gather the perceptions from two different groups about digital citizenship and how the FoMO impacts digital citizenship practices/behaviors in middle school-aged students. As themes were developed, the researcher identified similarities and differences in the perceptions among principals and middle school students related to the digital citizenship standard and the impact of FoMO. Digital citizenship for students is defined as "students recognizing the rights, responsibilities, and opportunities of living, learning, and working in an interconnected digital world, and they act and model in ways that are safe, legal, and ethical" (ISTE Standards: Students, 2016, p. 3). Digital citizenship for leaders has been described as the "use of technology to increase equity, inclusion, and digital citizenship practices" (ISTE Standards: Education Leaders, 2018, p. 7). For leaders, this can occur when they ensure that technology is accessible to all students, that responsible, safe, ethical, and legal

use of technology is being enacted, and that students are provided with engaging and authentic learning opportunities, among other things (ISTE Standards: Leaders, 2018). As a goal, the researcher would ultimately like to create a comprehensive training program that is practical and meaningful for use in schools and to guide students, parents, teachers, and administrators in working toward the outcomes of becoming a responsible digital citizen. Additionally, schools will be able to use this information to form policy and procedures for technology use within their districts. Parents will be able to use this information to set guidelines or rules as to how technology will be utilized within their household. This information will build understanding regarding the characteristics of a good digital citizen as perceived by middle school students and principals.

Analysis Choice and Rationale

The analysis choice for this qualitative phenomenological study was a first phase process of a priori coding followed by a second phase coding process known as In Vivo coding. A priori coding, also described as determining beforehand, allows the researcher to set a path or avenue in which the data may follow (Saldaña, 2016). The a priori codes were developed from the research questions as they centered around the four topics of digital citizenship, interconnected digital platform usage, social media, and FoMO. Data gathered from the study categorically fit into these four areas. The a priori coding process laid a foundation for first phase coding and provided an initial glimpse into possible themes.

A second phase of coding, In Vivo coding, also known as label, verbatim, or natural coding, is appropriate for use in nearly all qualitative studies, especially for researchers who are new to the coding process (Saldaña, 2016). Saldaña (2016) also states that In Vivo coding is "particularly useful in educational ethnographies with youth" (p. 106). As a novice in the

qualitative coding process and with the participants of the study being middle school aged students and their principals, the In Vivo coding process became the most logical choice for analyzing data. Stringer (2014) also found In Vivo coding to be appropriate for researchers to capture the essence and meaning of an individual's experience in the phenomenon.

The process of In Vivo coding involves creating codes through words and short phrases from what was stated in the data. The researcher then breaks down the responses of the participants into phrases and groups similar statements into themes. Strauss (1987) also encourages the researcher to look at the codes as a set of categories as well as themes. In Vivo codes are participant developed rather than researcher created, thus providing for a deeper understanding of the thoughts, feelings, and ideas of the participant (Charmaz, 2014). As recommended by Saldaña (2016), the In Vivo codes for this research study were organized into clusters of similarity. These clusters of like responses were then used to generate categories or themes.

At the conclusion of In Vivo coding, the process of code mapping was conducted. Saldaña (2016) describes code mapping as the process of taking "from the full set of codes, which is then organized into a selected list of categories, and then condensed further into the study's central themes or concepts" (p. 218). Code mapping was utilized to generate categories or themes generated from the short phrases and comments of the participants.

The processes of a priori coding, In Vivo coding, and code mapping provided a significant opportunity to organize and analyze the data garnered from participants. The focus group and interview transcripts were broken down in such a way that allowed for meaningful comparisons and differences to be shared. The data clearly showed a connection to the four topics of digital citizenship, interconnected digital platform usage, social media, and FoMO

which led to the development of four themes: each falling into one of the mentioned topics. A fifth theme was developed that had pieces of all four of the topics summarizing a disconnect between the participant's understanding of digital citizenship and application of their knowledge in practice. Through the implementation of the coding process, a meaningful outline of the data ultimately led to a logical explanation and answering of the overarching research questions.

Data

Data sources of this study came from the research transcripts of the middle school students and their building principals. Each of the small rural schools provided five to seven students for focus group sessions through the online platform Zoom. Each focus group session was recorded through the Zoom recording feature. At the conclusion of each focus group session, the researcher transcribed the meeting to create a data source.

At the conclusion of the focus group sessions, six individual student interviews were conducted through Zoom. Two participants per school were interviewed individually at different times. The sessions were recorded through the Zoom recording option. At the conclusion of each interview, the researcher reviewed the recorded videos and transcribed each interview. The six interview transcripts served as data sources which were then coded through the In Vivo coding process. In addition to using the video for transcription purposes, the researcher also watched for mannerisms, facial expressions, and other nonverbal cues to not only aid in the understanding of what participants were expressing but also to note comfortability, confusion, excitement, and ponderings.

One principal focus group session was conducted through the Zoom platform with the three principals of the schools in the research study. This Zoom session was also recorded. At the conclusion of the focus group session, the researcher viewed the recording to transcribe the

meeting. There was a total of four focus group session transcriptions (i.e., three student focus groups, one principal focus group). Each of these data sources was coded through the In Vivo coding process. Finally, the codes from all ten data sources were coded, mapped, and landscaped to create categories or themes to assist in answering the over-arching research questions of the study.

With the ISTE standards on digital citizenship as the guiding framework, the data collected were aligned to four categories of digital citizenship, interconnected digital platform usage, social media, and the FoMO. Through these categories of interest, themes were developed to better explain the perceptions of both principals and students to assist in answering the research questions.

Focus Groups

The four focus group sessions provided the researcher with an opportunity to gather perceptions from three separate groups of middle school students and their respective building principals, who all offered a small rural school perspective. Comparisons between similarities and differences in viewpoints were present throughout several of the questions asked. Through their responses, various categories or themes began to emerge as summarized in the tables below.

Student Focus Group Sessions

The student focus group sessions provided an opportunity for the researcher to gain a vast amount of knowledge from a variety of participants in an efficient manner. Field notes and observations indicated that in each focus group session, one-to-two individuals typically took the lead and provided in-depth answers to the questions being asked. Usually, one-to-two students said very little or simply agreed with those that were dominating the conversation. By nature, the middle school students became a bit restless as the focus groups wore on, which made the 45-

minute timeframe the most logical and workable. By the end of 45 minutes, students were eager to move on to other tasks and go about their day.

The following four tables provide a summary of the data from the student focus group sessions. Data has been organized first through the four overarching categories of digital citizenship, interconnected digital platform usage, social media, and the FoMO. Subtopics were also developed to aid in the organization of data. Key findings are summarized with direct examples from the data.

Table 4.1. Student Focus Group Findings-Digital Citizenship

Main Topic	**Subtopic**	**Key Findings**	**Examples**
Digital Citizenship	Definition	The students provided mostly information about what may or may not be acceptable in an online environment with examples.	"Bullying" "Cyberbullying" "Identity on the Internet" "Being kind to people on the Internet" "Making the right choices" "Grandma Rule"
Digital Citizenship	Education	The students' perception on education is that it is more a one-time event with little follow-through. Guest speakers or presenters have provided them with guidance on mostly the negatives of improper digital media use.	"Took digital citizenship class" "Someone talked to us about safety on the internet" "Talks about what we should or shouldn't do on the internet"
Digital Citizenship	Education Effectiveness	Students would be in favor of classes dedicated strictly to digital citizenship and practical application.	"Have a class for it" "Less social media" "Only use apps provided for learning purposes" "Safety on the Internet"
Digital Citizenship	Uncomfortable Situations	For the most part, students understand what to do when they	"Getting a text and not knowing who it is from" "Spam messaging/calls"

		encounter uncomfortable situations online. Ignoring unfamiliar people and links was a common response.	"Inappropriate links" "Scams" "TikTok challenges"
Digital Citizenship	Rules	Students feel there needs to basic rules for all to follow while participating in an online environment. Students provided examples of what some of the most basic rules should be.	"Be respectful on the internet" "Be kind to people on the internet" "Don't text random people you don't know" "See something, say something" "If you don't know the person, don't add them" "Don't give phone number, address, anything"

Summary of Student Focus Group Session—Digital Citizenship

Across all sites, students had a firm grasp on the definition of digital citizenship and how it affects them as a student. One student defined the concept as "one's identity on the internet." Making the right choices, refraining from bullying, and being kind to people on the internet were all descriptors of what digital citizenship is and can be according to the students. Education about these topics within the school setting was inconsistent with some students participating in short classes and others being exposed to presentations on the positives and negatives of online behavior. Through these presentations, one student learned "it told us what could happen if you posted something bad and things like photos of yourself that should not be out on the internet." He continued, "You can affect your daily life and job and everything." However, a few students indicated that even after these presentations and courses, students continued to engage in negative behaviors. Students felt social media was the main cause for negative issues and reasoned that more education could help deter some of the problem behaviors. A suggestion

from one student alluded to this idea as she stated, “I would say, let’s say like teenagers and people who have a phone, you need more training in what to do with it and how to use it wisely.”

The students at each site provided several examples about what to do when uncomfortable situations are encountered. From not clicking on links, to blocking individuals and deleting inappropriate content, students shared several stories and examples of what they had encountered in the past. Students offered suggestions concerning future postings that included being respectful on the internet, being kind to people on the internet, not sending nude pictures, not sharing personal information, and not talking to suspicious individuals.

Table 4.2. Student Focus Group Findings-Interconnected Digital Platform Usage

Main Topic	**Subtopic**	**Key Findings**	**Examples**
Interconnected Digital Platform Usage	Purpose of Use	Students utilize interconnected digital platforms for a variety of reasons. Mainly, platforms are used to stay connected to others and to communicate.	“Text friends” “Call friends” “Play games” “Watch TV” “Watch funny videos” “Entertainment” “Call our parents” “Post funny things on TikTok” “Connect with people”
Interconnected Digital Platform Usage	Education and Training	There is a significant gap in the amount of training students receive prior to utilizing interconnected digital platforms. Many have learned on their own or asked a peer, parent, or sibling for assistance.	“On my own” “None” “No education at all” “Just know what to do on it” “Mom gave me a spiel” “Common Sense” “Watch tech videos”
Interconnected Digital Platform Usage	Withdrawal	Students feel interconnected digital platforms are a way of life and would find	“No” “I’d be pretty lost” “Rise of anger”

		it difficult to survive if they could not utilize their devices. One participant felt it was like a part of his/her body and another compared devices as being his/her journal.	"That would be pretty hard" "I'd have to be really social" "Not be able to view streaks on SnapChat" "That's how I survive"
Interconnected Digital Platform Usage	Healthy Balance	Students had a wide variety of opinions as to the demarcation of a healthy balance and usage.	"No more than four hours" "Socialize with people in real life" "Finding motivation to do stuff"
Interconnected Digital Platform Usage	Policy Restrictions	Most students want unlimited access to their devices while at school. They feel it is now a way of life and necessary for their ability to function.	"We should be able to have phone" "Can use when we want" "Should keep it with you in case something happens" "Not for schools to take" "Having your phone is okay, don't use it during class" "Should be able to keep it in our pockets" "Should have three warnings in class"

Summary of Student Focus Group Session—Interconnected Digital Platform Usage

When discussing interconnected digital platform usage, students generally agreed that communication and connection with others were their main purposes. More specifically, students used the devices to call their parents, play games, message others, watch videos, listen to music, talk to friends, and connect with other people. Education about how to use these devices has been minimal with students either learning from peers, asking a sibling, or receiving a talk from a

parent. Most students learned by doing, but some did indicate referencing instructions or a manual if there was a concept they did not fully understand. According to the focus groups, very little instruction had been shared about proper online behavior. One student referenced YouTube to help learn how to use his/her phone. “Before I got my iPhone, I watched a lot of tech videos because I was really into watching tech videos and learned what I needed to off of YouTube.”

The students were unwilling to give up their devices for a period as they felt they would lose their connection with the outside world. However, the experiences of students and length of time with a phone were a factor for at least one student as she stated,

> If you haven’t had a phone like ever and you just got a phone and it’s just taken away, it wouldn’t really faze you that much, but we’ve had a phone for a while and you feel so attached to it so if someone takes the phone you’re going to cry about it or you’re going to be mad about it.

Since students live in a rural area with not many other activity options, one student was not sure how they would survive. Students felt it was important to keep up on their SnapChat streaks and needed to check-in with others. Some also felt their friends would be angry with them because they weren’t communicating. Others stated they would look for other connected devices to communicate with such as an Amazon Alexa or another computer. Students had a wide range of ideas regarding a healthy balance of online to offline activity, but all felt access to their devices at some point in the day was necessary. Finally, students were not in agreement with school policies that restrict access to their devices and felt schools could be more forgiving and understanding toward the needs of their students.

Table 4.3. Student Focus Group Findings-Social Media

Main Topic	**Subtopic**	**Key Findings**	**Examples**
Social Media	Popularity	Students felt that due to their age, social media has become a popular way to connect because they do not have the ability to physically go out and do other activities. Some found it easier to talk to others online than in person, and it allows them to show others what they are doing.	"Basically, their life now" "Feeling involved with things" "Middle school parents don't let you go out much" "Hard to talk at school" "Easier to find someone on social media" "Show people what you're doing" "Want to find people with the same interests"
Social Media	Purpose	Students feel that social media allows for greater connectivity and communication.	"To see what's poppin" "Easier for people to connect" "To get follows" "Easier to communicate" "Connection" "Contact people" "Much faster" "Popularity contest"
Social Media	School Uses	Students provided several examples of how social media is utilized with the school building.	"School work" "Google Classroom" "Zoom chat" "All blocked" "Ask friends questions"
Social Media	Relationships	Students discussed both the positives and negatives social media has had on relationships. While it does allow for greater communication, examples were	"Split them apart" "Made it more fun, playing games with each other" "Feel more connected" "If you're not that close, will talk on social media more"

		provided where friendships were dissolved.	"Since we have phones, just stay home and watch videos or something"
Social Media	Online Responses	Students felt that individuals find it easier to sit behind a keyboard and type a negative response than it is to face the person and have a discussion. More people feel empowered online because they can garner a group of people that follow their thinking and opinion.	"More empowered" "Aren't afraid online as in person" "Can't physically hurt you" "Think nobody's ever going to know who said that" "They're too chicken to go face-to-face" "Can't see their reaction to what you said"

Summary of Student Focus Group Session—Social Media

Social media provides an outlet for students to share their lives with others. A few students indicated that parents of middle school students do not typically let their children go out much; therefore, social media provides an opportunity for this age of student to communicate with others and keep up on the happenings of the world. One student mentioned, "When you're a middle schooler, your parents don't really let you go out that much because you're not old enough or whatever, so like to talk to your friends, you could use your phone." Social media also allows individuals to feel involved with life and humanity and lets people find others with the same interests. In small rural schools, it can be difficult to find students who are similar, but social media has opened the door for students to join a group of people who share the same hobbies/interests. Another student stated that "because like there's only a certain number of students in our school, and you might not know a lot of them, and you want to find people who have the same interests as you, and the internet has a lot more people with similar interests."

Students in these small rural schools view social media as a way to connect with people much faster and has also served as a way for people to meet. One student indicated that face-to-face introductions are old-fashioned and scary. The student explained, “Nowadays, if a person wants to meet someone, he/she simply looks them up on a social media application and begins chatting.” She continued, “Walking up to someone and introducing yourself is old-fashioned and weird.” Another student agreed with this idea stating that “maybe they (students) feel lonely because sometimes it’s hard to talk during school and get relationships with friends going.” She continued, “Instead, they are like, oh, it’s easier to find someone on social media.” Social media applications such as SnapChat and TikTok also serve as an entertainment venue where students can spend several hours looking through photographs or watching videos.

Interactions with friends have also changed through social media use as students have reasoned that it can divide friendships or allow them to grow closer. One student stated, “Well, in most cases social media is the main problem which leads school to just quit social media during school and make it to where you can only use the apps that are provided for learning purposes.” In several instances, students shared that instead of going to the park, movie theatre, or just hanging out, they have opted instead to just stay home and connect through social media or an online environment through game playing or video watching. There is no sense of urgency that they must see each other in person since they can simply communicate online through the comfort of their own home. As one student mentioned “well, I guess since we have phones, we used to go to restaurants or something but now I’m like, I’ll just stay home and watch videos or something.”

Table 4.4. Student Focus Group Findings-Fear of Missing Out

Main Topic	**Subtopic**	**Key Findings**	**Examples**
Fear of Missing Out	Disconnected	FoMO is a real concept that students feel when they are not involved with their friends. When not included in activities with others, students do sense a feeling a being left out and have a perception that the group may be talking about them because they are not present.	"I wonder if they're talking bad about me behind my back" "Feel left out" "Feel pretty bummed out" "I would feel like I missed out if friends were calling each other without me" "Feel missed, left out"
Fear of Missing Out	Inquiry of Friends	In a very interesting response, a few students track their friends through apps such as Life 360 or Snapchat to keep tabs on their location. While students did not necessarily consider this stalking, it does present itself as this concept.	"Ask what they are doing and join in" "Watch their location" "Watch them on Life 360"
Fear of Missing Out	Previous Experiences	Students provided several examples on when they have experienced FoMO and indicated that it did influence their friendships and their own mental health.	"Sitting at home seeing friends hanging out" "All my friends were over at a house but no one told me about it"

Summary of Student Focus Group Session—Fear of Missing Out

Students did indicate a sense of FoMO out when they are not involved in their friends' activities and constantly think about what their friends might be doing. There is also a worry of whether the friends were talking behind their back or why they weren't included in an activity.

One student stated, “I wonder like what if they are talking bad about me behind my back or something.” Negatively, a few students also stalk their friends by watching their location on apps such as Life360. This allowed them to keep tabs on their friends and question what their friends were doing or where they were going. As one student mentioned, “I watch their location, I look where they are all the time, I look at their posts, pretty much like I watch how fast they’re going in the car, I’m pretty much like a helicopter parent or a helicopter friend.”

While nearly every student had experience with many of the topics presented, participants had a “sense of awe” and lacked awareness of how their experiences could influence other people and themselves. For instance, many post content within an online environment without realizing they are posting. Content creation and the sharing of material had become so engrained in their daily life that it was just part of who they are. While participants had feelings of missing out when seeing what friends were sharing online, they gave little consideration to the feelings of others when posting this content. Most also agreed that restricting access to such devices and the online environment in general could be deemed as an invasion of their privacy and a deprivation of their freedoms as an individual. Finally, school policies that restricted access and did not allow usage may be outdated according to their point-of-view.

Principal Focus Group Session

The principal focus group session was conducted at the conclusion of the student interview sessions. The three building principals and the researcher participated in a recorded Zoom meeting which lasted for approximately one and a half hours. The principal focus group session allowed the three building principals and the researcher to discuss a small rural school administrator’s perspective on digital citizenship, interconnected digital devices, social media,

and the FoMO among students. Principals provided their experiences, opinions, and thoughts about the research questions as outlined below.

The following four tables provide a summary of the data from the principal focus group sessions. Data has been organized first through the four overarching categories of digital citizenship, interconnected digital platform usage, social media, and the FoMO. Subtopics were also developed to aid in the organization of data. Key findings were summarized with direct examples from the data.

Table 4.5. Principal Focus Group Findings-Digital Citizenship

Main Topic	**Subtopic**	**Key Findings**	**Examples**
Digital Citizenship	Definition	The principals provided characteristics of a positive digital citizen. While principals provided an overarching definition, students filled in their meaning with examples.	"Safe, responsible respectful" "Safety online" "Grandma rule" "Role as a citizen in a digital world" "Junior high doesn't quite understand" "Legal implications"
Digital Citizenship	Education	Principals perceive current education practices as inadequate due to the continuing issues that arise.	"Semester class paired with technology" "Class for us" "Common Sense Media" "School law materials" "Presentations twice per year"
Digital Citizenship	Education Effectiveness	Principals feel more education in digital citizenship is necessary as issues continue to surface frequently.	"We could be more effective" "Dealing with issues weekly" "Still have room to grow" "We're somewhere in the middle"
Digital Citizenship	Education Effectiveness	Principals would both be in favor of classes dedicated strictly to digital citizenship and	"Develop digital citizenship class" "Accountability and follow-through"

		practical application examples.	"Teaching the positive aspects" "Understand the positives and negatives"
Digital Citizenship	Uncomfortable Situations	Principals provided several examples of what they perceive as issues students face within an online environment.	"TikTok challenges" "Real world connections to what they see online" "How popular kids become with likes and follows" "Kids not being a part of something" "Unmotivated students"
Digital Citizenship	Rules	Principals feel there needs to basic rules for all to follow while participating in an online environment. Principals also provided examples about what some of the most basic rules should be.	"Old traditional rules" "Respectful, responsible, safe" "See something, say something"

Summary of Principal Focus Group Session-Digital Citizenship

Within the area of digital citizenship, the principals had a more traditional response of "be safe, be responsible, be respectful." The simplicity of the rules allows students to better remember and understand the expectations. One principal stated, "We preach a lot of how you're going to be safe, responsible, and respectful both in-person and online." He continued explaining that "one of the presentations that comes here at the beginning of the year discusses the grandma rule that basically says if you wouldn't say it to your grandma, you shouldn't post it online." This principal also reflected on the need for additional education for middle school students as he shared, "I still don't think our junior high kids quite understand it all and that worries me a little bit because one wrong post or one wrong video or one wrong thing could really haunt a kid for a long time."

Principals determined that more education concerning the area of digital citizenship could be provided as current practice includes a couple of presentations throughout the year to remind students of the dos and don'ts. Providing a class that teaches students the positives and negatives of digital citizenship and how to handle situations they may encounter could be a good first step in reducing the number of technology issues the principals deal with daily. Another principal has taken the education a step further by "trying to emphasize the legal implications of passing around certain content that may contain images or information of others."

As far as educating students on digital citizenship and the components of the concept, all three principals agreed that a more proactive approach could be utilized to help students learn the dos and don'ts. One principal stated, "We could be more effective than we are at certain things." Another added, "I would rather push the positives, you know, I think we get caught up in talking about all the negatives of the social media game and digital stuff." Finally, the third principal stated,

> I don't think that, in its entirety, what we're doing is effective, but we've somehow managed to convince students not to cross that line of illegal behavior but we still have a lot of room to grow in and try to see the kind of respectful interactions online that we'd all like to see.

Table 4.6. Principal Focus Group Findings-Interconnected Digital Platform Usage

Main Topic	**Subtopic**	**Key Findings**	**Examples**
Interconnected Digital Platform Usage	Purpose of Use	Principals perceive communication and connectivity as being major purposes of interconnected digital platform usage for students.	"Understanding and communication" "Communication" "Talking to each other" "Communication, gaming, entertainment"

Interconnected Digital Platform Usage	Education and Training	Principals reported their perceptions of very basic training for some usage while a lack of formal training on others.	"Instruction on expectations" "Orientation sessions" "No formal training currently" "Not teaching about social media sites" "Kids could teach us more"
Interconnected Digital Platform Usage	Withdrawal	Principals feel taking away interconnected digital devices may cause a variety of responses from students with not all being negative.	"Rise of anger" "Good kids realize not so bad" "Kids always on phones" "Good life lesson" "Kids upset, wondering when the phone will return" "Perception is more about control than it is about taking the phone"
Interconnected Digital Platform Usage	Healthy Balance	Principals felt a healthy balance is indicated when a student decides to do something else when they could be on their device.	"Student has the opportunity to use phone but chooses not to" "Each student is different"
Interconnected Digital Platform Usage	Policy Restrictions	Principals feel there should be a limit to some extent on online access.	"Limit online access to students" "Block game and messenger sites" "Prohibit cell phone use during the day" "Zero cell phones" "Filter system"

Summary of Principal Focus Group Session-Interconnected Digital Platform Usage

Principals viewed interconnected digital devices as the main way students communicate and connect with one another. They also witnessed students downloading applications, playing

games, and using the devices to assist in their homework. While the schools do not provide official training per se on how to utilize all the different devices students have, the principals commented that several students learn by doing or by asking their peers. One principal remarked that students could "teach us more than we could teach them" when utilizing the devices.

In two of the three schools, interconnected digital platform usage is restricted heavily by school policies stating procedures on when students are allowed or not allowed to utilize devices. The other school principal had taken a more wide-open approach where students are allowed to use their devices freely, if it is not a disruption in the classroom, and social media websites are not blocked. Each of these differing viewpoints offered meaningful discussion for the group and resulted in both sides questioning their own policies after hearing from one another. All the principals had observed anger, negative emotions, and upset students when devices were removed from their possession due to disciplinary issues. As one principal described,

> So, I originally just did this for middle school last year and said no cell phones at school. It was a disciplinary response, but I had probably my biggest offenders come to me and granted, it was not the first week, I mean, the first week, everybody's upset and wondering when are we going to get them back. Once they realized, okay, I'm not getting it back, I had some of my biggest offenders, come to me and say this is great.

A major concern of one principal was the ability for students to differentiate between real-life and fantasy. He stated that "one of the scariest things to me is making that real-world connection to what they see online." He continued. "I mean TikTok challenges; kids see all sorts of stuff and don't know how to make a real-world transfer to their interpretation, like damage to property or stealing things."

Table 4.7. Principal Focus Group Findings-Social Media

Main Topic	**Subtopic**	**Key Findings**	**Examples**
Social Media	Popularity	Principals felt social media is popular with students because of the ease of access and provides an opportunity to students to stand out.	"A lot to do there" "Easy to access" "Offers an alternate reality" "Group for everybody" "Gives kids a stage" "Find their place, their people, their comfort zone, interests"
Social Media	Purpose	Principals feel social media allows for greater connectivity and communication.	"Connection" "To connect people with similar views, interests"
Social Media	School Uses	Principals provided several examples of how social media is utilized with the school building.	"Class Intercom" "Facebook & Instagram accounts"
Social Media	Relationships	Principals discussed both the positives and negatives social media has had on relationships. While it does allow for greater communication, examples were provided that demonstrated unhealthy uses.	"Not healthy" "Lack of privacy" "People post everything"
Social Media	Online Responses	Principals felt individuals find it easier to sit behind a keyboard and type a negative response than it is to face the person and have a discussion. More people feel empowered online because they can	"Same reason their parents do" "Easy to hide behind a keyboard" "Won't come and say in person"

		garner a group of people that follow their thinking and opinion.	

Summary of Principal Focus Group Session-Social Media

The principals in these small rural schools agreed that social media is easy to access and provides a group for everybody in which their interests can be shared and discussed. Students can find their place, comfort zone, and interests. In a rural setting, it can be difficult for students to find people who are like them and are interested in the same activities or hobbies. Social media evens the playing field for all students as they can quickly find like-minded individuals. As one principal stated, "If you're like a country kid and you like trucks, social media allows you to find all the trucks you want. If you're a sports kid, you find all the sports you want. I mean, there's a group for everybody." A second principal added,

> It gives a kid at every stage to be making so many new decisions for themselves and they're trying to find their place, their people, their comfort zone, their interests, and using social media in a small rural area gives them the opportunity to connect with people that share whatever trait or interest.

The principals agreed that social media provides an alternative reality for students that has far-reaching consequences in real-life settings. However, one principal was concerned for "what I perceive as a lack of privacy and the open nature of communication." Additionally, principals feel cyberbullying issues are on the rise in schools because students can sit behind a keyboard, type as they wish, and think they are safe from punishment because the interaction did not occur face-to-face. One principal remarked that students take part in this behavior because they are following the model their parents have set. "It's easy to hide behind a keyboard and then

type out anything that you think and not have to look the person in the eye. It's a very unfortunate example that's been set."

Table 4.8. Principal Focus Group Findings-Fear of Missing Out

Main Topic	**Subtopic**	**Key Findings**	**Examples**
Fear of Missing Out	Disconnected	Principals feel additional issues may arise when students are disconnected and unable to communicate with one another and their parents.	"If they forget something, they have to call to have it brought in" "Behavior issues likely to increase" "Ones with social media talk to one another" "Not much to talk about"
Fear of Missing Out	Previous Experiences	Principals provided details about student interactions when they didn't have devices present.	"Students actually talking" "Speaking to each other"

Summary of Principal Focus Group Session-Fear of Missing Out

With so much being posted online, principals saw the FoMO construct growing as students are left out of events in which their friends may be participating. Interconnected digital devices are such a major part of a students' life that they are losing face-to-face interactions and knowing how to handle common social concepts they encounter. While those with acceptable social skills can typically handle these types of situations, those who lack the skills because they sit behind their device all day struggle. Principals predicted an increase in possible behavior issues as students spend more time on their devices. One principal stated, "I suppose the ones that have social skills would talk to each other, you know, instead of being faces in phones but a couple others may stand around awkwardly or might look for things that could get them into trouble."

As the data analysis of the focus group sessions finished, the researchers' attention turned to the student interviews. Two student interviews at each site were conducted for a total of six student interviews. The data from the six student interviews is summarized and analyzed below.

Interviews

The six individual interview sessions provided the researcher an opportunity to expand on the questions from the focus group sessions. Furthermore, the six student interviews provided a deeper look into the thoughts, understandings, and ideas of digital citizenship, interconnected digital device usage, social media, and the FoMO in a one-on-one setting. The interviews also provided participants with a confidential one-on-one setting in which they could feel more comfortable sharing experiences and information on the topics presented. Through the six interviews, the recordings and transcripts were coded to develop themes and categories which are provided in the following tables.

Table 4.9. Student Interview Findings-Digital Citizenship

Topic	**Subtopic**	**Key Findings**	**Evidence**
Digital Citizenship	Appropriateness	Students provided a comprehensive list of dos and don'ts while on an online environment.	"Not being rude about it" "Don't say anything mean" "Saying nice things" "Don't be inappropriate" "Don't cyberbully"
Digital Citizenship	Safety	The students perceive that individuals should already have some basic knowledge of safety within an online environment, and if they can't handle it, they shouldn't be involved.	"Respond with nice comments" "People who aren't responsible shouldn't have a phone" "Don't post where you live" "Not post something you'll regret in the future"

			"Be safe about what you post"
Digital Citizenship	Education Effectiveness	Students feel there is likely more they could learn, but educational opportunities are lacking. Several indicated a guest speaker coming in once per year to educate students, but there is little follow-through throughout the year.	"Only had one class" "Teachers haven't talked much about it" "Had someone come in and talk to us a couple years ago" "Should find a more effective way to do it"
Digital Citizenship	Advice for Education	Students had several suggestions which included a basic class on digital citizenship, creating foundational rules for all to follow, and schools providing experiences to show students they don't always have to be connected online to have a good time or connect with others.	"Show you don't always have to be connected" "Lay down base rules" "More education" "Need to know the basics"

Summary of Student Interviews-Digital Citizenship

In this rural setting, students had a firm grasp on what to do when confronted with uncomfortable online situations. Several indicated that they ignore unfamiliar friend requests, tell a trusted adult, and utilize safety features such as deleting or blocking the offending party. Other digital citizenship concepts were well covered by the students including not being rude online, asking individuals to stop making negative comments, using appropriate language, refraining from mean messaging, and being sure to say nice things while online. One student stated, "Responding appropriately means like, just not being rude about it. If they do send you

something and you really don't care for it, say sorry I didn't like it, but you can always try again with more."

There was a mix of responses from students regarding the effectiveness of their schools in providing ample education in these areas. Some students reported only having one short class while others described single presentations where the positives and negatives of usage were shared. The effectiveness of the presentations was questioned by one student who stated, "I feel like the school should find a more effective way to do it because most of the time when we have speeches and stuff like that, [but] no one pays attention to it." Videos, internet safety presentations, and talks from administrators were also mentioned. The students recommended that more education is probably necessary to help get everyone on the same page and teach students the basics of surviving in an online world. One student recommended schools need to start "laying down some base rules for usage and then kids will start getting used to it." Another student offered a suggestion that schools "talk to 4^{th}-7^{th} grade students and teach them why we don't do this because if their parents don't tell them, and [if], the school doesn't tell them, then they don't know what's right and wrong on the internet."

Table 4.10. Student Interview Findings-Interconnected Digital Platform Usage

Topic	**Subtopic**	**Key Findings**	**Evidence**
Interconnected Digital Platform Usage	Usage	The range of ages from when students started accessing interconnected digital platforms ranged from 8-13 years old.	"Was like 11" "Probably 9 or 10" "12 or 13" "Probably 8"
Interconnected Digital Platform Usage	Usage	Students mainly utilize interconnected digital platforms to text friends and communicate with one another.	"Text messaging" "Snapchat friends" "Play games" "Main way to communicate" "Watch videos"

Interconnected Digital Platform Usage	Usage	Students indicated a range of 4-10 hours per day on interconnected digital platform usage. More time is spent on these devices during weekends.	"Play video games 4-6 hours on school days" "8-10 hours on weekends" "I would say 4 hours" "During school 5 hours"
Interconnected Digital Platform Usage	Health	Two students indicated health concerns due to their interconnected digital platform usage. One currently has vision issues, and another takes medication to assist in sleeping. Most of the students indicated they have unlimited access to their phones and are on them until they fall asleep which ultimately could affect their sleep cycles.	"That's why I wear contacts and glasses" "Take melatonin to sleep" "Have access to phone all the time" "Tasks take longer due to distraction" "Usually watch YouTube to fall asleep" "Pass out to videos"

Summary of Student Interviews-Interconnected Digital Platform Usage

The first use of interconnected digital devices by students ranged in age from eight to thirteen with nearly every student having a smartphone by age nine or ten. Students typically used these devices to connect and communicate with friends through text messaging, social media, and playing games. Applications such as Snapchat and TikTok are the most popular with students. As one student explained, "Most of the time, I Snapchat my friends if I have an application from them, otherwise, I'm on TikTok or I watch YouTube or something like that." Students spend most of their time perusing photographs and watching videos using these applications. Another student mentioned that "if I need to do something, I'll do it before I even

touch my phone, but normally, if I have nothing else to do, I'll be on my device." Students also reported they spend approximately four to ten hours daily on their interconnected digital devices with a little less on weekdays and more time on weekends.

Two students indicated health complications due to their device overuse, noting vision and sleep issues. When discussing vision problems, one student believed that "it's because of the constant rays of light going into my eyes and from having it right up in my face." Another student also stated, "I get bored super easily. I'll play a game for like 15ish minutes and then I'll either have to switch a game or just get off it and watch TV before I'm just super bored all day."

> Regarding safety while utilizing interconnected digital platforms, one student explained, I feel safer when like texting somebody instead of like being face-to-face with them because if you say something wrong, you can just hang up on them or like stop talking to them. But if you're in real-life, you can't just hang up on them. If you say something wrong, you have to figure out how to deal with it in that moment and you don't have any time to think about it and you can't walk away from it.

Table 4.11. Student Interview Findings-Social Media

Topic	**Subtopic**	**Key Findings**	**Evidence**
Social Media	Uncomfortable Situations	Students had a pretty good feel on what do when they encounter uncomfortable situations. Typically, online strangers are ignored, blocked, or deleted.	"Ignore them" "Tell mom and dad or whoever I'm with" "Block them from my phone" "Delete that person" "Usually ignore negative comments"
Social Media	Online Identity & Posting Preferences	Nearly all students felt they are the same person whether they are online or offline. However, a couple of students indicated they are generally more outgoing online.	"Establish ground rules" "Same person online and offline" "More outgoing online"

Summary of Student Interviews-Social Media

When comparing their real-life identity to the one they portray on social media, most of the students felt they were the same person, and when posting online, the "grandma rule" seemed to be the most popular response. One student explained. "I usually do the grandma check. If you're not going to show it to your grandma, don't post it." However, students did agree that ground rules should be set when posting online and that their posts mainly concern activities they are participating in with friends.

The students in these small rural schools offered several suggestions to others about how to stay safe and respond respectfully within an online environment. For example, one student stated, "I usually block unfamiliar people from my phone, and I just don't aggravate people and stuff like that and if a random person adds me, I usually don't add them back." They wanted others to know that social media and interconnected digital devices can ruin relationships and

hurt people's feelings. Students also shared it is important to respond with positive comments and be careful about sharing personal, identifiable information. Finally, they recommended that people should not post something a person will regret in the future and that those who cannot demonstrate basic responsible principles should not have a device.

Table 4.12. Student Interview Findings-Fear of Missing Out

Topic	**Subtopic**	**Key Findings**	**Evidence**
Fear of Missing Out	Sharing Experiences	Some students do not post online because they are afraid of what friends may think. However, most students post ideas, opinions, and creations, online without even thinking about posting. It is a way of life for students now and so common that they do not always realize what they are doing. Most like posting to tying a shoe when it is untied. It's an automatic response; posting online is automatic for students.	"Will just make them jealous" "I just kind of post things" "Don't think about posting online" "I don't really share anything" "In the moment, you don't think about that"
Fear of Missing Out	Missing Experiences	Students' feelings are hurt when they aren't invited to do things their friends are doing. This feeling multiplies when it is posted online because students see this immediately, and it is their main tool for communication.	"Little left out" "Sometimes I think about it and then do something else" "Kind of mad" "A few months ago, angry" "I feel left out" "I feel sad because they didn't invite me"
Fear of Missing Out	Alternative Activities	The students interviewed have developed coping	"Watch TV" "Play with my dog"

		activities to turn to when they want to take their mind off of the hurt feelings they have because of not being invited.	"Go outside and do something fun there" "Just do other stuff"

Summary of Student Interviews-Fear of Missing Out

The consensus among the student interviews was the fact that material is posted without much consideration of what others may think or feel. As one student explained,

> I guess I never really thought about the thoughts of others because usually in the moment, you don't really think about it that much. That's how so many people make the mistake of posting something bad on social media because you don't really think about it before you post it.

Some students had not thought about the idea of the FoMO and how their posting may affect another person if he/she was not included in the activity. For the most part, the students did find posting important, whether they were included or not, because it allows one to see what others are doing. Students did admit that they do watch what others post, and the feelings generated depend upon whether they were involved in the activity or not.

Most students did provide examples of experiences they have had in feeling left out and later seeing what their friends are doing through online posts. A student mentioned, "I feel left out; I guess I just stay home; it's an awful feeling." However, the same student offered an interesting perspective on keeping up with friends. "If you worry so much about your friends and you get so overprotective, they're going to end up like I don't want to hang out with you."

Students who were not involved or included in events had a variety of coping activities they used to take their mind off what their friends might be doing. These included riding a bike,

playing with a sibling, or reading a book. A student stated that "I usually scroll through TikTok or play with my dog and listen to music and stuff or read a book." One student was fearful of shutting off his/her device or handing it over to a higher authority as he/she felt it was his/her personal diary and no one should have the right to take it or go through it. As he/she explained,

> Yesterday at school, we had to put our phones face down and I felt scared honestly, because I felt like, I didn't know what they were going to do with my phone. Like, that's your diary and if someone reads your diary you are going to feel invaded, and it just feels like an invasion of privacy.

Themes Across All Data

The examination of all interview transcripts and Zoom recordings led the researcher to develop themes that were present across all data. The processes of a priori coding, In Vivo coding, and code mapping helped develop a set of categories that were then developed into themes. The individual themes are described in more detail below.

Theme 1: Balancing Connections, Communication, and Appropriate Practices (Interconnected Digital Platform Usage)

The participants indicated several times that interconnected digital devices were a part of their daily lives and allowed them to stay connected to the outside world. Interconnected digital devices contain tools such as calculators, alarm clocks, and applications that make life easier and more convenient. Smartphones continued to be the most popular device in this category. Several participants shared that the most common use of interconnected digital devices was text messaging to stay connected to friends. Participants also used interconnected digital devices to play games, browse social media, keep up on the news, and watch videos.

One participant compared his/her cell phone to a diary with similar privacy implications. Many others felt devices were actually a part of them and not having the device had a detrimental effect on their ability to function each day. Without the devices, students constantly looked for additional technology tools to stay connected. This may have included accessing laptops, desktop computers, personal assistant devices such as Amazon Alexa, and other items which may access the internet.

The smartphone served as an entertainment hub for several activities which allowed students to access gaming sites, streaming services, and video viewing, and as a gateway to access social media with Snapchat and TikTok being the most popular. Students truly felt interconnected digital media platforms and devices are a necessity to stay connected and communicate with others.

Theme 2: Relationships, Responsibilities, and Finding an Online Identity of Interests (Social Media)

Participants shared that they spend a large amount of time browsing social media for a variety of reasons. The student participants made it clear that SnapChat and TikTok are the most popular social media sites for today's youth. The ability to watch and post videos makes TikTok an entertainment hotspot which allows individuals to watch short clips of people conducting a variety of tasks. Additionally, students have an innate desire to get the most "streaks" or "likes" on these social media applications and see this as motivation to communicate and post content.

Both principals and students agreed that content is often posted without the consideration of others. Students admitted they post material without even realizing they are posting. Posting content to social media has become so engrained in the minds of youth that it is considered a routine task that one should do if he/she owns a device or is on social media platforms.

Theme 3: Characteristics of a Positive Digital Citizen

Across all participants, the concept and definition of digital citizenship was consistent. All participants seemed to have a clear understanding of what digital citizenship is and how one should act while on a digital platform. Principals attempted to educate students through the traditional approach of be safe, be respectful, be responsible. Students understood what each of these concepts means and requires; however, they sometimes ignored this knowledge when caught up in the moment or on the spot.

Students typically understand right from wrong and have developed skills on dealing with uncomfortable situations they encounter online. When they did not know a person or have been sent a questionable link, they either ignored, deleted, or blocked the offending party. Both principals and students agreed that ground rules should be established when utilizing interconnected digital platforms. The major goal is to keep everyone safe, and students should be alerted to what is and is not acceptable.

Both principals and students mentioned the "grandma rule" several times throughout the focus groups and interviews. The grandma rule is simply a rule that states "if you wouldn't want your grandma to see/read what you post, then you probably shouldn't be posting the content." One area of varied opinions involved school policies involving device usage with students at two schools feeling their policies were too restrictive. One school's principal indicated that he/she had a wide-open policy allowing students to access their phones and the internet as they pleased if it was not a distraction to the learning environment. The students at this school appreciated this approach.

Theme 4: Emotions and Feelings Shaped by Experiences (FoMO)

The FoMO is a real concept and is shared by students and adults alike. Within the concept of FoMO and digital citizenship practices, four distinct concepts emerged. The first is that of restraint. Some students indicated that they declined to post material because they were fearful of how others may perceive their postings. They worried they may make others jealous of the fun they were having and did not want to have a feeling of being mean. On the flip side, some students posted without consideration of others because in the moment of the activity and posting to an online environment, they did not think about how it might affect someone else.

A second concept involved the feeling of rejection. Students did report that seeing posts on social media of their friends having fun without them did make them feel left out and gave them negative feelings about not being invited. They were often left wondering why they weren't good enough to hang out with friends and questioned whether they had done something wrong to not get invited. A third concept area was that of emotions. Students left out of activities experienced feelings of jealousy, anger, fear, sadness, and a lack of self-worth. Students reported "awful feelings, being bummed, and bored."

As students had these feelings and realized they could not take part in these activities that their friends engaged in, the fourth concept of alternatives surfaced. Students felt they needed to take their minds off what their friends were doing so they would find alternative ways to occupy their time. Reading books, watching television, spending time with pets or family, and outdoor activities were the most frequent alternatives to looking at social media and checking their devices.

Theme 5: Disconnect Between an Understanding of Digital Citizenship and Reality of Practice (Digital Citizenship, Interconnected Digital Platform Usage, Social Media, FoMO)

While students understood the concept of digital citizenship, there was still a disconnect as to why students still behaved the way they did. While the schools in this study do provide random training through guest speakers or special events, these were often one-hit wonders with little to no follow-up activities. The effectiveness of these types of one-time, once per year activities was questionable with issues still occurring in schools.

Students are using social media platforms and interconnected digital devices daily; yet, according to both students and principals, there has been inadequate training on how to properly utilize these tools. While applications may offer user guides, these are rarely reviewed by participants. All individuals felt additional training that are site or application specific would be beneficial.

Self-regulation and tools to assist students on alternatives to digital media proved to be a key point as well. Students currently spend four to ten hours per day on their devices with students indicating they have access to a smartphone all night long. The use of these devices is also causing possible health effects with one student sharing vision problems, and another stating he is on medication for insomnia. Several students stated their nightly routine consists of being on their device until they fall asleep.

Summary

Using data from student and principal focus groups and individual student interviews, the researcher determined key themes and categories to assist in answering the overarching research questions on digital citizenship, social media, and FoMO. The video recordings and transcripts

provided key data resources that were summarized, coded, and reviewed to determine five key themes. These themes contained meaningful information regarding the perceptions of both middle school students and principals from a small rural school perspective. Implications and suggestions for future research will be discussed in Chapter 5.

Chapter 5 - Discussion and Recommendations

The prevalence of digital citizenship, smartphones, social media, and the FoMO plays a key role in the social development of middle school students and provided an avenue for meaningful research. We currently live in a society where individuals are expected to connect to their devices 24/7 (Vinayak & Malhotra, 2017). Today, children are utilizing devices and experiencing the challenges of being a digital citizen at a younger age than ever before. Middle school age is often a time where students realize the power of smartphones and social media and face critical social and environmental issues associated with the use of these devices.

Adolescence, a period of rapid development (both socially and physically), can significantly impact the well-being of students within a school setting (DeLay et al., 2017). Student knowledge of appropriate use of digital platforms, both within a school setting and through personal use, is important because the current generation of students experience electronic media as a central part of their lives (Lissak, 2018). Unfortunately, today's students find it difficult to escape the constant interconnected and always-on world of technology.

Woven into social media, interconnected digital platform use, and FoMO, is the idea of digital citizenship and how individuals can be a positive digital citizen in an ever-changing online environment. Saleem (2018) considers digital citizenship as thinking "about digital technologies and how to use them, employ them appropriately and responsibly to facilitate student participation in the broadest sense throughout the various activities in society" (p. 42). Also included in digital citizenship is the rules that help define appropriate behavior to maximize responsible use of technology (Saleem, 2018). Additional descriptors of digital citizenship include the norms of appropriate, responsible behavior in using technology (Phillips & Lee, 2019; Ribble, 2017).

Throughout this study, the ISTE standards on digital citizenship served as guidance for the research topics. Smith and Mader (2016) explained that standards play an integral role in ensuring a strong curriculum has been established and help to prepare students for the future. ISTE is known for promoting the proper use of technology and is considered the gold standard of technology integration, serving as a benchmark for understanding what is appropriate for digital platform usage regarding digital citizenship (Bucci et al., 2003; Ronan, 2018; Thomas & Knezek, 1999).

A review of the literature found scarce research available for each of the four topics, especially involving middle school students. Casa-Todd (2018) described the "necessity to educate students about navigating online spaces in creative, critical, healthy, and ethical ways in context rather than in isolation as a foundation for learning and connecting in our online world" (p. 15). Additionally, a lack of research was available that specifically defines digital citizenship in a technology-infiltrated society (Atif & Chou, 2018). This study was conducted in small, rural Midwest schools. Dodson (2019) felt more research should be conducted to gather the perceptions of rural schools on the educational uses of social media, computers, and smartphones.

This research study focused on four key areas outlined in the standards which included digital citizenship, interconnected digital platform usage, social media, and FoMO. Middle school students and principals of small, rural Midwest schools were chosen because the researcher was familiar with this type of school system and the importance of these topics was interesting and meaningful to the researcher. Through a process of focus groups and one-on-one interviews, the researcher was able to gather perceptions from both middle-school students and principals on each of these topics.

At the conclusion of the focus group Zoom sessions and one-on-one interviews, data was analyzed, and several key findings identified. The process of a priori coding, In Vivo coding, and code mapping, led to the development of five overarching themes. The first theme centered around balancing connections, communication, and appropriate practices within interconnected digital platform usage. Devices such as smartphones, iPads, and computers, serve as a gateway for communication and allow students to remain continuously connected to others. Understanding how students utilize the devices became important in establishing fair and functional policies and procedures within the school setting. A second theme involved relationships, responsibilities, and finding an online identify of interests within social media. While the goal of social media started as a way to stay connected with friends and family, it has evolved into a content creation machine with individuals constantly posting videos, news, and activities on a moment-by-moment basis.

A third theme centered on the characteristics of a digital citizen as described by middle school students and principals. While principals rely on the adage of be safe, responsible, and respectful, students were quick to point out what these words mean through examples. Both principals and students in these small rural schools provided several instances in which they have experienced both positive and negative digital citizenship behavior. The fact that emotions and feelings are shaped by experiences led to the fourth theme of emotions and feelings being shaped by FoMO. This is a very real concept that can have detrimental effects on an individual's mental and psychological health. Finally, a disconnect between an understanding of digital citizenship and reality of practice tied all four topics together in a fifth theme. Students and principals agreed that the one-time presentations with little follow-up have not been effective in deterring negative

online behaviors. A more comprehensive educational program would benefit schools as they work to address issues facing middle school students more effectively.

The findings and interpretations relating to each of these themes provide additional detailed information on how the overarching research question, along with the two sub-questions, were addressed. Participant viewpoints, opinions, and ideas, from both principals and middle school students in these small rural schools, led to the development of meaningful themes from the data. The findings and interpretations of the data connected to the literature are provided below.

Findings and Interpretations Connected to the Literature

Theme 1: Balancing Connections, Communication, and Appropriate Practices (Interconnected Digital Platform Usage)

The participants in this study indicated that interconnected digital devices are part of their daily lives and allow them to stay connected to the outside world. Jimenez-Morales et al. (2020) found "widespread use of technology among young students with 92.2% of girls and 90.4% of boys utilizing computers" (p. 20). Furthermore "89% of children aged six to thirteen consume videos on the Internet with 36% doing so daily" (Jimenez-Morales et al., 2020, p. 20). Emanuel (2013) determined that a growing number of students fill their time using a smartphone to text, talk, listen to music, play games, check financial documents, and download a variety of apps focused on safety, connecting with friends, communication, and entertainment as main reasons for using the device. Interconnected digital devices integrate tools such as calculators, alarm clocks, and applications that make life easier and more convenient.

Smartphones continue to be the most popular device in this category. Oberst et al. (2017) explained that "smartphones have revolutionized the way online social interaction is performed

because the technology allows users to access the internet and communicate with others whenever and wherever they are" (p. 53). Several participants shared that the most common use of interconnected digital devices is text messaging to stay connected to friends, especially within a rural context. Participants in this study also use interconnected digital devices to play games, browse social media, keep up on the news, and watch videos. The smartphone is the key tool that keeps individuals attached to others and with world events.

One participant compared her cell phone to a diary with similar privacy implications. Many others felt devices were a part of them and not having the device had a detrimental effect on their ability to function each day. Today, there seems to be a stigma attached with not having a cell phone as the technology device has become a virtual extension of oneself (Emanuel, 2013; Leung, 2017). Without the devices, students constantly look for additional technology tools to stay connected. This included accessing laptops, desktop computers, personal assistant devices, and other items which provide access to the internet. Mobile devices that are constantly connected to the internet allow for interaction and collaboration and create opportunities for content creation and communication (Bilos et al., 2017; Gikas & Grant, 2013).

Traxler (2016) noted smartphones have a significant impact on society and culture in personal communication due to their readily available access to everyday activities and interactions. Furthermore, the smartphone serves as an entertainment hub for several activities allowing students to access gaming sites, streaming services, video viewing, and an opportunity to access popular social media sites like Snapchat and TikTok. Students truly feel interconnected digital media platforms and devices are a necessity to stay connected and communicate with others.

Theme 2: Relationships, Responsibilities, and Finding an Online Identity of Interests (Social Media)

When viewed through a technological lens, sociability is defined as a human's desire to socialize with others through mediated technologies (Junglas et al., 2013; Lin et al., 2015). Social networking sites, or web-based virtual communities, allow individuals to meet their need for sociability through an online environment (Oberst et al., 2017). Also, social networking sites and services provide individuals with opportunities to communicate and share information (Cheung et al., 2011; Gezgin et al., 2017; Lin & Lu, 2011).

The popularity of smartphones and the fact that they have become more affordable over the past several years has quickly led to more time being devoted to accessing social media platforms (Gezgin et al., 2017). Middle school students shared that they spend a large amount of time browsing social media for a variety of reasons. With the number of individuals utilizing social media sites today, it is reasonable to assume that social media has become an essential technology tool for daily life (Gezgin et al., 2017; Yin et al., 2015). The student participants made it clear that SnapChat and TikTok are the most popular social media sites used by kids their age. The ability to watch and post videos on TikTok makes the app an entertainment hotspot and allows students to watch short clips of people conducting a variety of tasks. Students have an innate desire to get the most affirmations on these social media applications and see this as motivation to spend considerable time on the device to communicate, post, and interact with others. Social media platforms intrigue individuals because the platforms provide them the opportunity to receive feedback and reassurance from others in an environment that is not necessarily face-to-face (Blackwell et al., 2017; Kandell, 1998). Some students in this study confirmed a preference for communicating with peers online rather than face-to-face.

Social media platforms allow students to connect with others that may have the same or similar interests as they do. As students pointed out during the research study, living in a small rural community, and attending a small rural school limits the ability to experience a variety of interests and meet diverse people. ‘Tayo et al. (2019) reiterated this point, describing social media as an online platform that allows people to build networks and relations with others who may have similar interests, backgrounds, and connections.

Both principals and students agreed that content is often posted without the consideration of others. Commenting on friends’ pictures, commenting on friends’ pages or walls, sending private messages, sending instant messages, making purchases, scanning news and local and state events, and sharing content are all reasons why individuals may spend time in an online environment (Kee & Samsudin, 2014). Additionally, students in the study indicated they post material without even realizing they are posting. Posting content to social media is commonplace for today’s youth, so much that they consider posting a routine and expected task that they should do if they own a device or are on social media platforms. Social media platforms are truly environments in which people come together to share data, form relationships, and communicate content using internet communication channels (Aksoy, 2018).

Theme 3: Characteristics of a Positive Digital Citizen

Across all participants, the concept and definition of digital citizenship was understood and agreed upon. Kim and Choi (2018) described ethics and etiquette applied to technology as “acknowledging the rights of others and taking responsibility for one’s own actions which also includes protecting intellectual property rights and refraining from cyberbullying online” (p. 156). All participants seemed to have a clear understanding of what digital citizenship is and how one should act while on a digital platform. Principals endeavor to educate students through

traditional approaches of safety and respect. While students understand what each of these concepts means and requires, they sometimes ignore advice when they get caught up in a moment or put on the spot. Ribble and Miller (2013) found the lack of training and preparation for stakeholders on appropriate use and etiquette for social media and cyberbullying to be a concern. Both students and principals agreed that education could be strengthened in the school setting to offer additional opportunities for students to learn and grasp important tenets of on-line behavior.

Students typically understand right from wrong and have developed skills that help them deal with uncomfortable situations they encounter online. When they do not know a person or have been sent a questionable link, students shared they either ignore, delete, or block the unknown party. However, in this rural context, both principals and students agree that ground rules should be established when utilizing interconnected digital platforms. Since the major goal is to keep everyone safe, students should be alerted to what is and is not suitable.

Vinayak and Malhotra (2017) feel society's addiction to smartphones has changed the way humans interact with one another and has significantly altered the way people communicate. Both principals and students mentioned the "grandma rule" several times throughout the focus groups and interviews and reinforced that if content or online behavior would not be acceptable to a grandparent, it should be an indication the action is inappropriate. Leung (2017) confirmed that mobile phone usage can both directly and indirectly affect many aspects of human relationships and human interactions.

One area of various opinion among students and principals involved school policies concerning device usage with some students feeling school policies were too restrictive. School policies that allowed more open use of cell phones were welcomed and appreciated by students.

Students acknowledged cell phone usage should not distract from the learning environment in this more accessible approach.

Theme 4: Emotions and Feelings Shaped by Experiences (FoMO)

The FoMO is a real concept and was shared by students in the study's discussions. Przybylski's et al. (2013) noted the FoMO produces anxiety and concern for individuals regularly connecting and using a smartphone and social media when an individual misses out on positive experiences with friends. This trepidation was prevalent among youth. Within the concept of FoMO and digital citizenship practices, students expressed four distinct areas of concern. The first concern was restraint. Some students indicated that they declined to post material because they were fearful of how others might perceive their postings. The students felt they may cause feelings of jealousy, being left out of the fun, or being perceived as mean. On the other hand, some students posted without consideration for others. Oftentimes, students were caught up in the moment of the activity and did not think about how an online post may affect someone else.

A second area of concern involved the feeling of rejection. Students reported that seeing social media posts of their friends having fun without them did make them feel left out and resulted in hurtful feelings because they were not invited. Blackwell et al. (2017) described that anxiety about relationships can increase when people fear social exclusion. In these cases, individuals are often left wondering why they weren't good enough to hang out with friends and questioned whether they did something wrong to not get invited. Need satisfaction, life satisfaction, and mood all affect people with feelings of anxiety, sadness from lack of belonging, and wonderings about being left out (Chotpitayasunondh & Douglas, 2016; Przybylski et al., 2013).

A third area of concern noted by students was around emotions. Chotpitayasunondh and Douglas (2016) described FoMO as the fears, worries, and anxieties people have in relation to being in or out of touch with events, experiences, and conversations taking place without them. FoMO can debilitate individuals by arousing their insecurities leading to technology overuse (Carbonell et al., 2013). Students in this study provided examples of these feelings when being left out of activities as jealousy, anger, fear, sadness, and a lack of self-worth. Middle school students shared they felt awful and depressed during these times.

As students encountered these feelings and realized they could not take part in their friends' activities, the fourth area emerged, alternatives to overcome feelings of FoMO. Gezgin et al. (2017) recommended spending more time on real-time social activities, such as jogging, trekking, or other sports activities and having more discussions on current affairs with colleagues, friends, and family. Students felt they had to take their minds off what their friends were doing so they would find other ways to occupy their time. Reading books, watching television, spending time with pets or family, and outdoor activities were the most frequent alternatives to social media and checking devices voiced by students in the study.

Theme 5: Disconnect Between an Understanding of Digital Citizenship and Reality of Practice (Digital Citizenship, Interconnected Digital Platform Usage, Social Media, FoMO)

While students understand the concept of digital citizenship, there still appears to be a disconnect as to why students sometimes still behave the way they do. Even though mobile devices have a tremendous potential in the classroom, most schools see these devices as a disruption that needs to be managed and conceivably excluded from the learning environment (Grant et al., 2015; Lenhart et al., 2010). However, Emanuel (2013) argued that since cell phones

are here to stay, educational institutions would be wise to implement policies and practices that enable students to utilize the technology in a safe and instructive manner while at school. While the schools researched in this study do provide random training through guest speakers or special events, these efforts do not provide the impact necessary to curb irresponsible and negative behavior at middle-school age. This is evidenced by on-going student misuse of smartphones and social media.

Students are using social media platforms and interconnected digital devices daily; yet, according to both students and principals, there has been little consistent instruction as to how students should properly utilize these tools. In several instances, educators have found cell phones to be a problem because of the constant distractions students encounter while using them (Gilroy, 2004; Maddox, 2012; Project Tomorrow, 2010; Tessier, 2013). All individuals felt additional training that are site or app specific would be beneficial.

Self-regulation and tools to assist students about alternatives to digital media proved to be important points as well. Students currently spend four to ten hours per day on their devices with students indicating they have access to a smartphone all night long. In the digital age, it is difficult for students to prioritize between engaging in social interactions a smartphone provides, being academically productive, and able to exercise self-discipline in the use of the device (Emanuel, 2013; Head & Eisenberg, 2011).

Physical health problems, psychological stress and depression, and poor sleep quality are negative health effects of cell phone usage (Gezgin, 2018). Furthermore, Chotpitayasunondh and Douglas (2016) argued that despite the benefits of smartphones, concerns regarding their potential adverse effects on students' mental health, physical health, and quality of social interactions are significant concerns and issues needing attention. The study identified potential

adverse health problems resulting from device usage. One student shared experience with vision problems, and another needed medication for insomnia. Several students shared their nightly routine consisted of being on their device until they fell asleep. Additionally, the results of this study reinforced students describing frustration, anger, and isolation as a few of the feelings and emotions they encountered when they exhibited an inability to use their phone or mobile device with appropriate limits (Fox, 2006; Leung, 2017). Charoensukmongkol (2018) also found interpersonal relationship deterioration and social isolation present in those who used social media extensively.

The data garnered from the research study led to the development of the five themes to summarize the thoughts, feelings, opinions, and perceptions of these rural school participants. Analysis of the five themes provided the researcher with information that answered the overarching research question and its two sub questions.

Results

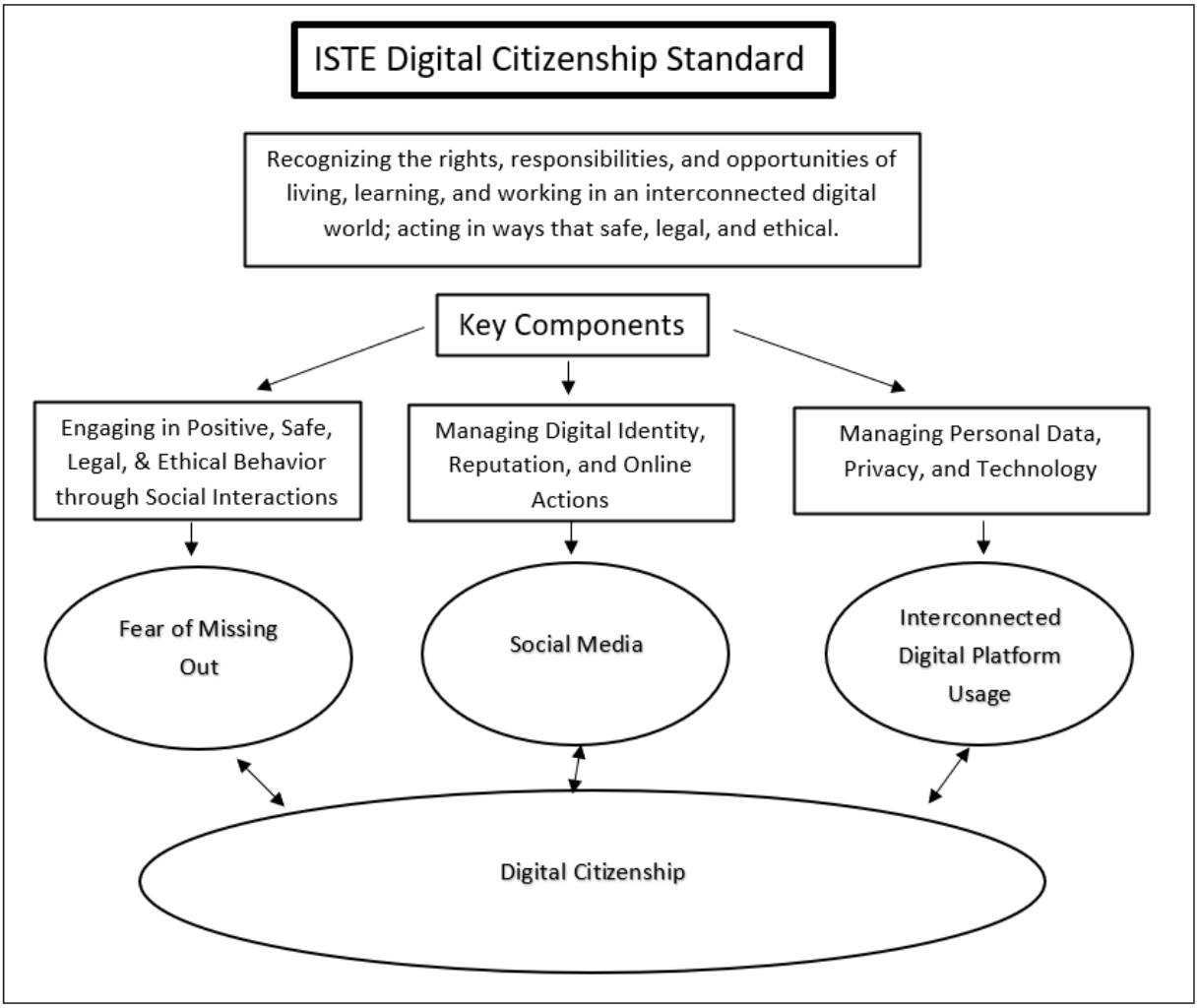
The purpose of this study was to determine the perceptions of middle school students and principals, within a small rural school text, regarding the necessary characteristics to be a good digital citizen and how these characteristics are impacted by FoMO. As the use of technology within schools has increased, there has been a disconnect regarding using this new technology appropriately. Even though schools have been providing some instruction and guidance on this topic for students, there seems to be a lack of understanding as students continue to misjudge the negative consequences of inappropriate use of smartphones and social media. A sense of frustration also exists among parents about how to properly monitor their child's usage of technology from the home setting. Additionally, administrators also witness increased disciplinary issues due to technology violations whether it be through cell phones or social

media. Middle school students face social pressure caused by the increased use of cell/smartphones and social media which affects relationships and peer interactions.

The goal of this study was to gather the perceptions from two different groups about digital citizenship and how the FoMO impacts digital citizenship practices and behaviors in middle school-aged students. As themes developed, the researcher identified similarities and differences in the perceptions among principals and middle school students related to the digital citizenship standard and the impact of FoMO. Digital citizenship outlines the obligations important to responsible and ethical use of technology-related devices including an emphasis on safety and legal conduct (ISTE Standards: Students, 2016). Digital citizenship for leaders focuses on equitable practices for technology use and digital citizenship skills (ISTE Standards: Education Leaders, 2018). For leaders, this occurs when they ensure that technology is accessible to all students, that responsible, safe, ethical, and legal use of technology is being exhibited, and that students are provided with engaging and authentic learning opportunities, among other things as noted in the standards for education leaders (ISTE Standards: Education Leaders, 2018).

Figure 1.1 provides a visual representation as to how the ISTE Digital Citizenship standard connects with the four topics within the standard covered in this research study. The definition and key components provide an overview and guiding principles for the study's purpose. In this study, the areas of digital citizenship, interconnected digital platform usage, social media, and FoMO anchored the purpose within the contexts of middle-school students in three small, rural Midwest schools. Figure 1.1 also represents how interconnected these concepts are with the key components of the standard. Digital citizenship is represented in all components as the overarching view of how one should interact within an online environment.

Figure 5.1. ISTE Digital Citizenship Standard



In the sections below, the research questions and connections to the theoretical frameworks are discussed.

Research Questions

- How do students perceive the use of cell/smartphones, social media, and technology use as defined in the digital citizenship standard in ISTE?
    - What impact does the fear of missing out (FoMO) have on digital citizenship practices?

- What positive/negative digital citizenship characteristics are exhibited by middle-school aged children?

The middle school students that participated in this research study see interconnected digital devices and platforms as a way of life and a part of their daily interactions with the outside world. As Lissak (2018) found, technology use among young children and adults continues to increase exponentially, quickly becoming a central part of students' lives. These technological advances have become so engrained in students' functionality that without them, students struggle to be productive. From a very early age, children are exposed to technology and live in a world surrounded by and immersed in online environments at the touch of their fingertips. Today's generation of students are growing up more technologically literate than any previous generation due to the increased availability of devices such as cell phones, video game consoles, mobile gaming devices, the internet, and instant messaging (Swan et al., 2005). In the next section, the theoretical frameworks presented in chapter two will be discussed in relation to the research questions and findings.

Connection to Theoretical Frameworks

This research study provided the impetus to examine the research questions centered on the importance of participant feelings affixed to a technological world. The first theoretical framework, attachment theory, serves as a basis for understanding individual differences in how people rely on their partners for security and support (Sherrell & Lambie, 2018). Factors affecting attachment begin at a very young age with attachment styles developed during childhood having a direct influence on interpersonal relationships later in life (Sherrell & Lambie, 2018). Students developing these attachment relationships through interconnected

digital platform usage at an early age reinforce the necessity for the interactions to be positive in nature.

Regarding cell phone/smartphone usage, students have been surrounded by these devices since they were nine or ten years old. Consequently, middle school students in this study feel they could not spend time without a device and when restricted from the potential use or access to the device, look for alternative technology devices to fill the void. Corresponding to the attachment theory, some students voiced strong connections to their devices by comparing the device to that of a diary, keeping personal thoughts, ideas, and concerns on the device without fear of others viewing the information. Students also used the device as a communication tool and a necessary connection for social media access and connecting to friends and the outside world. Today's students, who are continuously connected to the internet, can access online activities whether at home, school, or in many other locations (Walker, 2013). Furthermore, strong attachment to technology devices allows students to remain connected to the outside world while also serving as an entertainment hub for messaging, watching videos, conducting online searches, or gaming. While students indicated they first received their smartphone at the age of eight to fourteen, it is apparent the age at which students will have access or ownership to smartphones will continue to drop. Mobile phones have become one of, if not, the most important communication tool for today's students, continuing to expand rapidly for youth and adults (Leung, 2017; Obringer & Coffey, 2007).

The second theoretical framework, social comparison theory, suggests individuals have a drive to determine their progress on multiple aspects of their lives and compare themselves to others to do so (Festinger, 1954). Unfortunately, some students post information to social media without thinking about how others may feel or think. While students do experience a FoMO

when they see postings from friends and events to which they weren't invited, they do not always consider these feelings when they post material themselves.

Students generally understand the concepts and ideas of digital citizenship. This research study found that while many students learn by doing, they also learn through peer observations, interactions with others, and assess social differences. Students commonly know right from wrong but get distracted and do not always make the best choices when in compromising situations. The ISTE standards for students serve as a strong message to define proper behavior in an online environment and guide educational leaders on their role in supporting students through equitable and responsive decision-making (ISTE Standards: Students, 2016).

Social comparison theory serves as a backdrop explaining how individuals are motivated to compare themselves to others who are similar to better understand their own abilities and performance (Charoensukmongkol, 2018). Students felt that if their posting could make others feel jealous or if it provided a sense of feeling "mean", it was better to not post the material as the impact could be detrimental. However, there are times, because the idea of posting is so engrained in students, that students don't even realize they are posting. In these instances, they do not always think about how their post may affect others.

The FoMO has a significant impact on students and their social relationships. Students who are anxiously attached demonstrate insecurity in their relationships which could result in high levels of social media use to maintain sought-after relationships (Blackwell et al., 2017). Students perceive negative consequences when they miss out on activities and therefore, experience feelings of social comparison to others.

The third theoretical framework, self-determination theory, asserts that people are naturally motivated to self-improve; yet their drive can be supported or discouraged by one's

social environment (Deci & Ryan, 1985). Both principals and students provided several examples of positive and negative digital citizenship characteristics exhibited by middle-school aged children. Students provided several examples of learning opportunities shaping their understanding of both positive and negative online behavior.

Through this study, several self-determinism attributes were discovered that enable students to become model citizens within an online environment. Autonomy, a concept within the self-determination framework, is a person's need for feeling they are acting out of his/her own will in conjunction with personal values as opposed to feeling as though the behavior is coming from coercion or pressure (Grolnick & Raferty-Helmer, 2013). Social media applications allow students to maintain connections with the outside world and elicit independent communication with one another. Students also utilize their devices appropriately through messaging to communicate with parents, friends, educators, and the global society.

The students in the study also demonstrated a positive sense of situational awareness whereby they acknowledged knowing what to do and when they should do it. Deci and Ryan (1985) believe individuals demonstrate competence within the self-determination framework when they encounter challenging opportunities that allow them to express their true capacities. Students shared that they know how and when to block and/or delete unknown individuals. They also feel comfortable alerting a trusted adult when they encounter concerning situations. Students typically understand right from wrong when it comes to posting content online.

Finally, while students strive to act appropriately and with positive intent in the online environment, it is inevitable that negative actions also occur. A major negative factor that emerged through this research was the lack of empathy for others within the online environment. A major component of the self-determination theory is that of relatedness which is described as a

connection to others (Przybylski et al., 2013). This need of relatedness is typically satisfied when people experience social support and feel close to others (Deci & Ryan, 2008). The posting of offensive content, cyberbullying, and lack of inclusivity in activities were all ideas discussed by students and principals. In the next section, the researcher will discuss the recommendations for the development of digital citizenship practices important to the perceptions of middle school students and principals offered in the study's findings.

Recommendations

The following recommendations emerge from the research study to target specific opportunities to develop and institute digital citizenship practices from the study's findings. First, it would behoove schools to implement technology classes and programs that educate students about how to properly utilize interconnected digital platforms and devices. As student exposure to technological tools happens at earlier ages, education is paramount. Pre-adolescent students simply do not have the developmental awareness to navigate the complexities of the smartphone and social media. Students and youth can find themselves in precarious and dangerous situations without notice if proper use and monitoring is not occurring at school and home. Educational programming must be age-appropriate and focus on ways to prevent young people from encountering the dangers inherent on the internet. A viable opportunity for students at middle-school and high school is presented in curriculum classes such as computer applications. Digital citizenship, incorporated into the required curriculum, provides a consistent measure to educate students. Topics addressing device usage, social media, and legal consequences would assist students in gaining critical and timely information from properly trained school personnel, rather than technology-savvy friends. Schools must be proactive in specific and consistent ways to

increase knowledge and practice of positive digital citizenship habits, reinforcing appropriate use on a regular basis.

It is also of importance for students to develop and practice interpersonal social skills and for schools to provide students with real-life opportunities to engage and converse in face-to-face interactions. With the increase in technology usage, students are becoming increasingly dependent on utilizing their devices as their only mode of communication. Students are losing necessary social skills important to interpersonal communication. A firm handshake, the ability to look someone in the eye when talking, and recognizing facial expressions and body language are becoming a lost art as students become more immersed in technology-based communication. Schools must educate and simulate everyday situations for students to practice and regain skills and confidence fundamental to face-to-face communication.

Second, the researcher recommends the creation of a comprehensive and practical training program for use in schools and that also serves as a guide to parents. Informed and well-designed professional development for teachers, administrators, and parents in school communities is essential. The school and home must work together toward desired outcomes to lessen the opportunity for risky and dangerous encounters stemming from inappropriate use of devices. These outcomes should be centered on responsible digital citizenship as outlined in the standards. Consequently, schools will be able to develop policy and procedures for technology use within their districts in collaboration with parents. Parents will be able to use this information to set guidelines or rules as to how technology will be utilized within their household. When the school community works together, knowledge and support of policy implementation can be designed to uphold positive use of technology devices at school and home.

Third, an extension of this research may include communication with mental health professionals to help guide students through the concept of FoMO, providing strategies on how to cope, develop, and set healthy limits when using and accessing electronic information. Since the FoMO has a real effect on students as reported in this study, the impact of the FoMO should be considered when recommending school policies and home rules regarding interconnected digital media platforms. It is not feasible or healthy to deny access to cell phones since students view them as a major part of their lives and are seemingly lost when their communication tool is taken away. Schools should find a time and place for students to unwind and access their media while also setting appropriate limits for student use of cell phones in the classroom. In addition, this study found students communicate and connect with others easier through a smartphone than through face-to-face conversations. Interpersonal communication skills must be part of digital citizenship development. It is important for teachers and other mental health professionals to find ways to teach students how to interact with one another through personal, face-to-face interactions. Communication strategies, role-playing activities, and understanding appropriateness would all benefit students.

Implications for Future Research

In the review of the literature, little research has been conducted on middle school student usage of interconnected digital media platforms. The researcher desired to investigate this phenomenon through a qualitative study with middle school students and their principals to develop a greater insight on critical topics impacting students as they learn and interact with others in new and different technological platforms. Some middle school students lack experience and developmental maturity to contribute with in-depth perspective on smartphone and social media use. Therefore, conducting a similar study with older students may increase the

potential depth of understanding the formation of digital citizenship practices. While all the participants in this study had a device, their experiences differed significantly due to their ages. Future research designed around high school-aged students, an age group immersed in technology platforms with more experience using social media platforms and devices, could provide an even greater benefit to this research topic. Also, some schools have developed structured times during the school day for students to check and use their devices, in addition to learning opportunities with smartphones in the classroom. It would be enlightening to capture the perspectives of more mature high school students as these modern implementation strategies evolve to balance instructional and recreational use of technology.

A second implication for research is centered on the psychology behind automatic responses and the realization of conducting tasks without cognizant awareness. Interconnected digital devices have become so popular and widely used, they are now a way of life for students. Middle-school students in this research study indicated they were posting and sharing content in an automatic response-mode without thinking about the consequences of their actions. Much like other automatic life tasks individuals complete on a daily basis, posting and sharing content in the online environment has become essentially the same.

A third implication is a more specific lens on the use of smartphones and social media for students in rural school and community settings. Although the researcher was cognizant of the place where students and principals in this study lived, a broader approach to understanding the use of technology related to digital citizenship characteristics and the FoMO was the focus of the inquiry. Students recognize and report the value of having access to a global network through smartphones and social media to connect with others of like interests in a rural setting. Deeper inquiry into the reality of student perceptions living in rural contexts and the role of technology

could benefit principals, teachers, parents, and communities in their support of youth and in the development of programs to enhance technological opportunities and access in rural environments.

A fourth implication involves the construct of social media and health and wellness. Future research could investigate how the amount of time spent perusing social media and smart phone use correlates with healthy living and its effect on physical and mental well-being. In today's world, both students and adults spend a considerable amount of time constantly checking their social media accounts and using their smart phones for many purposes with little regard to how it is affecting their health. The toll social media and smart phone usage takes on an individual's social and emotional well-being is an area to be further investigated.

Final considerations involve the disconnect between schools providing instruction to students about the negative aspects posting and sharing content online and students still engaging in negative behaviors. Principals have gone to great lengths to provide guest speakers who share horror stories and the dangers of negative online behavior. Yet, after hearing this information, principals still report students engage in the same behaviors they were warned about. Interestingly, students in this study did not reference experiences related to technology use and digital citizenship related to the COVID-19 Pandemic. Middle school students in these rural schools experienced a wide array of quarantine and related health restrictions caused by the pandemic but had the benefit of remaining in-person after the mandated initial closure of schools. Future research could further investigate the perceptions of students related to disengagement and adverse behavior choices as well as the impact of the pandemic on usage patterns for students who were not advantaged by in-person instruction during this crisis.

Lastly, it is important to note that this study was conducted uniquely in the context of small rural midwestern schools. While technology usage is widespread and a universal phenomenon, the transferability of the results of this study to other contexts may or may not be realized depending on the unique characteristics and student populations in other school settings.

Conclusions

This research study provided insight into the perceptions of middle school students and principals on the topics of digital citizenship, interconnected digital platform usage, social media, and the FoMO. While students of this age have a background knowledge regarding these topics, additional education and instruction on proper usage and situational awareness is needed. Interconnected digital platforms have become a major part of the lives of middle school students, and it is imperative educators take proper steps to ensure the safety of students within an online environment. Additional considerations should be made to ensure positive relationships are maintained through the constant connection and communication capabilities these platforms provide.

Educators have a duty and responsibility to protect students and provide them with meaningful learning experiences related to real-life situations. The COVID-19 Pandemic, with forced lockdowns and school closures, forced limited social interactions among students. This study reinforced the need for students to learn and maintain face-to-face social connections. As a society, we are slowly losing the ability to communicate physically and are becoming increasingly reliant on communication through technology. While this may be a more convenient way to communicate, social cues and socially acceptable behavior are being ignored, lost, or under-utilized altogether.

The findings of this study lead to potential concerns on how the lack of face-to-face social interactions and the emphasis on communicating through devices may affect youth mental health, lack of physical activity and other health concerns, personal interactions and communication skills, the age of maturity in device usage, empathy concerns, and the proper amount of time for using digital devices. These critical issues shape societal expectations and result in the need for heightened awareness on developing positive and productive digital citizenship practices.

As our ever-changing society continues to embrace technology innovation, educators must look out for our most precious resource, our students. Providing an appropriate and meaningful education goes far beyond math, reading, writing, and science. Today's students live in a world requiring constant navigation and complex decisions. Students must be prepared for all types of intricate social situations both online and offline. Students who learn and understand how to become an informed digital citizen and practice these skills will be better able to navigate the world they live in.

References

Abrams, L. (2019). Public health in the era of social media. *American Journal of Public Health, 109*(S2), S130-S131.

Adams, S., Williford, D., Vaccaro, A., Kisler, T., Francis, A., & Newman, B. (2017). The young and the restless: Socializing trumps sleep, fear of missing out, and technological distractions in first-year college students. *International Journal of Adolescence and Youth, 22*(3), 337-348.

Ahn, J., Bivona, L., & DiScala, J. (2011). Social media access in K-12 schools: Intractable policy controversies in an evolving world. *Proceedings of the Association for Information Science and Technology.* https://doi.org/10.1002/meet.2011.14504801044

Akilli, G., & Gezgin, D. (2016). Examination of the relationship between nomophobia levels and different behavior patterns of university students. *Journal of Educational Faculty, 1*(40), 51-69.

Aksoy, M. (2018). A qualitative study on the reasons for social media addiction. *European Journal of Educational Research, 7*(4), 861-865.

Alabi, O. (2013). A survey of Facebook addiction level among selected Nigerian university undergraduates. *New Media and Mass Communication, 10*, 70-80.

Alavi, S., Maracy, M., Jannatifard, F., & Eslami, M. (2011). The effect of psychiatric symptoms on the internet addiction disorder in Isfahan's university students. *Journal of Research in Medical Sciences: The Official Journal of Isfahan University Medical Sciences, 16*(6), 793-800.

Alberta Education. (2012). *iPads: What are we learning? Summary report of provincial data gathering day.* https://open.alberta.ca/publications/9780778598602

Alexander, D. (2014). Social media disaster risk reduction and crisis management. *Science and Engineering Ethics, 20*(3), 717-33.

Ali, A., Iqbal, A., & Iqbal, K. (2016). Effects of social media on youth: A case study in university of Sargodha. *International Journal of Advanced Research, 4*(11), 369-372.

Alt, D. (2015). College students' academic motivation, media engagement, and fear of missing out. *Computers in Human Behavior, 49,* 111-119.

Aoki, K., & Downes, E. (2003). An analysis of young people's use of and attitudes toward cell phones. *Telematics and Informatics, 20,* 349-364.

Ariate, R., Cruz, R., Dimaculangan, J., & Tibayan, C. (2015). The role of Facebook in sustaining relationship among families of OFW. *LPU Laguna Journal of Arts and Sciences Communication Research, 2*(1), 156-181.

Arnold, M., Briscoe, B., Farmer, T., Robertson, D., & Shapley, K. (2007). How the government defines rural has implications for education policies and practices. *Issues & Answers Report, REL 2007-No. 010,* i-15.

Atif, Y., & Chou, C. (2018). Guest editorial: Digital citizenship: Innovations in education, practice, and pedagogy. *Educational Technology and Society, 21*(1), 152-154.

Attenborough, J., & Abbott, S. (2018). Leave them to their own devices: Healthcare students' experiences of using a range of mobile devices for learning. *SoTL, 12*(2), 1-9.

Banks, M. (2007). The internet, arpanet, and consumer online. *Online, 31*(1), 32-34.

Barker, V. (2009). Older adolescents' motivations for social network site use: The influence of gender, group identity, and collective self-esteem. *Cyberpsychology and Behavior, 12*(2), 209-213.

Bartholomew, S., & Reeve, E. (2018). Middle school student perceptions and actual use of mobile devices: Highlighting disconnects in student planned and actual usage of mobile devices in class. *Educational Technology and Society, 21*(1), 48-58.

Beranuy, M., Oberst, U., Carbonell, X., & Chamarro, A. (2009). Problematic internet and mobile phone use and clinical symptoms in college students: The role of emotional intelligence. *Computers in Human Behavior, 25*(5), 1182-1187.

Bhattacharya, K. (2017). *Fundamentals of qualitative research: A practical guide.* Routledge.

Bianchi, A. & Phillips, J. (2005). Psychological predictors of problem mobile phone use. *Cyberpsychology and Behavior, 8*(1), 39-51.

Biglu, M., & Ghavami, M. (2016). Factors influencing dependence on mobile phone. *Journal of Analytical Research Clinical Medicine, 4*(3), 158-162.

Bilos, A., Turkalj, D., and Kelic, I. (2017). Mobile learning usage and preferences of vocational secondary school students: The cases of Austria, the Czech Republic, and Germany. *Nase gospodarstvo/Our Economy, 63*(1), 59-69.

Blackwell, D., Leaman, C., Tramposch, R., Osborne, C., and Liss, M. (2017). Extraversion, neuroticism, attachment style and fear of missing out as predictors of social media use and addiction. *Personality and Individual Differences, 116,* 69-72.

Blanton, H., Crocker, J., and Miller, D. (2000). The effects of in-group versus out-group social comparison on self-esteem in the context of a negative stereotype. *Journal of Experimental Social Psychology, 36*(5), 519-530.

Blazer, C. (2012). Social networking in schools: Benefits and risks; review of the research; policy considerations; and current practices. *Information Capsule, 1109.*

Boateng, R., & Amankwaa, A. (2016). The impact of social media on student academic life in higher education. *Global Journal of Human-Social Science: G Linguistics and Education, 16*(4), 1-8.

Boer, M., Stevens, G., Finkenauer, C., & van den Eijnden, R. (2020). Attention deficit hyperactivity disorder-symptoms, social media use intensity, and social media use problems in adolescents: Investigating directionality. *Child Development, 91(4),* e853-e865.

Bowlby, J. (1980). *Attachment and loss: Vol. 3. Loss: Sadness and depression.* Basic Books.

Boyd, D. & Ellison, N. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer Mediated Communication, 13*(1), 210-230.

Brett, P. (2011). Students' experiences and engagement with SMS for learning in higher education. *Innovations in Education and Teaching International, 48*(2), 137-147.

Bridgestock, L. (2016). What drives students' social media usage? https://www.topuniversities.com/blog/what-drives-students-social-media-usage

Bright, L., Kleiser, S., & Grau, S. (2015). Too much Facebook? An exploratory examination of social media fatigue. *Computers in Human Behavior, 44,* 148-155.

Brooks, S. & Califf, C. (2016). Social media-induced technostress: Its impact on the job performance of it professionals and the moderating role of job characteristics. *Computer Networks.*

Brown, I. (2009). Art on the move: Mobility-a way of life. In J. Herrington, A. Herrington, J. Mantei, I. Olney, and B. Ferry (Eds.), *New technologies, new pedagogies: Mobile learning in higher education (*pp.120-128). University of Wollongong. http://ro.uow.edu.au/

Brown, B. & Larson, J. (2009). Peer relationships in adolescence. In R. M. Lerner and L. Steinberg (Eds.), *Handbook of Adolescent Psychology: Contextual Influences on Adolescent Development* (74-103). John Wiley and Sons Inc.

Bucci, T., Cherup, S., Cunningham, A., & Petrosino, A. (2003). ISTE standards in teacher education: A collection of practical examples. *The Teacher Educator, 39*(2), 95-114.

Buglass, S., Binder, J., Betts, L., & Underwood, J. (2017). Motivators of online vulnerability: The impact of social network site use and FOMO. *Computers in Human Behavior, 66,* 248-255.

Bulu, S., Numanoglu, M., & Keser, H. (2016). Examination of the attitudes of middle school students towards social media. *Cypriot Journal of Educational Science, 11*(1), 43-48.

Burke, M., Marlow, C., & Lento, T. (2010). Social network activity and social wellbeing. *Postgraduate Medical Journal, 85,* 455-459.

Buunk, B., Collins, R., Taylor, S., Van Yperen, N., & Dakof, G. (1990). The affective consequences of social comparison: Either direction has its ups and downs. *Journal of Personality and Social Psychology, 59*(6), 1238-1249.

Buunk, B. & Ybema, J. (1997). Social comparisons and occupational stress: The identification-contrast model. In B.P. Buunk and F.X. Gibbons (Eds.), *Health, coping, and well-being: Perspectives from social comparison theory* (pp. 359-388). Erlbaum.

Buunk, B., Zurriaga, R., Perio, J., Nauta, A., & Gosalvez, I. (2005). Social comparisons at work as related to a cooperative social climate and to individual differences in social comparison orientation. *Applied Psychology: An International Review, 54*(1), 61-80.

Camera, L. (2016). For schools, addressing social media mishaps is complex; educators increasingly realize that things posted on sites like Twitter and Facebook can have a

disruptive effect in the classroom. *U.S. News and World Report.* http://www.usnews.com/news/articles/2016-07-27/for-schools-addressing-social-media-mishaps-is-complex

Carbonell, X., Oberst, U., & Beranuy, M. (2013). The cell phone in the twenty-first century: A risk for addiction or a necessary tool? In P. Miller (Ed.), *Principles of addiction: Comprehensive addictive behaviors and disorders* (Vol. 1, 901-909). Academic Press.

Carlson, J. (2010). Avoiding traps in member checking. *The Qualitative Report, 15*(5), 1102-1113.

Casa-Todd, J. (2018). Reflections on digital citizenship. *Teacher Librarian, 45*(3), 15-18.

Chang, R. (2016). U.S. K-12 teachers reluctant to integrate social media in classrooms. *The Journal Transforming Education Through Technology.* https://thejournal.com/articles/2016/08/23/us-k12-teachers-reluctant-to-integrate-social-media-in-classrooms.aspx

Charlton, J. (2002). A factor-analytic investigation of computer "addiction" and engagement. *British Journal of Psychology, 93*, 329-344.

Charmaz, K. (2014). *Constructing grounded theory* (2nd Ed.). Sage.

Charoensukmongkol, P. (2018). The impact of social media on social comparison and envy in teenagers: The moderating role of the parent comparing children and in-group competition among friends. *Journal of Child and Family Studies, 27,* 69-79.

Chassiakos, Y., Radesky, J., Christakis, D., Moreno, M., & Cross, C. (2016). Association between portable screen-based media device access or use and sleep outcomes. *JAMA Pediatrics, 170*(12), 1202-1208.

Chen, P., Lambert, A., & Guidry, K. (2010). Engaging online learnings: The impact of web-based technology on college student engagement. *Computers and Education, 54,* 1222-1232.

Cheung, C., Chiu, P., & Lee, M. (2011). Online social networks: Why do students use Facebook? *Computers in Human Behavior, 27,* 1337-1343.

Chou, C., Condron, L., & Belland, J. (2005). A review of the research on internet addiction. *Educational Psychology Review, 17*(4), 363-388.

Chou, H. & Edge, N. (2012). They are happier and having better lives than I am: The impact of using facebook on perceptions of others' lives. *Cyberpsychology, Behavior, and Social Networking, 15*(2), 117-121.

Chotpitayasunondh, V., & Douglas, K. (2016). How "pubbing" becomes the norm: The antecedents and consequences of snubbing via smartphone. *Computers in Human Behavior, 63,* 9-18.

Christakis, D. & Moreno, M. (2009). Trapped in the net: Will internet addiction become a 21st-century epidemic? *Archives of Pediatrics and Adolescent Medicine, 163*(10), 959-960.

Christophel, D. (1990). The relationships among teacher immediacy behaviors, student motivation, and learning. *Communication Education, 39,* 323-340.

Chua, T. & Chang, L. (2016). Follow me and like my beautiful selfies: Singapore teenage girls' engagement in self-presentation and peer comparison on social media. *Computers in Human Behavior, 55(*Part A), 190-197.

Cohen-Charash, Y. (2009). Episodic envy. *Journal of Applied Social Psychology, 39*(9), 2128-2173.

Colak, T., & Dogan, U. (2016). Does the use of social media ensure social support and happiness? *International Online Journal of Educational Sciences, 8*, 229-240.

Cole, D., Nick, E., Zelkowitz, R., Roeder, K., & Spinelli, T. (2017). Online social support for young people: Does it recapitulate in-person social support; Can it help? *Computers in Human Behavior, 68*, 456-464.

Collins, R. (1996). For better or worse: The impact of upward social comparison on self-evaluations. *Psychological Bulletin, 119,* 51-69.

Crane, B. (2012). *Using Web 2.0 and social networking tools in the K-12 classroom.* ALA Neal-Schuman.

Creswell, J. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches.* (2nd ed.). Sage.

Creswell, J. (2007). *Qualitative inquiry and research design: Choosing among five approaches*. (2nd ed.). Sage.

Creswell, J. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. (3rd ed.). Sage.

Cristol, D., & Gimbert, B. (2014). Academic achievement in BYOD classrooms. *Journal of Applied Learning Technology*, *4*(1), 24-30.

Dahlstrom, E., & Bichsel, J. (2014). *ECAR study of undergraduate students and information technology* (Research report). ECAR. http://www.educause.edu/ecar

Davey, S., & Davey, A. (2014). Assessment of smartphone addiction in Indian adolescents: A mixed method study by systematic-review and meta-analysis approach. *International Journal of Preventative Medicine, 5*(12), 1500-1511.

Dean, B., Deansays, B., Karlottasays, T., McEvoysays, S., & Andreasays. (2021, October 10). *How many people use Social Media in 2021? (65+ statistics)*. Backlinko. https://backlinko.com/social-media-users

Deci, E., & Ryan, R. (1985). *Intrinsic motivation and self-determination in human behavior.* Plenum.

Deci, E., & Ryan, R. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25,* 54-67.

Deci, E. & Ryan, R. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology, 49*(3), 182-185.

Deci, E., Vallerand, R., Pelletier, L., & Ryan, R. (1991). Motivation and education: The self-determination perspective. *Educational Psychologist, 26,* 325-346.

DeLay, D., Hanish, L., Zhang, L., & Martin, C. (2017). Assessing the impact of homophobic name calling on early adolescent mental health: A longitudinal social network analysis of competing peer influence effects. *Journal of Youth Adolescence, 46,* 955-969.

Denzin, N., &Lincoln, Y. (2005). *The Sage handbook of qualitative research.* (3rd Ed.). Sage.

de Vries, D., & Kuhne, R. (2015). Facebook and self-perception: Individual susceptibility to negative social comparison on Facebook. *Personality and Individual Differences, 86,* 217-221.

Diamantes, T. (2018). Recent court rulings regarding student use of cell phones in today's schools. *Education, 131*(2), 404-406.

Diemer, T., Fernandez, E., & Streepey, J. (2012). Student perceptions of classroom engagement and learning using iPads. *Journal of Teaching and Learning with Technology, 1,* 13-25.

Dobson, M., & Jay, J. (2020). “Instagram has well and truly got a hold of me”: Exploring a parent’s representation of her children. *Issues in Educational Research, 30*(1), 58-78.

Dodson, R. (2019). Kentucky public school principals’ perceptions of social media, computer and smartphone use in schools and how well their principal preparation programs prepare them. *Educational Research Quarterly, 43*(1), 28-50.

Drouin, M., Reining, L., Flanagan, M., Carpenter, M., & Toscos, T. (2019). College students in distress: Can social media be a source of social support? *College Student Journal*, 494-504.

Duggan, M., & Smith, A. (2013). Cell internet use 2013. *Pew Research Center*. http://www.pewinternet.org/2013/09/16/cell-internet-use-2013

Duncan, D., Hoekstra, A., & Wilcox, B. (2012). Digital devices, distraction, and student performance: Does in-class cell phone use reduce learning? *Astronomy Education Review, 11*, 1-4.

Dunlap, J., & Lowentha, P. (2009). Tweeting the night away: Using Twitter to enhance social presence. *Journal of Information Systems Education, 20*(2), 129-35.

Dunn, J., Ruedy, N., & Schweitzer, M. (2012). It hurts both ways: How social comparisons harm affective and cognitive trust. *Organizational Behavior and Human Decision Processes, 117*(1), 2-14.

Eccles, J. (1999). The development of children ages 6 to 14. *The Future of Children, 9*(2), 30-44.

Eley, B., & Tilley, S. (2009). *Online Marketing Inside Out.* Sitepoint Pty. Ltd.

Elhai, J., Levine, J., Dvorak, R., and Hall, B. (2016). Fear of missing out, need for touch, anxiety, and depression are related to problematic smartphone use. *Computers in Human Behavior, 63*, 509-516.

Ellis, W., McAleer, B., and Szakas, J. (2015). Internet addiction risk in the academic environment. *Information Systems Educational Journal, 13*(5), 100-105.

Ellison, N., Steinfield, C., and Lampe, C. (2007). The benefits of Facebook "friends": Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication, 12*, 1143-1168.

Emanuel, R. (2013). The American college student cell phone survey. *College Student Journal, 47*(1), 75-81.

Emery, A., Heath, N., and Mills, D. (2016). Basic psychological need satisfaction, emotion dysregulation, and non-suicidal self-injury engagement in young adults: An application of self-determination theory. *Journal of Youth Adolescence, 45,* 612-623.

Fardouly, J., Magson, N., Johnco, C., Oar, E., and Rapee, R. (2018). Parental control of the time preadolescents spend on social media: Links with preadolescents' social media appearance comparisons and mental health. *Journal of Youth and Adolescence, 47,* 1456-1468.

Fardouly, J., Pinkus, R., Vartanian, L. (2017). The impact of appearance comparisons made through social media, traditional media, and in person in women's everyday lives. *Body Image, 20,* 31-39.

Feinstein, B., Hershenberg, R., Bhatia, V., Latack, J., Meuwly, N., and Davila, J. (2013). Negative social comparison on facebook and depressive symptoms: Rumination as a mechanism. *Psychology of Popular Media Culture, 2,* 161-170.

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7*(2), 117-140.

Fodeman, D., & Monroe, M. (2009). The impact of Facebook on our students. *Teacher Librarian, 36*(5), 36-40.

Forest, L., & Wood, V. (2012). When social networking is not working: Individuals with low self-esteem recognize but do not reap the benefits of self-disclosure on Facebook. *Psychological Science, 23*(3), 295-302.

Fox, K. (2006). *Society: The new garden fence.* London: Carphone Warehouse and London School of Economics and Political Science.

Fox, J., & Moreland, J. (2015). The dark side of social networking sites: An exploration of the relational and psychological stressors associated with facebook use and affordances. *Computers in Human Behavior, 45*(0), 168-176.

Fried, C. (2008). In-class laptop use and its effects on student learning. *Computers and Education, 50*(3), 906-914.

Frison, E., & Eggermont, S. (2015). The impact of daily stress on adolescent's depressed mood: The role of social support seeking through Facebook. *Computers in Human Behavior, 44,* 315-325.

Frison, E., & Eggermont, S. (2016). "Harder, better, faster, stronger": Negative comparison on Facebook and life satisfaction are reciprocally related. *Cyberpsychology Behavior and Social Networking, 19*(3), 158-164.

Gagne, M., & Deci, E. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior, 26,* 331-362.

Gallegos, C., & Nakashima, H. (2017). Mobile devices: A distraction, or a useful tool to engage nursing students? *Journal of Nursing Education, 57*(3), 170-173.

Garcia, A., Lopez-de-Ayala, M., and Catalina, B. (2013). The influence of social networks on the adolescents' online practices. *Comunicar, 41,* 195-204.

Gardner, H., & Davis, K. (2013). *The app generation: How today's youth navigate identity, intimacy, and imagination in a digital world.* New Haven, CT: Yale University Press.

George, D., & Dellasega, C. (2011). Use of social media in graduate-level medical humanities education: Two pilot studies from Penn State College of medicine, Medical Teacher. DOI: 10.3109/0142159x.211.586749

Gereluk, D. (2017). Citizenship and ethics. *Oxford Research Encyclopedia of Education, (1).*

Gezgin, D. (2018). Understanding patterns for smartphone addiction: Age, sleep duration, social network use and fear of missing out. *Cypriot Journal of Educational Science, 13*(2), 166-177.

Gezgin, D., Hamutoglu, N., Gemikonakli, O., and Raman, I. (2017). Social network users: Fear of missing out in preservice teachers. *Journal of Education and Practice, 8*(17), 156-168.

Gibbons, F. (1986). Social comparison and depression: Company's effect on misery. *Journal of Personality and Social Psychology, 51*(1), 140-148.

Gikas, J., & Grant, M. (2013). Mobile computing devices in higher education: Student perspectives on learning with cell phones, smartphones, and social media. *The Internet and Higher Education, 19,* 18-26.

Gilroy, M. (2004). Invasion of the classroom cell phones. *Education Digest, 69,* 56-60.

Gleason, B., & von Gillern, S. (2018). Digital citizenship with social media: Participatory practices of teaching and learning in secondary education. *Educational Technology and Society, 21*(1), 200-212.

Glesne, C. (2010). *Becoming qualitative researchers: An introduction,* 4th Ed. Boston: Pearson.

Goldman, Z., Goodboy, A., and Weber, K. (2017). College students' psychological needs and intrinsic motivation to learn: An examination of self-determination theory. *Communication Quarterly, 65*(2), 167-191.

Grant, M., Tamim, S., Brown, D., Sweeney, J., Ferguson, F., and Jones, L. (2015). Teaching and learning with mobile computing devices: Case study in K-12 classrooms. *TechTrends, 59*(4), 32-45.

Griffiths, M. (1998). Internet addiction: Does it really exist? In J. Gackenbach (Ed.) *Psychology and the Internet: Intrapersonal, interpersonal, and transpersonal applications* (61-75). Academic Press.

Griffiths, M. (2000). Does internet and computer "addiction" exist? Some case study evidence. *CyberPsychology and Behavior, 3*(2), 211-218.

Grolnick, W., & Raftery-Helmer, J. (2013). The importance of autonomy for development and well-being. In B. W. Sokol, F. M. E. Grouzet, and U. Muller (Eds.), *Self-regulation and autonomy: Social and developmental dimensions of human conduct*. Cambridge Press.

Guba, E. (1990). The alternative paradigm dialog. In E.G. Guba (Ed.), *The paradigm dialog* (p. 17-30). Sage.

Gulbahar, Y., Rapp, C., Kilis, S., and Sitnikova, A. (2017). Enriching higher education with social media: Development and evaluation of a social media toolkit. *International Review of Research in Open and Distributed Learning, 18*(1), 23-39.

Hail, C., Hurst, B., & Camp, D. (2011). Peer debriefing: Teachers' reflective practices for professional growth. *Critical Questions in Education, 2*(2), 74-83.

Han, S. (2019). Weathering the Twitter storm: Early uses of social media as a disaster response tool for public libraries during hurricane Sandy. *Information Technology and Libraries,* 37-48.

Hand, M., Thomas, D., Buboltz, W., Deemer, E., and Buyanjargal, M. (2013). Facebook and romantic relationships: Intimacy and couple satisfaction associated with online social network use. *CyberPsychology, Behavior, and Social Networking, 16,* 8-13.

Hanlon, S. (2016). Managing my fear of missing out. *Science*, *353*(6306), 1458.

Harter, S. (2012). *The construction of the self: Developmental and sociocultural foundations.* Guilford.

Hato, B. (2013). Compulsive mobile phone checking behavior out of a fear of missing out: Development, psychometric properties and test-retest reliability of a c-FoMO-scale. ANR: 610304. Master's Thesis.

Head, A., & Eisenberg, M. (2011). Balancing act: How college students manage technology while in the library during crunch time. *From Project Information Literacy, the Information School.* University of Washington.

Henderson, M., Selwyn, N., and Ashton, R. (2015). What works and why? Student perceptions of "useful" digital technology in university teaching and learning. *Studies in Higher Education, 42*(8), 1567-1579.

Hennigan, G. (2014). Adoption of technology in education is slow and uneven. *The Gazette.* http://www.thegazette.com/2012/03/04/adoption-of-technology-in-education-is-slow-and-uneven

Hischier, R., & Wager, P. (2015). The transition from desktop computers to tablets: A model for increasing resource efficiency? In *ICT Innovations for Sustainability* (243-256). Springer International Publishing.

Holland, G., & Tiggemann, M. (2016). A systematic review of the impact of the use of social networking sites on body image and disordered eating outcomes. *Body Image, 17,* 100-110.

Hollandsworth, R., Donovan, J., and Welch, M. (2017). Digital citizenship: You can't go home again. *TechTrends, 61,* 524-530.

Hooper, V., & Zhou, Y. (2011). Addictive, dependent, compulsive? A study of mobile phone usage. *Proceedings of the 20th Bled e-Conference: Merging and Emerging Technologies. Processes, and Institutions,* 271-285.

Hsu, Y., & Ching, Y. (2012). Mobile microblogging: Using Twitter and mobile devices in an online course to promote learning in authentic contexts. *The International Review of Research in Open and Distance Learning, 13*(4), 211-227.

Huang, C. (2017). Time spent on social network sites and psychological well-being: A Meta-analysis. *Cyberpsychology, Behavior, and Social Networking, 20*(6), 346-354.

Huang, F., Lee Y., Hwang, S. (2009). E-shopping behavior and user-web interaction for developing a useful green website. *Human-Computer Interaction,* 446-454.

Huffman, S., Shaw, E., & Loyless, S. (2019). Ensuring ethics and equity: Policy, planning, and digital citizenship. *Education, 140(2),* 87-99.

Hwang, G., Shi, Y., & Chu, H. (2011). A concept map approach to developing collaborative mindtools for context-aware ubiquitous learning. *British Journal of Educational Technology, 42*(5), 778-789.

Isman, A., & Gungoren, O. (2014). Digital citizenship: *TOJET: The Turkish Online Journal of Educational Technology, 13*(1), 73-77.

ISTE standards: Students. ISTE. (2016). https://www.iste.org/standards/iste-standards-for-students

ISTE standards: *Education Leaders.* ISTE (2018). https://www.iste.org/standards/iste-standards-for-education-leaders

Jenkins, H., Ito, M., & Boyd, D. (2015). *Participatory culture in a networked era: A conversation on youth, learning, commerce, and politics.* Wiley.

Jeong, S., Kim, H., Yum, J., & Hwang, Y. (2016). What type of content are smartphone users addicted to? SNS vs. games. *Computers in Human Behavior, 54*(C), 10-17.

Jimenez-Morales, M., Montana, M., & Medina-Bravo, P. (2020). Childhood use of mobile devices: Influence of mothers' social-educational level. *Comunicar: Media Education Research Journal, 28*(64), 19-26.

Johnson, B., & Knobloch-Westerwick, S. (2014). Glancing up or down: Mood management and selective social comparisons on social networking sites. *Computers in Human Behavior, 41*(0), 33-39.

Johnson, L., Smith, R., Willis, H., Levine, A., & Haywood, K. (2011). *The 2011 Horizon Report*. Austin, TX: The New Media Consortium.

Jones, T. (2014). Cell phone use while walking across campus: An observation and survey. *Elon Journal of Undergraduate Research in Communications, 5*(1).

Junco, R., & Cotton, S. (2012). The relationship between multitasking an academic performance. *Computers and Education, 59*(4), 1-10.

Junco, R., Heibergert, G., & Loken, E. (2010). The effect of Twitter on college students' engagement and grades. *Journal of Computer Assisted Learning,* 1-14.

Junglas, I., Goel, L., Abraham, C., & Ives, B. (2013). The social component of information systems—How sociability contributes to technology acceptance. *Journal of the Association for Information Systems, 14,* 585-616.

Kamibeppu, K., & Sugiura, H. (2005). Impact of the mobile phone on junior high-school students' friendships in the Tokyo Metropolitan Area. *CyberPsychology and Behavior, 8*(2), 121-130.

Kandell, J. (1998). Internet addiction on campus: The vulnerability of college students. *Cyberpsychology and Behavior, 1*(1), 11-17.

Kalpidou, M., Costin, D., & Morris, J. (2011). The relationship between Facebook and the well-being of undergraduate college students. *Cyberpsychology, Behavior, and Social Networking, 14*(4), 183-189.

Kaplan, A., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons, 53*(1), 59-68.

Katapally, T., Laxer, R., Qian, W., & Leatherdale, S. (2018). Do school physical activity policies and programs have a role in decreasing multiple screen time behaviors among youth? *Preventative Medicine, 110,* 106-113.

Katz, J. (2005). Mobile phones in educational settings. In K. Nyiri (Ed.) *A sense of place: The global and the local in mobile communication (*pp. 305-317). Passagen Verlag.

Kay, R., & Lauricella, S. (2011). Unstructured vs. structured use of laptops in higher education. *Journal of Information Technology Education: Innovations in Practice, 10,* 33-42.

Kee, C., & Samsudin, Z. (2014). Mobile devices: Toys or learning tools for the 21st century teenagers? *The Turkish Online Journal of Educational Technology, 13*(3), 107-122.

Kim, M., & Choi, D. (2018). Development of youth digital citizenship scale and implication for educational setting. *Educational Technology and Society, 21*(1), 155-171.

King, A., Valenca, A., Silva, A., Baczynski, T., Carvalho, M., & Nardi, A. (2013). Nomophobia: Dependency on virtual environments or social phobia. *Computers in Human Behavior, 29*(1), 140-144.

Kirschner, P., & Karpinski, A. (2010). Facebook and academic performance. *Computers in Human Behavior, 26*(6), 1237-1245.

Klein, W. (1997). Objective standards are not enough: Affective, self-evaluative, and behavioral responses to social comparison information. *Journal of Personality and Social Psychology, 72*(4), 763-774.

Komiyama, R., & McMorris, A. (2017). Examining international students' motivation to read in English from a self-determination theory perspective. *The Catesol Journal, 29*(2), 61-80.

Korucu, A., & Usta, E. (2016). The analysis of new generation mobile device dependencies of students in faculty of education. *Participatory Educational Research, 3*(1), 22-29.

Krasnova, H., Wenninger, H., Widjaja, T., & Buxmann, P. (2013). Envy on facebook: A hidden threat to users' life satisfaction? In *International Conference on Wirtschaftsinformatik, Leipzig.*

Kross, E., Verduyn, P., Demiralp, E., Park, J., Lee, D., Lin, N., & Ybarra, O. (2013). Facebook use predicts declines in subjective well-being in young adults. *PLOS ONE, 8.*

Kuh, G. (2009). The national survey of student engagement: Conceptual and empirical foundations. *New Directions for Institutional Research, 2009*(141), 5-20.

Kwan, G., & Skoric, M. (2013). Facebook bullying: An extension of battles in school. *Computers in Human Behavior, 29*(1), 16-25.

Lac, A., Crano, W., Berger, D., & Alvaro, E. (2013). Attachment theory and theory of planned behavior: An integrative model predicting underage drinking. *Developmental Psychology, 49*(8), 1579-1590.

Lankshear, C., & Knobel, M. (2011). *New literacies: Everyday practices and social learning (3rd ed.).* Open University Press.

Lauricella, A., Wartella, E., & Rideout, V. (2015). Young children's screen time: The complex role of parent and child factors. *J. Appl. Dev. Psychol., 36,* 11-17.

Lee, Y., Ko, C., & Chou, C. (2015). Re-visiting internet addiction among Taiwanese students: A cross-sectional comparison of students' expectations, online gaming, and online social interaction. *Journal of Abnormal Child Psychology, 43*(3), 589-599.

Lee, H., Lee, W., Kweon, S. (2013). Conjoint analysis for mobile devices for ubiquitous learning in higher education: The Korean case. *The Turkish Online Journal of Educational Technology, 12*(1).

Lee, C., & Ma, L. (2012). News sharing in social media: The effect of gratifications and prior experience. *Computers in Human Behavior, 28*(2), 331-339.

Lemon, N. (2019). Twitter in the initial teacher education arts classroom: Embracing risk taking to explore making learning visible. *Art, Design and Communication in Higher Education, 18*(1), 81-97.

Lenhart, A. (2010). *Teens, cell phones, and texting: Text messaging becomes centerpiece communication.* Washington DC: Pew Internet and American Life Project. http://pewresearch.org/pubs/1572/teens-cell-phones-text-messages

Lenhart, A. (2013). Teens and technology 2013. *Pew Internet and American Life Project and Harvard's Berkman Society for Internet and Society,* March 13, 2013.

Lenhart, A., Duggan, M, Perrin, A., Stepler, R., Rainie, L., & Parker, K. (2015). Teen, social media and technology overview. Washington DC: Pew Research Centre.

Lenhart, A., Ling, R., Campbell, S., & Purcell, K. (2010). *Teens and mobile phones.* Washington DC: Pew Internet and American Life Project. https://www.pewresearch.org/internet/2010/04/20/teens-and-mobile-phones/

Leung, C. (2017). Assessing mobile phone dependency and teens' everyday life in Hong Kong. *Australian Journal of Psychology, 69,* 29-38.

Lin, T., Chiang, Y., & Jiang, Q. (2015). Sociable people beware? Investigating smartphone versus non-smartphone dependency symptoms among young Singaporeans. *Social Behavior and Personality, 43*(7), 1209-1216.

Lin, K., & Lu, H. (2011). Why people use social networking sites: An empirical study integrating network externalities and motivation theory. *Computers in Human Behavior, 27*, 1152-1161.

Lin, L., Sidani, J., Shensa, A., Radovic, A., Miller, E., Colditz, J., & Primack, B. (2016). Association between social media use and depression among U.S. young adults. *Depression and Anxiety, 33*(4), 323-331.

Lissak, G. (2018). Adverse physiological and psychological effects of screen time on children and adolescents: Literature review and case study. *Environmental Research, 164,* 149-157.

Liu, M., Scordino, R., Geurtz, R., Navarrete, C., Ko, Y., & Lim, M. (2014). A look at research on mobile learning in K-12 education from 2007 to present. *Journal of Research on Technology in Education, 46*(4), 325-372.

Losh, E., & Jenkins, H. (2012). Can public education coexist with participatory culture? *Knowledge Quest, 41*(1), 16.

Maddox, N. (2012). Silencing students' cell phones beyond the schoolhouse gate: Do public schools' cell phone confiscation and retention policies violate parents' due process rights? *Journal of Law and Education, 41*(1), 261-269.

Mason, S. (2019). Teachers, twitter, and tackling overwork in Japan. *Issues in Educational Research, 29*(3), 881-898.

Massie, K., & Folk, M. (2019). Assessing the impact of social media analytics software on student learning. *Journal of Higher Education Theory and Practice, 90*(7), 62-

McCoy, B. (2016). Digital distractions in the classroom phase II: Student classroom use of digital devices for non-class related purposes. Faculty Publications, College of Journalism and Mass Communications. Paper 90. http://digitalcommons.unl.edu/journalismfacpub/90

McDougall, M., Walsh, M., Wattier, K., Knigge, R., Miller, L., Stevermer, M., & Fogas, B. (2016). The effect of social networking sites on the relationship between perceived social support and depression. *Psychiatry Research, 246,* 223-229.

Miserandino, M. (1996). Children who do well in school: Individual differences in perceived competence and autonomy in above-average children. *Journal of Educational Psychology, 88,* 203-214.

Mourlam, D. (2014). Social media and education: Perceptions and need for support. *I-Manager's Journal of School Educational Technology, 9*(3), 23-28.

Moustakas, C. (1994). *Phenomenological research methods.* Sage.

Muise, A., Christofides, E., & Desmarais, S. (2009). More information than you ever wanted: Does Facebook bring out the green-eyed monster of jealousy? *CyberPsychology and Behavior, 12*, 441-444.

Mupinga, D. (2018). School-wide and classroom policies on the use of mobile technologies: An exploratory study. *The Journal of Technology Studies,* 70-79.

Murray, K., & Waller, R. (2007). Social networking goes abroad. *International Educator, 16*, 56-59.

Nation, M., Crusto, C., Wandersman, A., Kumpfer, K., Seybolt, D., Morrissey-Kane, E., & Davino, K. (2003). What works in prevention: Principles of effective prevention programs. *American Psychologist, 58*(6-7), 449.

Nesi, J., & Prinstein, M. (2015). Using social media for social comparison and feedback-seeking: Gender and popularity moderate associations with depressive symptoms. *Journal of Abnormal Child Psychology, 43*, 1427-1438.

Nielson, L. (2016). What factors influence knowledge sharing in organizations? A social dilemma perspective of social media communication. *Journal of Knowledge Management, 20*(6).

Nielson, W., Moll, R., Farrell, T., McDaid, N., Hoban, G. (2013). Social media use among pre-service primary teachers. *International Journal of Instructional Technology and Distance Learning, 10*(8), 3-13.

Nongpong, S., & Charoensukmongkol, P. (2016). I don't care much as long as I am also on facebook: Impacts of social media use of both partners on romantic relationship problems. *The Family Journal, 24*(4), 351-358.

Oberst, U., Wegmann, E., Stodt, B., Brand, M., & Chamarro, A. (2017). Negative consequences from heavy social networking in adolescents: The mediating role of fear of missing out. *Journal of Adolescence, 55,* 51-60.

Oberst, U., Renau, V., Chamarro, A., & Carbonell, X. (2016). Gender stereotypes in Facebook profiles: Are women more female online? *Computers in Human Behavior, 60,* 559-564.

Obringer, S., & Coffey, K. (2007). Cell phones in American high schools: A national survey. *The Journal of Technology Studies, 31,* 41-47.

Ofcom. (2017). Children and parents: Media use and attitudes report 2017. https://www.ofcom.org.uk/research-and-data/media-literacy-research/childrens/children-parents-2017

Oh, H., Ozkaya, E., & LaRose, R. (2014). How does online social networking enhance life satisfaction? The relationships among online supportive interaction, affect, perceived social support, sense of community, and life satisfaction. *Computers in Human Behaviors, 30,* 69-78.

O'Neil, K., & Krause, J. (2019). Physical education teacher education faculty self-efficacy toward educational technology. *The Physical Educator, 76,* 1287-1305.

Ophus, J., & Abbott, J. (2009). Exploring the potential perceptions of social networking systems in university courses. *MERLOT Journal of Online Learning and Teaching, 5*(4), 1841-1848.

Orford, J. (2001). Addiction as excessive appetite. *Addiction (Abingdon, England), 96,* 15-31.

Oulasvirta, A., Tye R., Lingyi, M., & Eeva, R. (2012). Habits make smartphone use more pervasive. *Personal and Ubiquitous Computing, 16*(1), 105-114.

Owusu-Acheaw, M., & Larson, A. (2015). Use of social media and its impact on academic performance of tertiary institution students: A study of students of Koforidua Polytechnic, Ghana. *Journal of Education and Practice, 6*(6), 94-101.

Pardo, A. (2013). Social learning graphs: Combining social network graphs and analytics to represent learning experiences. *International Journal of Social Media and Interactive Learning Environments, 1*(1), 43-58.

Park, S., & Baek, Y. (2018). Two faces of social comparison on Facebook: The interplay between social comparison orientation, emotions, and psychological well-being. *Computers in Human Behavior, 79,* 83-93.

Park, C., & Park, Y. (2014). The conceptual model on smartphone addiction among early childhood. *International Journal of Social Science and Humanity, 4,* 147-150.

Park, H., & Salmon, C. (2005). A test of the third-person effect in public relations: Application of social comparison theory. *Journalism and Mass Communication Quarterly, 82*(1), 25-43.

Parmet, S. (2005). It's hard to make the call on cell phones: More bad than good seen in students' use. *San Diego Union Tribune*. A1 (January 1, 2005).

Parra, J., Raynor, C., Osanloo, A., & Guillaume, R. (2019). (Re)imaging an undergraduate integrating technology with teaching course. *TechTrends, 63,* 68-78.

Pegrum, M., Oakley, G., & Faulkner, R. (2013). Schools going mobile. A study of the adoption of mobile handheld technologies in Western Australian independent schools. *Australasian Journal of Educational Technology, 29*(1).

Pelleg, D., Savenkov, D., & Agichtein, E. (2013). Touch screens for touchy issues: Analysis of accessing sensitive information from mobile devices, *ICWSM 2013.*

Pempek, T., Yermolayeva, Y., & Calvert, S. (2009). College students' social networking experiences on Facebook. *Journal of Applied Development Psychology, 30*(3), 227-238.

Pew Research Center. (2016). *Social media update 2016*. http://www.pewinternet.org/2016/11/11/social-media-update-2016/

Phillips, A., & Lee, V. (2019). Whose responsibility is it? A statewide survey of school librarians on responsibilities and resources for teaching digital citizenship, *School Library Research, 22,* 1-20.

Pistole, C., & Watkins, C. (1995). Attachment theory, counseling process, and supervision. *The Counseling Psychologist, 23,* 457-478.

Poore, M. (2012). *Using social media in the classroom: A best practice guide.* Sage Publishers.

Premadasa, H., & Meegama, R. (2016). Two-way text messaging: An interactive mobile learning environment in higher education. *Research in Learning Technology, 24,* 1-16.

Prensky, M. (2005). What can you learn from a cell phone? Almost anything! *Innovate: Journal of Online Education, 1(5).*

Project Tomorrow (2012). *Mapping a personalized learning journey: K-12 students and parents connects the dots with digital learning.* Author.

Project Tomorrow (2010). *Creating our future: Students speak up about their vision for 21st century learning.* Washington D.C.

Przybylski, A., Murayama, K., DeHaan, C., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in Human Behavior, 29,* 1841-1848.

Quade, M., Greenbaum, R., & Mawritz, M. (201). If only my coworker was more ethical: When ethical and performance comparisons lead to negative emotions, social undermining, and ostracism. *Journal of Business Ethics, 2019,* 567-586.

Reeve, J. (2002). Self-determination theory applied to educational settings. In E.L. Deci and R. M. Ryan (Eds.), *Handbook of self-determination research* (183-203). Rochester, NY: University of Rochester Press.

Ribble, M. (2011). *Digital citizenship in schools.* Washington, DC: International Society for Technology in Education.

Ribble, M. (2017). Nine elements: Nine themes of digital citizenship. http://digitalcitizenship.net/nine-elements.html

Ribble, M., & Miller, T. (2013). Educational leadership in an online world: Connecting students to technology responsibly, safely, and ethically. *Journal of Asynchronous Learning Networks, 17*(1), 137-145.

Rice, R., & Hagen, I. (2010). Young adults' perpetual contact, social connection, and social control through the Internet and mobile phones. In C. Salmon (Ed.), *Communication Yearbook, 34* (2-39). Erlbaum.

Richards, D., Caldwell, P., and Go, H. (2015). Impact of social media on the health of children and young people. *J Paediatr Child Health, 51*(12), 1152-1157.

Richmond, V. (1990). Communication in the classroom: Power and motivation. *Communication Education, 39,* 181-195.

Rideout, V. (2012). *Children, teens, and entertainment media: The view from the classroom.* Common Sense Media.

Rideout, V., Foehr, U., & Roberts, D. (2010). Generation m2: Media in the lives of 8-to 18-year-olds. *Henry J. Kaiser Family Foundation.*

Ridolfi, D., Myers, T., Crowther, J., & Ciesla, J. (2011). Do appearance focused cognitive distortions moderate the relationship between social comparisons to peers and media images and body image disturbance? *Sex Roles, 65,* 491-505.

Ronan, B. (2018). Standards-based technology integration for emergent bilinguals. *21st Century Learning and Multicultural Education,* 7-12.

Ryan, R., & Deci, E. (2000a). When rewards compete with nature: The undermining of intrinsic motivation and self-regulation. In C. Sansone and J. M. Harackiewicz (Eds.), *Intrinsic and extrinsic motivation: The search for optimal motivation and performance* (14-54). Academic Press.

Ryan, R., & Deci, E. (2000b). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55,* 68-78.

Ryan, R., & Deci, E. (2002). An overview of self-determination theory: An organismic-dialectical perspective. In E.L. Deci and R. M. Ryan (Eds.), *Handbook of self-determination research* (3-36). The University of Rochester Press.

Ryan R., & Deci, E. (2009). Promoting self-determined school engagement. In K.R. Wentzel and A. Wigfield (Eds.), *Handbook of motivation school* (171-196). Routledge.

Ryan, R., & Deci, E. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness.* The Guilford Press.

Ryan, R., & Connell, J. (1989). Perceived locus of causality and internalization: Examining reasons for acting in two domains. *Journal of Personality and Social Psychology, 57,* 749-761.

Ryan, T., Chester, A., Reece, J., & Xenos, S. (2014). The uses and abuses of Facebook: A review of Facebook addiction. *Journal of Behavioral Addictions, 3*(3), 133-148.

Sagioglou, C., & Greitemeyer, T. (2014). Facebook's emotional consequences: Why Facebook causes a decrease in mood and why people still use it. *Computers in Human Behavior, 35*, 359-363.

Saldaña, J. (2016). *The coding manual for qualitative researchers.* Sage Publication Ltd.

Saleem, T. (2018). Digital citizenship and its activation means in educational institutions. *International Forum of Teaching and Studies, 14*(2), 39-53.

Schiola, E. (2015). 20 helpful apps for teachers and educators. http://www.digitaltrends.com/mobile/best-apps-for-teachers-education/

Schurgin O'Keefe, G., & Clarke-Pearson, K. (2011). Clinical report: The impact of social media on children, adolescents, and families. *Pediatrics, 127*(4), 800-804.

Searson, M., Hancock, M., Soheil, N., & Shepherd, G. (2015). Digital citizenship within global contexts. *Education and Information Technologies, 20*(4), 729-741.

Seifert, T. (2015). Pedagogical applications of smartphone integration in teaching: Lecturers, pre-service teachers and pupils' perspectives. *International Journal of Mobile and Blended Learning, 7*(2), 1-16.

Shakya, H., & Christakis, N. (2017). Association of Facebook use with compromised well-being: A longitudinal study. *American Journal of Epidemiology, 185*(3), 203-211.

Sherrell, R., & Lambie, G. (2016). A qualitative investigation of college students' Facebook usage and romantic relationships: Implications for college counselors. *Journal of College Counseling, 19,* 138-153.

Sherrell, R., & Lambie, G. (2018). The contribution of attachment and social media practices to relationship development. *Journal of Counseling and Development, 96,* 303-315.

Sidani, J., Shensa, A., Hoffman, B., Hanmer, J, Primack, B. (2016). The association between social media use and eating concerns among US young adults. *J Acad Nutr Diet, 116(9),* 1465-1472.

Smetaniuk, P. (2014). A preliminary investigation into the prevalence and prediction of problematic cell phone use. *Journal of Behavioral Addictions, 3*(1), 41-53.

Smith, R. (2000). Assimilative and contrastive emotional reactions to upward and downward social comparisons. In J. Suls and L. Wheeler (Eds.), *Handbook of social comparison: Theory and research* (p. 173-200). Plenum.

Smith, A., & Anderson, M. (2018). Social media use in 2018. March 1, 2018. Washington, DC: Pew Research Center. http://www.pewinternet.org/2018/03/01/social-media-use-in-2018.

Smith, B., & Mader, J. (2016). Transforming science education with new tech standards. *Science 2.0,* p. 8.

Sowash, B. (2019). Beyond the website: Connecting with students on social media. *American Music Teacher*, 18-21.

Spada, M. (2014). An overview of problematic internet use. *Addictive Behaviors, 39*(1), 3-6.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques, procedures for developing grounded theory.* Sage.

Steers, M. (2016). "It's complicated": Facebook's relationship with the need to belong and depression. *Current Opinion in Psychology, 9*, 22-26.

Stephens, K., & Pantoja, G. (2016). Mobile devices in the classroom: Learning motivations predict specific types of multicommunicating behaviors. *Communication Education, 65(4),* 463-479.

Stonge, S., Greaves, L., Milojev, P., West-Newman, T., Barlow, F., & Sibley, C. (2015). Facebook is linked to body dissatisfaction: Comparing users and non-users. *Sex Roles, 73*, 200-213.

Strauss, A. (1987). *Qualitative analysis for social scientists.* Cambridge University Press.

Stringer, E. (2014). *Action research* (4th ed.). Sage

Subrahmanyam, K., & Patricia, G. (2008). Online communication and adolescent relationships. *The Future of Children, 18*(1), 119-46.

Subrahmanyam, K., Reich, S., Waechter, N., & Espinoza, G. (2008). Online and offline social networks: Use of social networking sites by emerging adults. *Journal of Applied Developmental Psychology, 29(6),* 420-433.

Suls, J., Martin, R., & Wheeler, L. (2000). Three kinds of opinion comparison: The triadic model. *Personality and Social Psychology Review (Lawrence Erlbaum Associates), 4*(3), 219-237.

Sung, Y., Hou, H., Liu, C., & Chang, K. (2010). Mobile guide system using problem-solving strategy for museum learning: A sequential learning behavioral pattern analysis. *Journal of Computer Assisted Learning, 26*(2), 106-115.

Swan, K., van't Hooft, M., Kratcoski, A., & Unger, D. (2005). Uses and effects of mobile computing devices in K-8 classrooms. *Journal of Research on Technology in Education, 38*(1), 99-112.

Szeto, E., Cheng, A., & Hong, J. (2016). Learning with social media: How do preservice teachers integrate YouTube and social media in teaching? *Asia-Pacific Educational Research, 25*(1), 35-44.

Talaue, G., Alsaad, A., AlRushaidan, N., & AlHagail, A. (2018). The impact of social media on academic performance of selected college students. *International Journal of Advanced Information Technology, 4,* 27-35.

Tandoc, E., Ferrucci, P., & Duffy, M. (2015). Facebook use, envy, and depression among college students: Is Facebooking depressing? *Computers in Human Behavior*, *43*(0), 139-146.

Tang, J., Chen, M., Yang, C., Chung, T., & Lee, Y. (2016). Personality traits, interpersonal relationships, online social support, and Facebook addiction. *Telematics and Informatics, 33*(1), 102-108.

'Tayo, S., Adebola, S., & Yahya, D. (2019). Social media: Usage and influence on undergraduate studies in Nigerian universities. *International Journal of Education and Development Using Information and Communication Technology, 15*(3), 53-62.

Tesser, A., Millar, M., & Moore, J. (1988). Some affective consequences of social comparison and reflection processes: The pain and pleasure of being close. *Journal of Personality and Social Psychology, 54*(1), 49-61.

Tesser, A., & Smith, J. (1980). Some effects of task relevance and friendship on helping: You don't always help the one you like. *Journal of Experimental Social Psychology*, *16*(6), 582-590.

Tessier, J. (2013). Student impressions of academic cell phone use in the classroom. *Journal of College Science Teaching, 43*(1), 25-29.

Tews, A., Sukhatme, G., & Mataric, M. (2002). *An infrastructure for large-scale human-robot interaction.* Technical Report. CRES-02-001. Center of Robotic and Embedded Systems, University of South.

Tezci, E., & Icen, M. (2017). High school students' social media usage habits. *Journal of Education and Practice, 8(27),* 99-108.

Thomas, K., & McGee, C. (2012). The only thing we have to fear is…120 characters. *TechTrends: Linking Research and Practice to Improve Learning, 56*(1), 19-33

Thomas, L., & Knezek, D. (1999). National educational technology standards. *Educational Leadership, 56(5),* 27.

Tomczyk, L., & Selmanagic-Lizde, E. (2018). Fear of missing out (fomo) among youth in Bosnia and Herzegovina—Scale and selected mechanisms. *Children and Youth Services Review, 88,* 541-549.

Traxler, J. (2016). Inclusion in an age of mobility. *Research in Learning Technology, 24(1),* 31372.

Tsay-Vogel, M., Shanahan, J., & Signorielli, N. (2016). Social media cultivating perceptions of privacy: A 5-year analysis of privacy attitudes and self-disclosure behaviors among Facebook users. New Media and Society.

Turkle, S. (2011). *Alone together: Why we expect more from technology and less from each other.* Basic Books.

Vahey, P., & Crawford, V. (2002). *Palm Education Pioneers Program: Final evaluation report.* SRI International.

Vali, R. (2015). Five ways mobile technology is transforming education. Retrieved from: http://www.techradar.com/news/mobile-computing/tablets/five-ways-mobile-technology-is-transforming-education-1282557.

Vallerand, R., Fortier, M., & Guay, F. (1997). Self-determination and persistence in a real-life setting: Toward a motivational model of high school dropout. *Journal of Personality and Social Psychology, 72*, 1161-1176.

Vallerand, R., Pelletier, L., Blais, M., Briere, N., Senecal, C., & Vallieres, E. (1992). The academic motivation scale: A measure of intrinsic, extrinsic, and amotivation in education. *Educational and Psychological Measurement, 52*, 1003-1017.

Van den Eijnden, R., Meerkerk, G., Vermulst, A., Spijkerman, R., & Engels, R. (2008). Online communication, compulsive internet use, and psychosocial well-being among adolescents: A longitudinal study. *Developmental Psychology, 44*, 655-665.

Vanden Abeele, M., & van Rooij, T. (2016). Fear of missing out (FoMO) as a predictor of problematic social media use among teenagers. *Proceedings of International Conference on Behavioral Addictions, IBCA 2016.*

Van Manen, M. (1990). *Researching lived experience: Human science for an action sensitive pedagogy.* The University of Western Ontario.

Vansteenkiste, M., & Ryan, R. (2013). On psychological growth and vulnerability: Basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration*, *23*(3), 263-280.

Vinayak, S., & Malhotra, M. (2017). Impact of impulsiveness on mobile phone addiction. *Indian Journal of Health and Well-Being, 8*(10), 1102-1106.

Vogel, E., Rose, J., Roberts, L., & Eckles, K. (2014). Social comparison, social media, and self-esteem. *Psychology of Popular Media Culture, 3*(4), 206-222.

Walker, R. (2013). "I don't think I would be where I am right now." Pupil perspectives on using mobile devices for learning. *Researching in Learning Technology, 21*, 1-12.

Wargo, E. & Simmons, J. (2021). Technology storylines: A narrative analysis of the rural education research. *The Rural Educator, 42*(2), 35-50.

Watulak, S. (2010). You should be reading not texting: Understanding classroom text messaging in the constant contact society. *Digital Culture and Education, 2,* 190-209.

WERSM (2016). https://wersm.com/the-10-top-reasons-why-we-use-social-networks/

Willis, G., & National Center for Health Statistics (U.S.) (1994). *Cognitive interviewing and questionnaire design: A training manual.* Hyattsville, MD: U.S. Dept. of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics.

Wills, T. (1981). Downward comparison principles in social psychology. *Psychological Bulletin, 90*, 245-271.

Witecki, G., & Nonnecke, B. (2015). Engagement in digital lecture halls: A study of student course engagement and mobile device use during lecture. *Journal of Information Technology Education, 14,* 73-90.

Wolak, J., Mitchell, K., & Finkelhor, D. (2007). Does online harassment constitute bullying? An exploration of online harassment by known peers and online only contacts. *Journal of Adolescent Health, 41*(6), S51-S58.

Wurst, C., Smarkola, C., & Gaffney, M. (2008). Ubiquitous laptop usage in higher education: Effects on student achievement, student satisfaction, and constructivist measures in honors and traditional classrooms. *Computers and Education, 51,* 1766-1783.

Yang, C., & Brown, B. (2016). Online self-presentation on Facebook and self-development during the college transition. *Journal of Youth and Adolescence, 45*(2), 402-416.

Yang, C., Holden, S., & Carter, M. (2018). Social media social comparison of ability (but not opinion) predicts lower identity clarity: Identity processing style as a mediator. *Journal of Youth and Adolescence, 47,* 2114-2128.

Yin, F., Liu, M., & Lin, C. (2015). Forecasting the continuance intention of social networking sites: Assessing privacy risk and usefulness of technology. *Technological Forecasting and Social Change, 99,* 267-272.

Appendix A - Site Consent Letter

October 21, 2021

To Whom It May Concern:

I, _____, give permission for Lucus Dalinghaus to conduct research at my school for the period between November 2021 through May 2022. The title of this research study is: **A Qualitative Study of Digital Citizenship Practices and the Fear of Missing Out: Perceptions of Middle School Students and Principals**. Mr. Dalinghaus intends to answer the following research questions:

1. How do middle school students and principals perceive the use of cell/smartphones, social media, and technology use as defined in the digital citizenship standards in ISTE?
2. What impact does the fear of missing out (FoMO) have on digital citizenship practices?
3. What positive/negative digital citizen characteristics are exhibited by middle-school aged students?

The process will include the following actions: (1) Consent forms will be sent to 5-7 students who will participate in a focus group session. (2) One-two of these students will also participate in one-on-one interviews. (3) The principal will participate in a focus group session with two other principals from area schools. All focus group sessions and interviews will occur via Zoom.

Sincerely,

XXXXXXXXXX
Principal
XXXXXXX Public Schools

Appendix B - Administrator Letter and Consent

November 15, 2021

Dear _____

My name is Lucus Dalinghaus and I am currently a PreK-12 principal at Johnson-Brock Public Schools in Johnson, Nebraska. I am also in the doctoral program at Kansas State University and am pursuing a Doctor of Education in educational leadership. Along with the assistance of my major professor, Dr. Donna Augustine-Shaw, I am diligently working to complete the requirements of my dissertation.

The research study I have chosen is one that affects nearly every school in the United States. Smartphone and social media use by individuals have seen a rapid increase over the past several years. As an educator, I am sure you have dealt directly with issues that have involved smartphone or social media usage either on school property or off-site. In addition to technology and social media usage, I am also attempting to gain more information about the concept of digital citizenship, which is defined as the norms of appropriate and responsible behavior for technology use and the fear of missing out (FoMO), which is defined as the apprehension that results from someone thinking others are having a rewarding online experience without their presence. The purpose of this study is to gain more information about each of these topics in the context of smartphone and social media use based upon the perceptions of middle school students and principals.

By gathering perceptions of middle school students at 7th and 8th grade and their principals, I intend to present information that will allow school districts to make informed decisions related to educational curriculum planning and reviewing policies and procedures for implementing the use of the technology in their buildings.

I would be grateful if you would be willing to discuss the parameters of this study with me at a time convenient for you. I would like to discuss participant selection and the process I plan to utilize to gather information through focus group sessions and interviews with your students. I would also like the opportunity to meet the student participants prior to the focus group to review procedures and establish a positive rapport with the students.

Additionally, I would ask for your willingness to participate in a focus group session with two other principals whose students are also participating. This focus group session will determine the perceptions of principals in relation to the research questions. I deeply appreciate your consideration of this request and look forward to working with you.

Sincerely,

Lucus Dalinghaus

I, _____, consent to participating in a principal focus group session to gather perceptions of principals in relation to digital citizenship, smartphone usage, social media, and FoMO. I understand that my participation is voluntary, and my name and school will be confidential.

_____ _____

Signature of Principal Date

Appendix C - Parent Letter/Permission Form

November 15, 2021

Dear _____

My name is Lucus Dalinghaus and I am currently a PreK-12 principal at Johnson-Brock Public Schools in Johnson, Nebraska. I am also in the doctoral program at Kansas State University and am pursuing a Doctor of Education in educational leadership. Along with the assistance of my major professor, Dr. Donna Augustine-Shaw, I am diligently working to complete the requirements of my dissertation.

The research study I have chosen is one that affects nearly every school and student in the United States. Smartphone and social media use by students have seen a rapid increase over the past several years. As a parent, I am sure you have dealt directly with issues related to smartphone and social media use by your child(ren). In addition to technology and social media usage, I am also attempting to gain more information about the concept of digital citizenship, which is defined as the norms of appropriate and responsible behavior for technology use and the fear of missing out (FoMO), which is defined as the apprehension that results from someone thinking others are having a rewarding online experience without their presence. The purpose of this study is to gain more information about each of these topics in the context of smartphone and social media use based upon the perceptions of middle school students and principals.

By gathering perceptions of middle school students at 7^{th} and 8^{th} grade and their principals, I intend to present information that will allow school districts to make informed decisions related to educational curriculum planning and reviewing policies and procedures for implementing the use of the technology in their buildings. This information will be pertinent to parents as well as it may help you make decisions on setting limits and understanding exactly what motivates online choices for this age group.

Over the past few days, I have been in contact with your school administrator, and he/she recommended your child as being a great candidate for this study. I would certainly value your child's opinion as I move forward with this research and hope you would be willing to let them take part in this study. Included with this letter is a brief summary of the research study and a copy of the focus group/interview questions. Your child will participate in a one hour Zoom meeting with other students from their school during the school day at a time determined by your principal. Every attempt will be made to minimize time out of class. I will meet with the students prior to the focus group to meet them and go over the process. Your student will also provide consent to participate. One to two individuals from the focus group session will then participate in a one-on-one interview at a later date. Both the group and individual discussions will be conducted using Zoom and recorded; however, student responses will be kept confidential and student names will not be used.

If you have any questions about this research study, feel free to reach out and contact me at your convenience. I deeply appreciate your consideration of this request and look forward to working with your student in this important research.

Sincerely,

Lucus Dalinghaus

Permission Form

I, _____ give permission for my son/daughter, _____, to participate in this research study which includes a focus group session and a potential interview session via Zoom. All sessions will be recorded. Confidentiality will be honored for each student.

_____ _____

Signature of Parent Date

Appendix D - Student Letter and Consent

November 15, 2021

Dear _____

My name is Lucus Dalinghaus and I am currently a PreK-12 principal at Johnson-Brock Public Schools in Johnson, Nebraska. I am also in the doctoral program at Kansas State University and am pursuing a Doctor of Education in educational leadership. Along with the assistance of my major professor, Dr. Donna Augustine-Shaw, I am diligently working to complete the requirements of my dissertation.

The research study I have chosen is one that affects nearly every school and student in the United States. Smartphone and social media use by individuals have seen a rapid increase over the past several years. As a student, I am sure you have had direct experience with smartphone and social media use either on school property or off-site. In addition to technology and social media usage, I am also attempting to gain more information about the concept of digital citizenship, which is defined as the norms of appropriate and responsible behavior for technology use and the fear of missing out (FoMO), which is defined as the apprehension that results from someone thinking others are having a rewarding online experience without their presence. The purpose of this study is to gain more information about each of these topics in the context of smartphone and social media use based upon the perceptions of middle school students and principals.

By gathering perceptions of middle school students at 7th and 8th grade and their principals, I intend to present information that will allow school districts to make informed decisions related to educational curriculum planning and reviewing policies and procedures for implementing the use of the technology in their buildings.

Your building principal has selected you and a few of your peers as potential participants for this study. Each participant should own a smartphone and have experience using social media. I am grateful to have the opportunity to meet you and feel your input will be valuable for my research. Prior to our first focus group session, I hope to have the chance to meet you and your peers as we discuss the process for the study. I will utilize both focus group sessions and interviews to gather data on your perceptions of these topics. I appreciate your consideration of this request and look forward to working with you and hope you will consent to being part of this study.

Sincerely,

Lucus Dalinghaus

I, _____, consent to participating in a middle-school focus group session to gather perceptions of middle-school students in relation to digital citizenship, smartphone usage, social media, and FoMO. I understand that my participation is voluntary, and my name and school will be confidential. If selected, I also consent to participating in an interview session which will provide another way to gather perceptions of these topics.

_____ _____

Signature of Student Date

Appendix E - Focus Group Protocol-Students

Focus Group Protocol/Questions for Students

Focus groups will be conducted in three separate school sites using Zoom. Each group of students will be asked the same questions as they relate to the defined research questions. The following protocol/questions will be used for each of the student groups.

Thank you for agreeing to sit in on our focus group today to discuss an issue that is pertinent to your daily life as a middle school student. You have likely used or witnessed the use of technology in school with devices such as smartphones and accessed social media. I would like to hear from you how you view the way students use these devices, your understanding of responsible use, and talk about the fear of missing out when you are not connected to social media and your friends. I would like to take some time to ask a few questions regarding these topics to gain a clearer sense of your perceptions of each of these important topics.

Digital Citizenship

Digital Citizenship is defined as the norms of appropriate, responsible behavior regarding technology use. There are standards for appropriate digital citizenship practices for students. Some of the ideas in these standards include creating a digital identity, engaging in positive, safe, legal, and ethical behavior, and managing personal data.

1. Thinking about this definition of "digital citizenship," how would you define this as it applies to middle school students?
2. How would you describe your experience of being taught these concepts at school?
    a. What materials are used by your school to educate you on digital citizenship? Are they effective?
    b. What ideas do you have to improve your understanding and education about digital citizenship and your responsibilities as a student?
    c. What are some situations you encounter while using smartphones or while being online that you are not sure how to handle?
3. What main ideas in digital citizenship do you feel are acceptable for all middle school students to follow while using smartphones and being online?

Smartphone Usage

I would like to talk a little bit now about Smartphones; a technology device that I'm sure most of you are familiar with. Just so we are all on the same page, the Smartphone is defined as a handheld device that allows users to communicate through voice and/or text, in addition to connecting with others through the internet, playing games, watching videos, and accessing information for fun and for educational purposes.

1. For what purposes do you use a smartphone?
2. Prior to receiving your smartphone, describe for me the training or education you received on how to use and be responsible with the device.
    a. Education on operating the device…
    b. Education on utilizing applications…
    c. Education on proper online behavior (digital citizenship)

3. If I were to ask you to give up your device for a period of time, maybe a week or so, do you think you could do it? What are your feelings about not having your smartphone?
4. Describe what self-regulation and a healthy balance of online/offline activity looks like. (have a definition of self-regulation if needed)
5. What are your thoughts on school policies that restrict Smartphone use at school?

Social Media

Some of the most popular applications individuals use on their smartphones involve social media. Social media is defined as an online platform that allows users to connect, share, communicate, build social networks, and establish relationships with people who may share the same interests as the user.

1. Why do you feel social media is popular with middle school students?
2. What do you feel the purpose of social media is?
3. How do you use social media related to school?
4. Describe how social media and smartphones have affected your relationships with your friends.
5. Why do you think individuals say things online that they wouldn't say in person?

Fear of Missing Out

During the pandemic, it has been shown that young people have felt more isolated from one another due to stay-at-home policies and mandates. However, the argument could be made that technology in general has created a more isolated society. There is a phenomenon called the fear of missing out (FoMO). The FoMO is defined as a "pervasive apprehension that others might be having rewarding experiences from which one is absent. FoMO is characterized by the desire to stay continually connected with what others are doing."

1. When disconnected from social media or your smartphone, what thoughts do you have about your friends' actions that you may not be able to see or hear?
2. When you are disconnected, do you feel an urge to keep tabs on what your friends are doing?
3. Have you experienced this feeling? If so, could you provide an example of a time when this happened to you?

I would like to thank you for your participation in today's focus group session. Within the next few days, I would like to visit with a couple of you individually to dig deeper into these ideas. I will visit with your principal, and they will communicate with you. I will be sure to share the results of the study with your group.

Appendix F - Interview Protocols-Students

Interview Protocol/Questions for Student Interviews

Individual student interviews will be conducted following the student focus group sessions. One to two individuals per school who participated in the focus group sessions will be asked to participate in an interview through Zoom. While additional questions may arise based upon data gathered from the focus group sessions, the following questions will be part of the protocol asked of each student.

Interview Protocol:
I would like to thank you for taking time to meet with me today. After we completed the focus group sessions, I wanted to ask a few more questions to gain a deeper understanding of how middle school students perceive these topics.

1. At what age did you receive your first smartphone?
2. Approximately how many hours do you use your smartphone each day?
3. What types of activities do you currently use your smartphone for?
    a. Online searching?
    b. Applications?
    c. Alarms?
    d. Other?
4. Approximately how many hours do you utilize social media each day?
    a. How often do you find yourself browsing social media instead of doing other tasks?
    b. Has your health been affected due to browsing on social media? If so, how?
5. While browsing on social media, how do you respond to uncomfortable situations you encounter?
6. Describe what appropriate commenting, or responding to another person's posts, means to you.
7. How does your online identity compare to your real-life identity?
8. How do you decide what to post on social media?
    a. How should students express their emotions when problems or situations occur when being online?
9. When you are having a good time, what thoughts do you have on sharing the experience in an online environment?
    a. What considerations do you give to those who may not be having this same experience or are viewing your experience knowing they aren't included?
    b. How do you feel when your friends are having positive experiences without you?
    c. What about when you miss an opportunity to meet up with friends?
10. What feelings do you have when you shut off social media and your smartphone device?
11. When you aren't with your friends or you disconnect from your device, approximately how much time do you spend wondering what they are doing?
    a. Is this too much time or not enough time?
12. What do you do to take your mind off what others may be doing when you see their experiences online?

13. What do middle school students need to make sure they stay safe and respond respectfully when being online or using a smartphone?
14. How effective do you think your school is in teaching you appropriate digital citizenship practices?
15. What advice would you give schools in establishing educational materials for social media, smartphone, and digital citizenship practices?

I appreciate you taking the time to discuss these topics with me today. I will continue to keep you informed on the progress of my research.

Appendix G - Focus Group Protocol-Principals

Focus Group Protocol/Questions for Principals

One focus group will be conducted with three principals representing the schools selected for the study and whose students are participating in the research study. The focus group will be conducted via Zoom. The principals will be asked questions similar to those asked of the students; however, there will be an emphasis on leadership. The following protocol/questions will be used for the principal focus group.

Thank you for agreeing to participate in this focus group to discuss topics related to student use of technology that I am sure you deal with frequently. Middle school students use smartphones and social media daily. I would like to hear from you about how you view the use of these devices by students that align with digital citizenship practices in your schools and the impact of the fear of missing out on students at the middle school level. Today, I would like to take some time to ask a few questions regarding these topics to gain a clearer sense of your perceptions of these important topics as principals.

Digital Citizenship

Digital Citizenship is defined as the norms of appropriate, responsible behavior regarding technology use. There are standards for appropriate digital citizenship practices for students. Some of the ideas in these standards include creating a digital identity, engaging in positive, safe, legal, and ethical behavior, and managing personal data.

1. Thinking about this definition of "digital citizenship," how would you define this as it applies to middle school students?
2. How is digital citizenship being taught in your school?
    a. Who is responsible for planning and teaching digital citizenship in your building?
    b. What materials are used by your school to educate students on digital citizenship? Are they effective?
    c. What ideas do you have to improve the way your students are educated in digital citizenship practices to better understand their responsibilities?
    d. Can you describe situations that your middle school students encounter while using smartphones or being online that they may not be equipped to deal with?
3. What main areas in digital citizenship do you feel are acceptable for students to follow while using smartphones and being online?
4. What school policies are in place to help you deal with inappropriate smartphone or social media use by students?

Smartphone Usage

I would like to talk a little bit now about Smartphones. Just so we are all on the same page, the Smartphone is defined as a handheld device that allows users to communicate through voice and/or text, in addition to connecting with others through the internet, playing games, watching videos, and accessing information for fun and for educational purposes.

1. For what purposes do middle school students use a smartphone?

2. Prior to receiving a smartphone, describe the training or education students typically receive on how to use and be responsible with the device. Does the school provide any training or education?
    a. Education on operating the device…
    b. Education on utilizing applications…
    c. Education on proper online behavior (digital citizenship)
3. If students were asked to give up their smartphones for a period of time, maybe a week or so, how do you think they would handle it? What feelings or behaviors might you see from students?
4. Describe what self-regulation and a healthy balance of online/offline activity looks like for a middle school student.
5. What are your thoughts on school policies that restrict Smartphone use at school?

Social Media

Some of the most popular applications individuals use on their smartphones involve social media. Social media is defined as an online platform that allows users to connect, share, communicate, build social networks, and establish relationships with people who may share the same interests as the user.

1. Why do you feel social media is popular with middle school students?
2. What do you feel the purpose of social media is?
3. How do students use social media related to school?
4. Describe how social media and smartphones have affected relationships among students.
5. Why do you think students say things online to one another that they wouldn't say in person?

Fear of Missing Out

During the pandemic, it has been shown that young people have felt more isolated from one another due to stay-at-home policies and mandates. However, the argument could be made that technology in general has created a more isolated society. There is a phenomenon called the fear of missing out (FoMO). The FoMO is defined as a "pervasive apprehension that others might be having rewarding experiences from which one is absent. FoMO is characterized by the desire to stay continually connected with what others are doing."

1. When disconnected from social media and/or smartphones, how does communication among students change?
    a. How does/might the culture of your building change?
    b. Do you believe there would be an increase in behavior issues?
2. When students are disconnected, what level of engagement do you notice between students and others?
3. Are there other positive or negative results of middle school students being disconnected from social media and/or smartphones? Do you have any experiences to share?

Appendix H - Research Question Table

Research Question #1: How do middle school students and principals perceive the use of cell/smartphones, social media, and technology use as defined in the digital citizenship standards in ISTE?

Research Question #2: What impact does the fear of missing out (FoMO) have on digital citizenship practices?

Research Question #3: What positive/negative digital citizen characteristics are exhibited by middle-school aged students?

Theory #1: Attachment Theory

Theory #2: Self-Determination Theory

Theory #3: Social Comparison Theory

Table H.1. Research Question Table

Question	Protocol	Category	Group	Research Question	Theory
Thinking about this definition of "digital citizenship," how would you define this as it applies to middle school students?	FG	Digital Citizenship	Students Principals	1, 2, 3	2
How would you describe your experience of being taught these concepts at school? a. What materials are used by your school to educate you on digital citizenship? Are they effective? b. What ideas do you have to improve your understanding and education about digital citizenship and your responsibilities as a student? c. What are some situations you encounter while using smartphones or while	FG	Digital Citizenship	Students Principals	1, 2, 3	1, 2

being online that you are not sure how to handle? How is digital citizenship taught in your school? a. Who is responsible for planning and teaching digital citizenship in your building? b. What materials are used by your school to educate students on digital citizenship? Are they effective? c. What ideas do you have to improve the way your students are educated in digital citizenship practices to better understand their responsibilities? d. Can you describe situations that your middle school students encounter while using smartphones or being online that they may not be equipped to deal with?					
What main areas in digital citizenship do you feel are acceptable for all middle school students to follow while using smartphones and being online? What main areas in digital citizenship do you feel are acceptable for students to follow while using smartphones and being online?	FG	Digital Citizenship	Students Principals	1, 2	1, 2
What school policies are in place to help you deal with inappropriate smartphone or social media use by parents?	FG	Digital Citizenship	Principals	1, 3	1, 2, 3

For what purpose do you use a smartphone? For what purpose do middle school students use a smartphone?	FG	Smartphone Usage	Students Principals	1	1
Prior to receiving your smartphone, describe for me the training or education you received on how to use the device: a. Education on operating the device… b. Education on utilizing applications… c. Education on proper online behavior (digital citizenship)… Prior to receiving a smartphone, describe the training or education students typically receive on how to use and be responsible with the device. Does the school provide any training or education? a. Education on operating the device… b. Education on utilizing applications… c. Education on proper online behavior (digital citizenship)…	FG	Smartphone Usage	Students Principals	1	1, 2
If I were to ask you to give up your device for a period of time, maybe a week or so, do you think you could do it? What are your feelings on not having your smartphone? If students were asked to give up their smartphones for a period of time, maybe a week or so, how do you think they would handle it? What feelings	FG	Smartphone Usage	Students Principals	1, 2	1

or behaviors might you see from students?					
Describe what self-regulation and a healthy balance of online/offline activity looks like. Describe what self-regulation and a healthy balance of online/offline activity looks like for a middle school student.	FG	Smartphone Usage	Students Principals	1, 3	1, 2
What are your thoughts on school policies that restrict smartphone use at school? What are your thoughts on school policies that restrict smartphone use at school?	FG	Smartphone Usage	Students Principals	1, 3	1, 2
Why do you feel social media is popular with middle school students?	FG	Social Media	Students Principals	1	1, 2, 3
What do you feel the purpose of social media is?	FG	Social Media	Students Principals	1	1, 2, 3
How do you use social media related to school? How do students use social media related to school?					
Describe how social media and smartphones have affected your relationships with your friends. Describe how social media and smartphones have affected relationships among students.	FG	Social Media	Students Principals	1, 2, 3	1, 2, 3
Why do you think individuals say things online that they wouldn't say in person? Why do you think students say things online to one another that they wouldn't say in person?	FG	Social Media	Students Principals	1, 3	2, 3

When disconnected from social media or your smartphone, what thoughts do you have about your friends' actions that you may not be able to see or hear? When disconnected from social media and/or smartphones, how does communication among students change? a. How does/might the culture of your building change? b. Do you believe there would be an increase in behavior issues?	FG	Fear of Missing Out	Students Principals	1, 2	1, 2, 3
When you are disconnected, do you feel an urge to keep tabs on what your friends are doing? When students are disconnected, what level of engagement do you notice between students and others?	FG	Fear of Missing Out	Students Principals	1, 2	1, 3
Have you experienced this feeling? If so, could you provide an example of a time when this happened to you? Are there other positive or negative results of middle school students being disconnected from social media and/or smartphones? Do you have any experiences to share?	FG	Fear of Missing Out	Students Principals	1, 2, 3	1, 2, 3
At what age did you receive your first smartphone?	I	Smartphone Usage	Students	1	1
Approximately how many hours do you use your smartphone each day?	I	Smartphone Usage	Students	1	1
What types of activities do you currently use your smartphone for? a. Online searching?	I	Smartphone Usage	Students	1	1, 2, 3

b. Applications? c. Alarms?					
Approximately how many hours do you utilize social media each day? a. How often do you find yourself browsing social media instead of other tasks? b. Has your health been affected due to browsing on social media? If so, how?	I	Social Media	Students	1, 3	1
While browsing on social media, how do you respond to uncomfortable situations you may encounter?	I	Social Media	Students	1, 3	1, 2, 3
How does your online identity compare to your real-life identity?	I	Digital Citizenship Social Media	Students	1, 3	2
How do you decide what to post on social media? a. How should students express their emotions when problems or situations occur when being online?	I	Digital Citizenship Social Media	Students	1, 2, 3	2, 3
When you are having a good time, what thoughts do you have on sharing the experience in an online environment? a. What considerations do you give to those who may not be having this same experience or are viewing your experience knowing they aren't included? b. How do you feel when your friends are having positive experiences without you? c. What about when you miss an opportunity to meet up with friends?	I	Social Media Fear of Missing Out	Students	1, 2, 3	1,3

What feelings do you have when you shut off social media and your smartphone device?	I	Social Media Smartphone Usage Fear of Missing Out	Students	1, 2, 3	1, 2, 3
When you aren't with your friends or you disconnect from your device, approximately how much time do you spend wondering what they are doing? a. Is this too much time or not enough time?	I	Fear of Missing Out Smartphone Usage	Students	1, 2, 3	1, 2, 3
What do you do to take your mind off what others may be doing when you see their experiences online?	I	Fear of Missing Out	Students	1, 2	1, 2
What do middle school students need to make sure they stay safe and respond respectfully when being online or using a smartphone?	I	Digital Citizenship Social Media Smartphone Usage	Students	1, 2, 3	2
How effective do you think your school is in teaching you appropriate digital citizenship practices?	I	Digital Citizenship	Students	1	2
What advice would you give schools in establishing educational materials for social media, smartphone, and digital citizenship concepts?	I	Digital Citizenship Smartphone Usage Social Media	Students	1, 3	1, 2, 3