THE RELATIONSHIP BETWEEN VARIABLES OF

ADOLESCENT INSTAGRAM USE AND

THEIR PERCEPTIONS OF

LEARNING CLIMATE

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Title of Study: THE RELATIONSHIP BETWEEN VARIABLES OF ADOLESCENT INSTAGRAM USE AND THEIR PERCEPTIONS OF LEARNING CLIMATE

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Abstract: Social media provides adolescents with a viable means of connecting with their peers in ways that were not previously available to them. Social media use is related to feelings of connectedness with family, friends, and others (Lenhart, Madden, Macgill, & Smith, 2007; Shapiro & Margolin, 2014). For example, Barker (2009) discusses how those that are not comfortable with face-to-face interactions now have the means of connecting with others while in an online space, allowing them to have some distance from those with whom they are interacting. Learning climate is the space made up of school and classroom climate in which students, teachers, and administrators interact within a set of shared beliefs, values, and attitudes. According to Çengel and Türkoglu (2016) and others (Doll, Spies, LeClair, Kuein, & Foley, 2010), the four main principles of a positive school climate are: peer relations, teacher-student relations, the way that individuals consider themselves in the academic field, and the way they get satisfaction in the classroom.

The purpose of this study was to explore the relationship between adolescent Instagram use and adolescent perceptions of the learning climate. The data ($N = 140$) collected were related to adolescents' Instagram use in terms of reach (variety and number of others), intensity (adolescent value of Instagram), time/visits, and participation type (active vs. lurking) and their perceptions of learning climate as defined by positive student-teacher relationships, school social environment, school connectedness and opportunities for engagement, which allowed the detailed investigation of the relationship between the two major variables using correlational and regression analyses among the variables.

Findings indicate that adolescent values of Instagram predict lower perceptions of opportunities for engagement while time/visits to Instagram predict higher perceptions of opportunities for engagement. However, participation type (active vs. passive), and network reach did not have predictive relationships with variable from the learning climate (i.e., positive student teacher relationships, school social environment, school connectedness, and opportunities for engagement). Future studies of adolescence and social media should focus on emotional connections for further explanation of these results.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION TO THE STUDY

The advancement of technology has afforded many opportunities that were previously inaccessible. As of 2018, approximately 95% of adolescents say they have ownership of or have access to smartphones, with smartphone ownership looking mostly universal in terms of gender, race and ethnicity, and socioeconomic status (Anderson & Jiang, 2018). In addition to 95% of adolescents having access to smartphones, approximately 45% of adolescents say they are online on an almost constant basis. Information is now at the fingertips of the user, available whenever access is wanted. To some, the advancements have been positive in terms of the opportunities newly available. To others, the increased use of smartphones and technology is perceived as more negative. These affordances span multiple disciplines, including education. Thus far, technology has been predominantly researched in terms of online learning and pedagogical outcomes in an educational context.

Although technology has opened the door to many new positive opportunities, some believe that the instant and widespread access to information and media may be too much of a good thing. In the past decade, the prevalence of social media has dramatically increased; social media is currently being used to disseminate information both to and from participants in the medical (Egan, Israel, Ghasemzadeh, & Afifi, 2016; Kolliakou, et

al., 2016), business (Aral, Dellarocas, & Godes, 2013; Kaplan & Haenlein, 2010), and education fields (Ghezzi, Gastaldi, Lettieri, Martini, & Corso, 2016; Wong, Sing-Chai, & Poh-Aw, 2017). Within the field of education, social media seems to be discussed frequently in terms of its usage in the classroom (Hand, Cavagnetto, Chen, & Parks, 2016; Korich, 2016; Seifert, 2016; Szeto, Cheng, & Hong, 2016). A systematic review of current literature yields several themes related to the use of social media, such as Twitter and Facebook, as a means of creating classroom discussions of pedagogical content, connecting online students, and exploring current topics. Such themes are important to discuss. However, as the number of ways that social media has been used in the field is limited, especially in regard to Instagram use, there is room for further exploration.

As the social landscape adolescents learn to navigate continues to change and evolve, so do other environments they interact with on a daily basis. One such environment is that of their learning context, or classroom and school. Social media provides ways for adolescents to interact with others outside of the classroom, but little is known about how those interactions might affect what happens inside of the classroom. Instead, previous research in education has explored what makes an effective learning environment and produces positive learning outcomes for students (Creemers & Reezigt, 1999), focusing on factors such as the physical environment, social system, and expectations of student outcomes (Creemers & Reezigt, 1999), as well as classroom management (Buyse, Verschueren, Doumen, Van Damme, & Maes, 2008; Creemers & Reezigt, 1999).

While research has examined what contributes to classroom learning climates, the world is continually changing. With the introduction of smartphones and the rapid advancement of social media, there is reason to believe there may be new elements affecting learning climate that have yet to be explored. To date, much research has been conducted on what elements are conducive to a learning climate that produces positive educational outcomes; however, little has been conducted on how adolescent social media use may contribute to perceptions of learning climate.

Background to the Research Problem

Before the 1990s, smart phones, Wi-Fi, and social media were not well known or were nonexistent. After the early 2000s, smart phones began to gain popularity, with a sharp increase in popularity and use after the introduction of the iPhone in late 2007. With the introduction of smart phones and Wi-Fi in public places, children, adolescents, and adults were able to access information from the news programs on television, evening newspaper, libraries, and magazines available at any particular moment in time. In today's world, technology and social media use has become a way of life.

Social media, defined as a web-based service that allows individuals to construct profiles, connect with other users, and view and interact with those with whom they are connected (boyd & Ellison, 2007), includes, but is not limited to: Facebook, Twitter, Instagram, SnapChat, LinkedIn, Tumblr, and YouTube. When these various forms of social media initially hit the market, the intention was for users to engage in social interactions with others. These platforms initially served as a means for establishing connectedness. In more recent years, social media use has expanded from fostering social

connectedness towards increasing access to different types of information (Chen & Li, 2017).

Given that many students at various levels of education are actively engaged in social media for their personal lives, instructors have been trying to find ways to integrate students' online and offline world into the classroom. One example is the use of social media in the classroom with the intention of supplementing learning (Abe & Jordan, 2013). For example, some instructors have started using platforms such as Facebook and Twitter to ask discussion questions as a means of getting students engaged in the material. Others have used Wikis, GoogleDocs, and blogging sites to encourage collaboration through shared contributions and then dissemination of the final product to those beyond the specific class. Educators have increasingly acknowledged the potential supportive function of added technology for promoting student achievement (Huang, 2018).

Today's learners require a different set of skills to support active and meaningful participation in the constantly evolving world of technology and information dissemination. This new world demands individuals be able to construct their knowledge in nonlinear environments using many different skills (Cooper, Lockyer, & Brown, 2013) such as the ability to decode text, images, and sounds simultaneously (Knobel & Lankshear, 2014). Students now must have: "skills, knowledge, and tools *in use* within social practices where participants are undertaking tasks and pursuing purposes in a range of everyday settings" (Knobel & Lankshear, 2014, p. 97). This understanding provides an avenue for supporting learners in their need to be technologically and socially competent as well as touching on the reciprocal relationship between the digital and non-digital

worlds (Cooper et al., 2013). Recognizing the set of skills students now must have provides a glimpse into the importance of understanding how an adolescent's social media use and their learning climate are potentially interacting with one another.

Adolescence is a time of many changes for individuals as they move away from childhood and begin to consider who they want to be and with which people they want to surround themselves. Understanding the changing social landscape that adolescents participate in daily is relevant to both social and educational contexts given the overlap of these environments in an adolescent's daily life. Thus, it is important for researchers, educators, and parents to consider how adolescent social media use may be affecting their perception of learning climate.

Current understandings of the changing technological landscape recognize that learners need to be competent both technologically and socially to navigate the digital world. Within this digital world, adolescents experience a significant overlap of educational and social relationships, creating blurred lines between the different online and offline contexts in which they live on a daily basis. As adolescence is a time in which exploration of the self is of utmost importance to development, understanding the digital world in which adolescents exist, in tandem with their face-to-face worlds, provides insight into adolescent development not previously considered. There is a need for better understanding these contemporary social practices and how they might relate to one another.
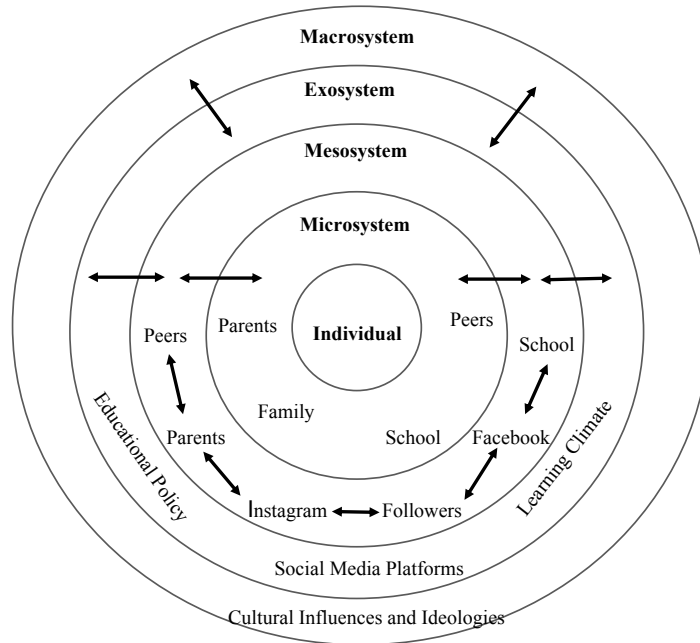
Theoretical Framework

The late Urie Bronfenbrenner (1917-2005) was among the first psychological researchers to step back from domain-focused developmental research and explore the

interrelationships of processes and contexts. Bronfenbrenner (1979) proposed the ecological model of development, which explains human development in terms of the interrelated nature of contexts, which are bounded by culture and history. Within the ecological model of development, the most central force is the active person. This person is shaping the environment, inducing responses from the environment, and in turn, reacting to the environment, much like the individual acts on or reacts to the world via social media. Within his ecological model of development, Bronfenbrenner initially identified four systems that individuals operate within, later adding a fifth structure. These systems are known as the microsystem, mesosystem, exosystem, macrosystem, and chronosystem. Each of these settings, according to Bronfenbrenner (1979), arose from a context that was described as, "a place where people can readily engage in face-to-face interaction" (p. 22). Important themes that continue to arise from work surrounding Bronfenbrenner's ecological systems theory include the social and historical context, the active person as central to the theory, and that it is impossible to understand individual development in isolation (Darling, 2007). These themes should be examined as an interdependent whole to understand the individual fully. While Bronfenbrenner emphasized face-to-face interaction, the addition of social media to the technological landscape provides space for important interactions that are not necessarily face-to-face. The crux of the ecological model remains the same; however, further exploration into the different types of interactions adolescents engage in is warranted.

The most central level of the ecological system (see Figure 1) is called the *microsystem*, in which the active individual has a direct role with experiences and social interactions with others. Families and schools, for example, are considered microsystems

where individuals have the direct experiences and interactions with those around them. Teachers, peers, and family members that the individual interacts with both face-to-face and via social media are part of the microsystem. The next level is the *mesosystem*. Within this level, the individuals' microsystems are interacting. Schools that utilize social media such as Instagram or Facebook, for example, to communicate school happenings and updates are connecting the components of an individuals' microsystems, providing opportunities for home microsystems and school microsystems to interact. Surrounding this system is the *exosystem*, in which the environment directly affects the active individual, but not because the active individual is directly manipulating the system itself. For example, educational policy and school climate are not things that the active individual (i.e., a student) directly influences on his/her own, but yet policy and climate have significant influence on the individual. Educational policy is something that is, at times, discussed and/or debated on social media platforms in an effort to communicate with a large number of individuals that might be affected. Even larger, the *macrosystem* includes broad cultural influences or ideologies that affect the active individual. Social media has the potential to provide access to different cultural influences that they might not typically have access to, such as a view into the lives of individuals from other socioeconomic statuses or races. The *chronosystem* reflects change or continuity across time and influences each of the other four systems. This could be the move between elementary, middle, and high school, and/or the creation of social media profiles on platforms such as Facebook or Instagram (Neal & Neal, 2013).

Macrosystem

Exosystem

Mesosystem

Microsystem

Peers   Parents   **Individual**   Peers   School

Educational Policy

Parents   Family   School   Facebook   Learning Climate

Instagram ← → Followers

Social Media Platforms

Cultural Influences and Ideologies

Figure 1.1. Adapted Illustration of Bronfenbrenner's Ecological Systems Theory Originally Proposed by Bronfenbrenner (1979)

It is important to note that social interactions are a key component of Bronfenbrenner's theoretical model, and beyond that he acknowledged and emphasized that social interactions were often not only dyadic but also reciprocal in nature. There was also emphasis on third party contributions to interactions, especially within the micro- and mesosystems, that was key to capturing the social forces at work when studying individual human development (Neal & Neal, 2013). Furthermore, as many adolescents are actively engaged in using social media, third party contributions are potentially present in the various contexts adolescents experience.

An important predictor of student success and psychological well-being is a positive school culture. As classrooms are nested within schools, schools are nested within communities, communities are nested within cities, cities are nested within states, and so on, and social media provides adolescents the ability to transcend these distinct contexts, examination of interactions and relationships within and between all levels of

the system is necessary. Microsystems are more closely connected to macrosystems as individuals are now inundated with cultural influences, social norms, and community ideologies that may not have been as accessible or obvious to adolescents prior to social media. As social media continues to gain traction, there is need to examine how adolescent social media use in one context may affect their perceptions of other contexts, such as their learning climate.

Statement of the Problem

Research surrounding social media appears to be of increasing interest. American adolescents and adults are actively engaged in social media throughout the day. Staying connected with immediate and convenient access to news, music, and information beyond the walls of their homes and schools is important to adolescents (Lesesne, 2007).

Education has tried to capitalize on the new and engaging platform social media has provided. Although educational research has explored how various factors within the classroom contribute to learning climate, it is not yet understood how learning climate may be affected by adolescent use of social media such as Instagram. The problem then, is that social media has provided ample opportunity for adolescents to connect with others known and unknown to them in ways that have not been previously available. Social media has become an important part of many adolescents' lives and yet the contexts in which adolescents exist on a daily basis, both online and offline, need further exploration. Of particular interest in this research is how adolescent social media use and the perceptions of the learning climate are potentially interacting, as current research on this intersection is limited.

Purpose of the Study

The purpose of this study was to explore how adolescent use of social media, specifically Instagram, affects their perception of the learning climate. A quantitative approach was used in this study to understand better the ways in which adolescents are engaging with Instagram (Instagram intensity, participation type, time and visits to Instagram, and network reach) and how this use is potentially affecting their perceptions of the learning climate (positive student-teacher relationships, school social environment, school connectedness, and opportunities for student engagement). The online and offline lives of adolescents happen at all levels, from the most central (microsystem) to the furthest removed from their direct lives (macrosystem). Social media has provided those in the 21st century, specifically adolescents, the means to connect with others in more direct ways than just face-to-face. Adolescents now have online and offline lives, which are often connected yet separate. As adolescent social media use, and specifically Instagram use, remains prevalent, the opportunities for adolescents to connect with both their innermost circles and others more globally become more simplified. Research exploring how social media use has potentially changed how each system interacts with both the individual and the other systems, with particular interest in the learning climate, would be useful to both practitioners and other researchers.

Research Question

The primary research question that guided the investigation of this study was: How does adolescents' Instagram use (measured by Instagram intensity, time/visits, network reach, and participation type) affect their perceptions of learning climate in

school (measured by positive student-teacher relationships, school connectedness, opportunities for engagement, and school social environment)?

Definition of Terms

Social Media: Online platforms that afford technology-mediated communication and a way to share information and content with a network of individuals (Tzavela & Mavromati, 2013).

Instagram: An online, photo-sharing, social Web service that lets individuals share their lives with friends through a series of pictures captured with a mobile device.

Time/visits to Instagram: The amount of time spent on and number of unique visits to Instagram: unique visits are described as, "every time you go on Instagram and use the site in some way."

Instagram intensity: The extent to which adolescents incorporate Instagram into their daily lives and how much they value their Instagram.

Network reach: The variety of Instagram followers and following as well as the total number of followers and number they were following.

Active Social Media Users: Active users are those that post, comment, "like", and make their presence known on both their profiles as well as on others (Drogos, 2015; Yang, 2016).

Passive Social Media Users (Lurking): These users are those that look at what others are doing, but do not "like", post, comment, or engage with content on their profile or others' profiles (Drogos, 2015; Yang, 2016)

Learning Environment: The environment in which a student is spending most of their time during the day involved in formal learning activities, typically in a school.

Learning Climate: Shared beliefs, values, and attitudes that shape interactions between students, teachers, and administrators (Koth, Bradshaw, & Leaf, 2008) including their school and classroom climates.

School Climate: The quality and character of school life, including safety, teaching, learning, relationships, and the physical environment.

Classroom Climate: The quality and character of classroom life, including safety, teaching, learning, relationships, and the physical environment.

Microsystem: Microsystem describes the individuals, groups, and institutions that directly influence a person's development. Family, friends, peers, schools, religious groups, and neighborhoods are all part of the microsystem.

Mesosystem: The interaction of two microsystems makes up the mesosystem.

Macrosystem: The cultural context in which a person lives; the larger culture as a whole that includes socioeconomic status, wealth, poverty, and ethnicity, etc.

Chronosystem: Transitional influences over the lifespan, for example the introduction of the smartphone and WiFi.

Overview

Social media has become an important part of many adolescents' lives and yet the contexts in which adolescents exist on a daily basis, both online and offline, are in need of further exploration. Of particular interest in this research is how adolescent social media use and the perceptions of the learning climate are potentially interacting. As the social landscape adolescents learn to navigate continues to change and evolve, so do other environments they interact with on a daily basis, such as their learning

environment. The purpose of this study was to explore how adolescent use of social media, specifically Instagram, impacts their perception of the learning climate.

In Chapter Two, I present an overview of current literature focusing on three distinct areas of research including: adolescence, social media, and the learning climate. In Chapter Three, I present the method used to answer the research question for this study with a rationale for the research question and hypotheses. Additionally, I present descriptions of the population surveyed in this study, the specific measures used, and the procedure that was followed for data collection and analyses. Chapter Four presents the results of my analyses and Chapter Five presents a summary of the results, limitations to the study, and suggested areas for future research.

CHAPTER II

REVIEW OF THE LITERATURE

The purpose of this study was to explore the relationship between adolescent Instagram use and adolescent perceptions of the learning climate. During adolescence, there are a lot of changes in an individual's life. Physically, cognitively, and psychosocially, adolescents experience growth as they move from reliance on parents to a more independent lifestyle. Advancements in the 21st century have brought forward new considerations when it comes to understanding how adolescents experience these changes. One such advancement is that of social media and how adolescents are using it. Social media has recently become quite popular, especially with the adolescent and young adult population. Of particular interest in this research is Instagram, a picture sharing social media application, which is constantly adding new features for user engagement. Individuals spend a significant amount of time in learning environments from kindergarten through high school. However, time spent in school is not separate from lives outside of school. The purpose of this literature review is to explain what is known about adolescence, learning climate, and social media.

Adolescence

Adolescence is a time in life defined by major physical, cognitive, and psychosocial (social and emotional) changes. According to developmental theory, one of

the main goals in adolescence involves figuring out who one is, or one's identity (Erikson, 1950; Marcia, 1967). It is a time in which adolescents are establishing and re-establishing peer groups. Within this developmental period, adolescents begin the journey of moving away from childhood and towards adulthood with the help of parents and peers. While parents influence adolescents, peers begin to play a significant role during the transition to adulthood, and peer relationships take on a defining role in adolescent's psychological well-being (Tzavela & Mavromati, 2013). During adolescence, individuals spend time going back and forth between conformity to social norms, which peaks around 13-15 years, and independence (Muuss, 1996). Through this process, they work towards developing who they want to be as well as whom they want to be around.

The Mature Identity

As society continues to change and evolve, older generations do not always serve as the best guides for current generations to follow in the search for individual identity (Tzavela & Mavromati, 2013). Consequently, the role of peer groups in helping individuals answer the question, "who am I?" is crucial in the identity development process. Social feedback that adolescents receive about others' evaluations of them plays a significant role in the trajectory of adolescent development (Muuss, 1996). According to Muuss (1996), it is thought that identity can only be found in interactions with significant others, or *psychosocial reciprocity*. Psychosocial reciprocity is a large part of why adolescents have a need for involvement in peer groups. Conforming to the roles of their peers helps adolescents figure out which pieces of current social norms fit within their personal definitions of who they are, while posing the risk of creating a type of dependence that is not authentic to how they see their personal selves. All of the

relationships cultivated during adolescence, even the ones they have with themselves, play a role in development during this time (Muuss, 1996). Ultimately, adolescents need to move away from dependency on their peers, as they did with their parents, and find their own identity (i.e., find themselves). The *mature identity* is when the adolescent/young adult has reached a sense of knowing where he or she is going in life, or what the decided purpose is in his or her life (Marcia, 1966). This milestone is accompanied by anticipated recognition from the people in their lives whose opinions and judgments they value (Erikson, 1959).

In modern times, socialization during adolescence not only happens in face-to-face interactions, but also in the ways they engage with others through social media. Both contexts are important in the adolescent world and interact with each other on a daily basis, as many adolescents have overlap in their online and offline friends (Heidemann, Kiler, & Probst, 2012). While there is often a notable overlap in online and offline lives, there is also opportunity for diversity in an adolescents' network. This opportunity comes from the increased reach social media sites have allowed (Hampton, Lee, & Her, 2011). Network diversity is important for various reasons, including increased social capital, better mental health, increased knowledge, autonomy, increased tolerance and trust, and better deliberation skills (Hampton et al., 2011). Diversity in a social media network is the resources that people can access through their network (Lin & Erickson, 2008). Those that engage in social media use have the opportunity to expand their networks both online and offline. The access they have to diverse contexts while online allows for a further reach of network, but according to Hampton, Livio, and Goulet (2010), those who use the Internet are more likely to visit public spaces more often. As such, the opportunity to

engage with a diverse array of individuals in an offline context may also be present. However, our understanding of how these two contexts might interact to influence adolescent development remains a relatively new field of study.

21ˢᵗ Century Considerations of Adolescent Development

The process of adolescent development applies to what previous generations went through when they were adolescents, as the struggles of conformity to peers, conflict with adults and the need for gradual independence are relevant today as they were in the past (Tzavela & Mavromati, 2013). However, it is worth noting that the way that adolescents interact with each other in the 21ˢᵗ century has changed significantly with the introduction and advancement of technological tools such as the Internet and social media.

Not only do we need to consider the advancement of technology in terms of the generational changes, but also societal expectations, as the interactions that used to occur in person are now often found online through various social media sites. The Internet and portable devices used to connect people through the Internet have changed the way the world communicates, including the way adolescents communicate with each other on a daily basis (Shapiro & Margolin, 2014). Research conducted by the Anderson and Jiang, (2018) suggests that adolescents are spending more time than ever on social media sites, indicating these sites play a role of perceived importance in the lives of adolescents. A majority (73%) of the public uses multiple social media sites, with the average younger American using four different sites (Smith & Anderson, 2018). The ubiquitous nature of social media provides new spaces for adolescents to ascertain the degree to which they are accepted by their peers and their perceived self-worth, pointing to new spaces and contexts for adolescent development. With adolescents now spending a significant

amount of time "hanging out" online, conflicts that used to happen exclusively face-to-face can now happen through social media, providing even more opportunity for exploration of self and others that was not previously available. Researchers have studied whether or not social media use has impacted the ways in which identity forms in adolescence (Benn, 2017; Drogos, 2015; Mirkin, 2017; Rosdahl, 2017; Valdez, 2016).

While social media as a means of pedagogical application has received the attention of educational researchers, the way in which adolescents are engaging with material may be of interest. The use of social media, as both a teaching and social tool, presents potential concern when it comes to adolescent understanding of what to post in terms of private versus public information. There seems to be a lack of understanding as to how these posts may affect their future careers and the care of others they may work with (Fang, Mishna, Zhang, Van Wert, & Bogo, 2014). The lack of understanding that material posted online has the potential to last for years supports the idea that adolescents may not have a clear understanding of their 'digital footprint' (Fang et al., 2014; Hickerson & Kothari, 2016).

Moore (2012) voices concern that adolescents may not have a full grasp of the weight of what they post and share on social media for their futures when a digital record of everything they post is permanently kept. Research on the adolescent brain suggests that decision-making skills during this developmental period are more unconscious, effortless, fast, and automatic (Kuhn, 2006). That is not to say that some decisions made by more mature brains are not fast and unconscious, it is simply that the ability to exert more control before making a decision is present. Whereas an adult brain has the capacity to make informed and controlled decisions about what is being posted on their social

media account, adolescent brains may not have the fully developed cognitive skills to do so, unintentionally putting them in a position to not fully consider the ramifications of information they put on their social media.

The presence of social media and the role in which it plays in many adolescents' lives suggests that researchers need to take a deeper look at the ways in which social media might influence adolescents in other important areas of their lives, such as in their perceptions of the learning climate.

Social Media

Social media is an important piece of this research. This section introduces the definition of social media, the evolution of social media, social media use in the classroom, social media and adolescents, and Instagram.

Definition

The exact definition of social media differs depending on the person who is asked. Social media takes on many different forms, including both web-based and mobile technologies (Leung, 2013), which includes Internet forums, social networking sites (SNSs), blogs, microblogs, vlogs, wikis, and voice-over IP (Alexander, 2008; Leung, 2013). Boyd and Ellison (2007) define social media as: "web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system" (p. 211). In the current era, the focus is on user control, participation, and engagement in the material. Kaplan and Haenlein (2010) agree that social media must be publicly or semi-publicly accessible, but add that it must also show a certain amount of creative effort that occurs

outside of professional routine practices. As understanding of educational and personal

contexts continues to expand, the reach of online interactions must be taken into

consideration, specifically when considering the implications in adolescent development

and their perceptions of learning climates.

Evolution of Social Media

Boyd and Ellison (2007) discuss social network sites' (SNSs) conceptual,

historical, and scholarly context and evolution over the years since social media first

appeared. What started out as social networks is now often referred to as social media.

While the Internet was expanding from Web 1.0 to Web 2.0, drawing on new types of

interactions and users, a new generation was coming of age. Students that are now in

college grew up with the increased availability of the Internet, as well as the interactivity

that is now known. The Net Generation, as they are known to some, have grown up in a

technologically rich environment (Leung, 2013; Switzer & Switzer, 2013; Tapscott,

2009,1998). The Net Generation is comprised of those born after 1993 (Ferro, 2009) and

have not known life without some version of the Internet. Those that are in the Net

Generation have been described as early adopters and heavy users of the Internet

(McMillan & Morrison, 2006).

According to McMillan and Morrison (2006), many studies about the Internet and

who uses it focus on pre-teen children rather than adolescents and young adults. Social

media is the heart and soul of the Net Generation's culture as they have learned to work,

play, learn, communicate, shop, and create communities online, thus expanding their

micro-, meso-, and macrosystems (Bronfenbrenner, 1979). More than any other

generation, the Net Generation is acquainted with a way of communicating that has

revolutionized business, education, health care, social relations, entertainment, government, and many other institutions (Lenhart, Madden, Macgill, & Smith, 2007; Leung, 2013).

Though we think of social media as a more recent phenomenon, it actually dates back 30 years; with the introduction of "Open Diary" that was an early version of a social networking site connecting online diary writers (Kaplan & Haenlein, 2010). Since then, there has been a shift in the research when it comes to how this phenomenon is talked about in the literature. Kaplan and Haenlein (2010) mark the emergence of Web 2.0 as the turning point for the evolution of social network sites and social media. Web 2.0 allows the creation and exchange of content created by those using the Internet, rather than users passively engaging in content provided on the Internet (Leung, 2013; O'Reilly, 2005). Web 2.0 encourages participation, collaboration, and the sharing of ideas and information. Importantly, the shift from Web 1.0 to Web 2.0 brought about the opportunity for user-generated content to expand, especially in the form of social media (Leung, 2013). With the emergence of Web 2.0 and the ability for users to create and interact with content, the first notable social network site, SixDegrees.com, launched around 1997.

Since the turn of the 21st century, many new social media sites have been launched. MySpace began in 2003, though not many analysts noticed. By 2004, adolescents had taken notice and joined the site rapidly. Social media sites were beginning to emerge at a rate that they had not before, both in the United States and worldwide. For example, Facebook started in 2004 as a Harvard-only media site (boyd & Ellison, 2007; Cassidy, 2006). The original expansion of Facebook included users with

university email addresses, targeting only those that were at different higher education institutions. In 2006, Facebook expanded to include high school students, professionals housed inside corporate networks, and eventually the general public (Hale, 2017). In 2006, Twitter was introduced to the social media world and quickly gained popularity with social media users. The popular picture-sharing site known as Instagram began in 2010 and quickly gained users, pulling in approximately 25,000 users in its first day of existence (Lagorio-Chafkin, 2012). Many individuals think that social media is a relatively new phenomenon although it is not; its success and the ways in which users *engage* with social media is what stands out as different from the original social networks of the 90s.

Social Media Use in the Classroom

Much current research on social media in education looks at how social media is used in a potentially meaningful way in the classroom as a pedagogical tool. The supportive function of technology in the classroom may take form in terms of engagement, increased autonomy, self-reflection, intentionality, and greater sense of community (Piotrowski, 2015). Blankenship (2011) asks, "'what are the benefits of social media to students?' and muses, 'there are plenty: greater student engagement, greater student interest, students taking more control of their education and more responsibility for their education'" (p. 12). However, critics of using social media in the classroom are concerned that the use of these sites puts instruction at risk, impeding the development of students' critical thinking skills (Piotrowski, 2015). Abe and Jordan (2013) postulate that the use of social media provides students with the opportunity to engage with their classmates outside of the classroom setting and possibly course content. For example,

some students found that when there were Facebook pages set up by instructors for the class, students had an easier time connecting with their peers as well as staying up with what was going on in the class as compared to those that did not have the same access to social media for their class (Allen, 2013). Such opportunities are noteworthy as an important component of the learning climate is the relatedness students' feel with their peers (Koth, Bradshaw, & Leaf, 2008). However, the degree to which instructor use of social media influences student perception of the learning climate is unclear.

Not all research on social media in the classroom is about integration of different platforms into pedagogy. Researchers have focused on students who spend their time engaging in messaging and social media use that is not relevant to course content in the classroom (Kuzenkoff, Munz, & Titsworth, 2015). While current research suggests there is a multitude of ways in which social media can be successfully integrated into the educational setting, it is still important to consider how accessing social media in the classroom can be, and generally is, a distraction from the learning that is supposed to take place (Campbell, 2006). According to Flanigan and Babchuk (2015), individuals who used digital devices to multitask during class and homework time reported using their devices for both academic and non-academic purposes, including social media use. It was not uncommon for students to report using their devices for non-class purposes during class periods, including engaging in social media use (McCoy, 2013).

Social Media and Adolescence

It is important to consider what impact constant exposure to social media has on adolescents' learning, relationship building, and psychological well-being (Flanigan & Babchuk, 2015). One might think that the Net Generation is full of tech savvy

adolescents who know how to wield technology to their advantage academically, socially, and professionally. However, Switzer and Switzer (2013) have found this idea to be largely unsupported, as the Net Generation – in spite of their demonstrated skill at using technology for personal use – have not demonstrated experience or ability in educational or professional contexts. As the use of social media has become increasingly popular, concerns have been raised about the way it is being used and the potential addictive nature of social media (Andreassen, Pallesen, & Griffiths, 2017; Griffiths, Kuss, & Demetrovics, 2014). Research around social media addiction stems from studies about Internet and video game addictions (Griffiths, 2010). As social media has continued to gain popularity, research on its addictive potential has also gained attention. The focus of this study was not social media addiction, but excessive use of social media has the potential to have negative impacts on its users. According to case studies conducted by Wan and Chiou (2006), excessive use of video games and online gaming may be used to distract from other problems in a person's life. Problems might include dysfunctional relationships, lack of friendships or ability to maintain friendships, physical appearance, lack of coping skills, and disabilities (Block, 2007; Griffiths, 2000). While this research focused specifically on video games and online gaming, potential parallels may exist due to social media addiction research evolving from video game addiction research.

Additionally, several hypotheses surrounding social media use and the effect it may have on social relationships have surfaced. The *displacement hypothesis* suggests that time spent on social media may displace offline interaction with both family and friends, and cause or amplify social isolation (Tzavela & Mavromati, 2013). In this

hypothesis, the outcome adversely affects social development. In 1998, shortly after the introduction of SixDegrees.com, Kraut, Patterson, Lundmark, Kiesler, Mukophadhyay, and Scherlis (1998) conducted a study with results that suggested Internet use was linked with declines in face-to-face interaction, implying that individuals may be substituting offline interactions with online ones. More recently, Green and Brock (2008) proposed that online communication serves as a distraction from means of deeper interactions. While the displacement hypothesis is one that is relatively popular, the *stimulation or increase hypothesis* suggests more positive outcomes associated with social media use (Tzavela & Mavramorti, 2013). This hypothesis claims that online communication can increase social interaction, which can then enhance an individuals' psychological well-being. Research conducted by Valkenburg and Peter (2007) posits that social media use enhances connections with and the quality of new and old friendships as it helps to facilitate and maintain connections.

As the 21st century has brought about advancements in technology, there are more spaces in which adolescents have the opportunity to explore different parts of who they are and the types of people they want to connect with. These spaces can be found in online sites and social media platforms such as Instagram. Considering the amount of time adolescents spend around their peers while in school, they are tasked with figuring out how to be individuals as well as fit in with their group of peers. Adolescents are trying to figure out not only how they fit in with their group of peers at school, but also with these new online spaces they are accessing through social media. Thus, further exploration of what is happening in these different contexts, and how they might influence one another, is warranted.

The presence of social media is undeniable; it has become one of the main forms of communication among adolescents and now plays a significant role in their lives (Kennedy & Lynch, 2016; Reid & Weigle, 2014; Shapiro & Margolin, 2014). Many adolescents begin and end their days by checking their active social media accounts and are often on it throughout the day, sometimes disrupting their independent activities and many of their face-to-face interactions (Shapiro & Margolin, 2014). According to a study conducted by the Pew Internet and American Life project (Jones, 2002), college students are likely to be online and doing things such as checking email, browsing the Internet for fun, downloading music, and using instant messaging platforms, even while they are involved in face-to-face interactions with others.

On average, 8-18-year old's spend approximately six and a half hours per day interacting with media, whereas late adolescents and emerging adults are spending at least 30 minutes per day on Facebook alone (Pempek, Yermolayeva, & Calvert, 2009). When considering adolescent development, two of the key tasks to be developed are to stand out (develop autonomy) yet fit in (gain peer acceptance) (Brown, 2008; Reid & Weigle, 2014). The goals of independence and acceptance may seem independent of one another, yet the need for personal identity and the need for strong group ties and friendships are pervasive in all areas of an adolescent's life, intersecting with his or her social media activity. While childhood friendships are rooted in interests and activities that are similar, friendships in adolescence are dependent upon trust, self-disclosure, and loyalty (Brown & Larson, 2009; Collins & Steinberg, 2006). The anonymity and spatial buffer that social media provides could potentially foster or inhibit the ability for adolescents to establish trust, meaningful self-disclosure, and loyalty with peers in both

face-to-face and online settings. Thus, social media sites may offer additional means of support and communication, or additional means of negative interaction with peers.

Of particular interest is the way that adolescents engage with the social media platforms they use. There are different types of users, identified by the activities they participate in while on social media. *Active users* are those that post, comment, "like", and make their presence known on both their profiles as well as on others. Then, there are those that are more *passive users*, or "lurkers." These users are those that look at what others are doing, but do not "like," post, comment, or engage with content on their profile or others' profiles (Drogos, 2015). Both types of users might spend similar amounts of time on their respective social media platforms, yet their experiences will likely be quite different (Yang, 2016). The different experiences based on the way they engage with their social media has the potential to impact the way they connect with others both online and offline.

Social media sites offer opportunities and challenges for adolescents to express their views and receive immediate feedback. These views can be expressed one-on-one in the form of direct messages to specific friends on social media, or the views can be expressed to all of their friends, followers, and strangers at once in the form of posts, comments, or likes. Social media platforms allow for users to share self-identifying information as well as all thoughts widely and quickly. These views may be posted with varying degrees of accuracy, honesty, and openness. Personal views may be shared with more people than an adolescent would typically share (Moreno, 2010; Reid & Weigle, 2014). For example, a thought that an adolescent might once have shared with close friends or family only may now be shared through social media, instead. Questions

remain about whether adolescents accurately portray who they are on social media and if

social media sites might impact their development (Shapiro & Margolin, 2014),

specifically within their feelings of developing relationships, connectedness with their

peers, and their perceptions of the learning climate.

Social comparison is another dimension of social media that may have an impact

on adolescents and their development. Social comparison involves different types of

comparison related to ability and/or opinions. Social comparison of ability focuses on

comparing oneself to the achievement and performance of others; it is a competition-

based type of comparison (Yang & Robinson, 2018). By contrast, social comparison of

opinion is not competition based, as individuals are comparing their beliefs, values,

attitudes, and thoughts to assess where their opinions are similar and different from others

around them (Yang & Robinson, 2018). Vogle, Rose, Roberts, and Eckles (2014) have

proposed that people use social media as a basis for social comparison, such as self-

evaluation (Festinger, 1954) or self-enhancement (Gruder, 1971; Wills, 1981).

As noted by Willis (1981) and Wood (1989), comparison and competition with

others is thought to be a central component of human nature, noting that ability

comparison can be further delineated as either upward or downward in nature. *Upward

social comparison* refers to situations where individuals compare themselves with

superior others who exhibit positive characteristics. By contrast, *downward social

comparison* relates to scenarios in which individuals compare themselves with inferior

others who exhibit negative characteristics. As social media has expanded, adolescents

have access to the lives of both their friends as well as people they envy, such as

celebrities and social media influencers. While upward social comparison can be used for

improving oneself in an effort to reach similar characteristics the superior other exhibits, it may result in feelings of inadequacy and poor self-evaluations (Vogel et al., 2014). By contrast, downward comparisons lead to improvements in self-evaluation as individuals often feel as though they are doing better than the inferior other (Wills, 1981). Social media, whether run by a celebrity/influencer or an average person, often display a user's highlight reel, offering a platform for users to share the best parts of their lives with friends and followers. Knowing that many social media users are sharing the best parts of their lives and seeing the best parts of others' lives, an argument could be made that social comparison likely takes the form of upward social comparison on social media more often than downward social comparison.

As social media sites allow users to share an abundance of materials that can be used for all forms of social comparison, researchers have more deeply investigated the social comparison behaviors associated with social media use and the implications from those behaviors. Research conducted by Yang and Robinson (2018) suggests that college students with strong social comparison orientations of ability and social comparison orientations of opinion both interacted with more frequent Instagram browsing as compared to their peer counterparts without a strong sense of social comparison. This research also found that college students with strong social comparison orientations use their social media to make these comparisons, as the social media sites help the individuals gather information necessary to make the comparisons. However, this research suggested that Instagram browsing was not related to the participants' well-being as it was measured in the study, indicating that for young adults the potential negative implications of social media use may be cancelled out by potential positive

implications, such as maintaining connections with on-campus friends, when studying

their college social adjustment (Yang & Robinson, 2018).

While some researchers are concerned with the degree of anonymity and the

potential consequences associated with that (Shapiro & Margolin, 2014), it may afford

adolescents that are more shy or uncomfortable with face-to-face interactions the

opportunity to explore avenues of communication and connection they may otherwise not

explore. These adolescents are able to practice social skills in a manner that is less

threatening and anxiety provoking (Andreassen, Pallesen, & Griffiths, 2017). Those with

physical insecurities are given the opportunity to communicate with others and be judged

on intellect and verbal interaction rather than their physical appearance. The degree of

anonymity provided by the Internet and social media sites may be appealing to those that

feel different from what mainstream culture expects of them, as well as for those that may

want to interact with others outside of their current peer groups, but do not feel

comfortable doing so in face-to-face settings (Barker, 2009). As such possibilities exist in

the world of social media, adolescent development in relation to social media use is

worth further exploration.

Instagram

For the purpose of this research, Instagram was the focus of adolescent social

media use. Instagram started out as a social media platform that was used solely for

sharing still photos that could be enhanced with filters or software presets, which change

the appearance of images or parts of images by altering the shades, colors, and pixels of

the image in some way. Since the introduction of Instagram in 2010, the social media site

has evolved in the features it offers its users. The capability to post photos and apply

filters is still the crux of the application, but users can now post stories, videos, multiple

photos in one post, go "live," and create IGTV channels. Stories are short bursts of

photos or videos lasting for 10 or 15 seconds, respectively, with unlimited additions of

photos and videos to a user's story. The photos and videos in a story are available to the

user's followers for 24 hours. Within stories, Instagram users can add text, stickers, filters

unique to stories, polls, questions with open-ended responses, and a tag for their location,

snippets of music, additional personal pictures, and hashtags. Users can then see how

many of their followers have viewed each of their stories. Those on Instagram can

communicate with specific followers through direct messages, which no other followers

can see. Users can create different groups in their direct messages for specific people they

might want to communicate with together.

Instagram users can create "live" videos, which are different from stories, as the

video is recorded and broadcast to their followers in real-time. While the Instagram user

are live, their followers can watch the video and leave comments that users can see and

respond to in real time. Another feature provided by Instagram is the IGTV feature,

which allows users to create and share videos that are up to an hour long. These videos

are saved to a user-created channel. Furthermore, users can manage multiple accounts at

the same time. For example, a user might have a personal account as well as a business

account. While the user is on the Instagram application, s/he can toggle back and forth

between both accounts. Beyond the use of stories to publish pictures and videos,

Instagram users can still post pictures and videos in the traditional way by posting in their

feed. It is here that text describing the photo or video can be added in great detail. Posts

in a user's feed can contain up to 10 images, 10 videos, or a combination of images and

videos. It is within a feed that followers can leave comments on the posts and like images. All users of Instagram have the option to save posts and/or send posts to other users on Instagram.

There are privacy features within Instagram that can be customized by the user. The user can set Instagram accounts to private so the account holder must approve those who want to follow. There are additional privacy features within users' stories, with the user being able to select whether the entire followers list or just those designated as close friends can and cannot see or reply to certain stories.

As of 2018, a study conducted by the Pew Research Center (Smith & Anderson, 2018) found that younger adults, specifically those ages 18-24, embrace the use of multiple social media sites more than older adults. Approximately 71% of social media users in the 18-24 age group reported using Instagram on a daily basis, which is up from 51% in 2016. Given statistics regarding Facebook use has remained the same since 2016, this increase indicates that Instagram is still increasing in popularity. Furthermore, approximately 51% of the respondents from this age group said they thought it would be hard to give up their social media sites (Smith & Anderson, 2018). Given its constantly evolving features, as well as the steadily increasing number of users amongst younger age groups, Instagram was the focus of this research.

Learning Climate

Once children are old enough to go to school, they spend a majority of their time there (Schaps & Solomon, 2003). Generally speaking, children spend around seven hours a day, five days a week, for approximately 180 days per year in school from kindergarten through high school. The amount of time computes to roughly 1,260 hours per school

year, for at least 12 years on average (School and Staffing Survey, 2008). Considering the majority of adolescents' waking hours is spent at school, what happens in that environment plays an important role in their lives (Sprott, 2004).

Although school is mainly regarded as a learning space (Claxton, 2008; Wolk, 2007), it is also an incredibly social environment. Due to the amount of time spent in schools and classrooms around the same faculty and peers, students develop a sense of community specific to this environment. The sense of community that is developed depends on their needs to be autonomous, connected with, and accepted by others. Those that feel a sense of community identify with the school and are motivated to follow the norms and values emphasized by the school (Schaps & Solomon, 2003). These researchers posited that students benefit from a sense of community, and that a sense of community is achieved when students identified with the school's norms and goals. According to these researchers, identification with the school's norms and goals was most likely to happen if the school environment was pleasant, the school staff was positively disposed towards students, there were numerous shared activities between staff and students, there were broadly shared student positions of responsibility in the school, and there were generally high levels of achievement (Schaps & Solomon, 2003).

The learning climate shapes adolescents' social, emotional, and cognitive development in terms of their feelings and attitudes towards their classmates, teachers, and education system as a whole (Schaps & Solomon, 2003; Zedan, 2010). Research on learning climate has looked at what components are necessary for student success, and yet there is still the question of how the increase in adolescent social media use might be contributing to adolescent perceptions of their learning climate. The learning climate is

affected by characteristics at various levels of the system. These dynamics include school-level factors such as: school size, student-teacher ratio, student mobility and school type. It includes classroom-level factors and individual-level factors such as race and gender (Koth, Bradshaw, & Leaf, 2008). While school climate refers to attitudes and beliefs amongst everyone participating in the school, it is likely that each classroom within the school will have a different climate (Sprott, 2004), as each teacher will have a different composition of students, management style, and set of teaching experiences. Previous research has suggested that the social structure of a classroom is related to the teacher's management style (Roland & Galloway, 2002).

According to Bronfenbrenner's (1979) emphasis on the reciprocal relationship between an individual's contexts, it stands to reason that individual classroom climates would affect the overall school climate, as well as the school climate affecting individual classroom climates, as supported by Koth et al., (2008) who emphasize the significant impact of individual -classroom-, and school-level factors on overall climate. Learning climate has the potential to facilitate the accomplishment of both individual and group tasks as well as the development of social interactions. The accomplishment of such tasks, in turn, fulfills individual and group members' identity and emotional support needs (Sprott, 2004).

The learning climate develops in a fluid state from the transactions of many environmental features. These environmental features include interpersonal relationships, emotional intonations, teaching style, classroom organization, teacher expectations, attitudes towards students, teacher control, disciplinary problems, the gender and age of students (Zedan, 2010). Adleman and Taylor (2005) suggest additional environmental

features, including: social system organization, staff and student morale, power, guidance, support, curricular and instructional practices, efficacy, accountability demands, cohesion, competition, the "fit" between the learner and classroom variables, system maintenance, growth and change, and safety. Moos (1980) proposed grouping such features into dimensions that explain human environments in order to develop measures of school and classroom climate. The proposed features included: (a) relationships (the nature and intensity of personal relationships within the environment); (b) personal development (basic directions along which personal growth and self enhancement are likely to occur); and (c) system maintenance and change (the extent to which the environment is orderly, clear in expectations, maintains control, and is responsive to potential change) (Moos, 1980).

The understanding of learning climates as both school and classroom climate fits within Bronfenbrenner's ecological theory (1979), drawing on the interplay of personal characteristics and the various systems that students' function within (Dotterer & Lowe, 2011). Additionally, climate and culture are shaped by the school surroundings that are embedded within the political, social, cultural and economic contexts that exist (Adelman & Taylor, 2005). Classrooms are nested within schools, which are nested within communities, which are part of a broader environment (Sprott, 2004). The various levels that surround these students directly and indirectly through their online and offline interactions affect the individual student's development.

Contributions to Learning Climate

Researchers interested in the social support of adolescents discuss the importance of peer support, in conjunction with family and teacher support during adolescent

development (Bokhorst, Sumter, & Westernbery, 2010; Çengel, & Türkoglu, 2016; Furman & Buhrmester, 1992). The learning climate is a powerful predictor of student outcomes in achievement as well as in how students learn to handle relationships with others (Hargraves, 2018). As students spend such a significant amount of time in school, learning how to deal with interactions inside of the classroom may inform how students handle interactions outside of the classroom as well. If students are not finding the positive support they need in the classroom from teachers and peers, a negative learning climate is likely to develop and persist causing developmental, emotional, and learning hardships (Hargraves, 2018).

According to Çengel and Türkoglu (2016) and others (Doll, Spies, LeClair, Kuein, & Foley, 2010), the four main principles of a positive classroom climate are: peer relations, teacher-student relations, the way that individuals consider themselves in the academic field, and the way they get satisfaction in the classroom. Research has suggested that a positive learning climate is facilitated by students feeling supported and respected by their instructors as well as their peers and is related to student psychological well-being (Holfve-Sable, 2014; Resnick et al., 1997; Yonyama & Rigby, 2006). Caring and supportive relationships appear to be critical in the promotion of positive adolescent adjustment and preventing undesirable outcomes, such as bullying (Cohen & Freiberg, 2013).

As connectedness is one of the prominent characteristics of a learning climate that promotes positive learning experiences, a focus on the changing landscape of relationships because of adolescents' use of social media, such as Instagram, is worth deeper attention. Unfortunately, connectedness can sometimes be hindered by conflict.

Conflict between students, in and out of the classroom, is always possible. Bullying is not a new phenomenon in schools, however the ever-advancing technological world has introduced cyberbullying to the educational scene. *Cyberbullying* is the act of someone deliberately and repeatedly sending or posting harmful messages or engaging in other forms of social aggression using digital technologies with the intent of hurting their target (Belsey, 2005; Hinduja & Patchin, 2010; Willard, 2004). As such, cyberbullying has taken on a unique form as its aim is to harm, both in and out of the school environment, requiring members of the broader community to take notice of the problem and offer support (Brown, Jackson & Cassidy, 2006; Smith & Slonje, 2010). Current literature has highlighted the need for research to focus on psychological factors in school, as well as amongst the school community members, such as faculty, students, teachers, and parents. The focus should be on how these school community members can work on positive school and learning environments with the specific goal of dissuading the negative use of social media to interact with peers (Simão, Ferreira, Freire, Caetano, Martins, & Vieira, 2017), which may then translate into the learning climate where these adolescents will interact on a daily basis. While the focus of this study is not cyberbullying, it is a phenomenon brought forth by the accessibility and interaction provided by social media that should not be ignored as it has the potential to be a part of the learning climate for adolescents.

The advancement of technology has provided the educational world with new ways to reach its students, especially its adolescent students. While many of the advancements are advantageous, such as distance learning opportunities and new ways to reach students that more directly align with their preferences, both sides of the coin must

be explored. Specifically, it is worth noting the ways in which technological

advancements, such as smart phones and social media, may be contributing to the

learning climate both in and out of the classroom. With the ever-changing social

landscape, research on perceptions of the learning climate is needed to expand and

include the ever-evolving variables, especially social media.

Outcomes Associated with Learning Climate

Research suggests classroom-based strategies that actively teach and encourage

positive behavioral expectations through rewards have been shown to be effective at

reducing behavioral problems and, therefore, potentially improving learning climate and

student achievement (Sugai, Horner, Dunlap, Hieneman, Lewis, & Nelson, 1999).

Recently, it has been suggested that a positive learning climate is supportive of positive

mental and physical health, academic achievement and social adjustment among

adolescents (Piccolo, Merz, & Noble, 2018). Classrooms and schools in which behaviors

that are supportive of others tend to produce better overall outcomes for students. The

propensity to endorse pro-social behavior predicts better adjustment in children and

adolescents and is related to positive developmental outcomes such as academic

achievement, self-esteem, and civic engagement (Luengo Kanacri, et al., 2017).

Beyond the behavioral components of the learning climate, structural organization

and academic support are important factors in considering student success and

achievement. Academic support has been found to be the strongest predictor of school

satisfaction (Zullig, Huebner, & Patton, 2011). A supportive learning climate promotes

the development of self-regulatory skills and promotes executive function in adolescents.

Executive function is understood as a set of cognitive skills that support flexible and

goal-directed behavior (Hofmann, Schmeichel, & Baddeley, 2012; King, Lengua, & Monahan, 2013). As children and adolescents spend a significant amount of time in school, the learning climate is a dominant contributor to individuals' brain development. The influence of the learning climate goes beyond cognitive and physical development. A positive learning climate plays a significant role in academic achievement (Bond et al., 2007; Brand, Felner, Seitsinger, Burns, & Bolton, 2008; Wang & Holcombe, 2010) and educational outcomes. Piccolo and colleagues (2018) conducted a study looking at the learning climate and the development of executive functioning in children and adolescents. Results indicated that higher perceived academic support was associated with greater executive function, suggesting that adolescents that perceive their learning climate as positive and supportive have more flexible cognitive skills and are more likely to exhibit behaviors that support their academic goals as compared to adolescents that perceive a negative learning climate.

Summary

Adolescence is a time for a shift from reliance on parents to that of reliance on peers and romantic partners when it comes to beliefs, values, and opinions as adolescents try to figure out who they want to be. Research has demonstrated that individuals use social media as a means to connect with others and either develop or maintain relationships with those they may know from all levels of their ecological system. While making and maintaining these connections and relationships, adolescents are often engaging in social comparison, once again relying on others to indicate whether they are similar or different in their beliefs, values, and opinions. During this time in life, adolescents spend a significant amount of time in school and in various classrooms. The

learning climate in which they interact on a daily basis relies heavily on students feeling a

sense of connectedness with each other. Researchers have explored each of these

constructs on their own, yet there is little literature exploring the overlap between

adolescence, social media use, and perceptions of the learning climate.

CHAPTER III

METHOD

The purpose of this study was to explore the relationship between adolescent

Instagram use and adolescent perceptions of the learning climate. The data collected were

related to adolescents' Instagram use in terms of reach (variety and number of others),

intensity (adolescent value of Instagram), amount of time/number of visits, and

participation type (active vs. passive) and their perceptions of learning climate as defined

by positive student-teacher relationships, school social environment, school

connectedness and opportunities for engagement. Correlational and regression analyses

allowed for a detailed investigation of the relationship between the two major variables of

interest.

Research Question

For the purpose of this study, one research question was explored: How is

adolescent**s'** Instagram use affecting their perceptions of learning climate in school?

Rationale

Social media provides adolescents with a viable means of connecting with their

same-aged peers in ways that were not previously available to them. Social media use is

related to feelings of connectedness with family, friends, and others (Lenhart et al., 2007;

Shapiro & Margolin, 2014). For example, Barker (2009) discusses how those that are not

41

comfortable with face-to-face interactions now have the means of connecting with others while in an online space, allowing them to have some distance from those with whom they are interacting. As such, this may increase their confidence in interactions with others or provide them with the opportunity to feel connected in their classrooms. However, Yang (2016) offers insight into loneliness in relation to how social media users engage with their accounts, suggesting that passive users tend to feel lonelier. Results of studies conducted on active users and loneliness are still mixed. Social media provides opportunity for adolescents to feel more connected with those that are solely in their offline spaces (Shapiro & Margolin, 2014). When it comes to literature on the learning climate, a major theme surrounding the development of learning climate discusses individuals feeling connected to others and feeling as though they can establish and maintain relationships (e.g., Holfve-Sabel, 2014; Resnick et al., 1997; Yoneyama & Rigby, 2006). While research on social media use and perceptions of the learning climate both focus on relatedness and connecting with others, there is a gap in how connectedness and relatedness are achieved in relation to one another.

As previous research has indicated, active social media users who post and engage with social media can experience both higher and lower loneliness (Yang, 2016). However, taking into account the research on learning climate and how feelings of connectedness with peers and the ability to establish and maintain relationships is related to positive perceptions with the learning climate, it was reasonable to anticipate that adolescents who were active users of social media would have positive perceptions of the learning climate.

There is the potential for adolescents to connect with peers that are outside of their micro- and mesosystems (Bronfenbrenner, 1979), giving cause for them to feel disconnected from their peers in the classroom if they feel more connected to those they have met online (Shapiro & Margolin, 2014). Previous research has suggested that passive use of social media is related to increased feelings of loneliness. Further, the displacement hypothesis from social media research suggests that time spent on social media displaces offline interaction with friends and family, which expands potential social isolation (Tzavela & Mavromati, 2013). Those who seem to have an increased value of their Instagram (as measured by the Instagram intensity subscale) and Instagram network may potentially feel more isolated from their offline worlds and could feel the need to rely on the social interaction they get from their Instagram use. This seems to be in line with research from learning climate literature, which indicates that individuals who do not feel they are connected and feel they cannot establish and/or maintain relationships with peers and teachers have a negative perception of the learning climate. Based on research on learning climate and social media use behaviors, it was reasonable to anticipate adolescents with more value placed on their Instagram would have negative perceptions of the learning climate.

Literature exploring the addictive nature of social media, while not the focus of this study, provides some potential parallels with how the amount of time spent on social media may impact users' development and overall feelings of psychological well-being. In the case of Internet and social media addiction, specific criteria must be met for users to be considered addicted. An important distinction made by Griffiths (2010) was that excessive use of video games is not the same as a gaming addiction. Although case

studies presented by other research suggests that excessive use of video games and online

gaming may mask other problems in a person's life such as lack of friendships,

challenging relationships, or physical appearance (Block, 2007; Griffiths, 2000; Wan &

Chiou, 2006). Research related to social media addiction has largely stemmed from

studies on video game addiction, with a modification of surveys to fit with social media

platforms rather than video games (Griffiths, 2010). According to van den Eijnden,

Lemmens, and Valkenburg (2016), there is a theoretical assumption that both social

media addiction and Internet gaming disorder come from the same overarching Internet

addiction construct. As such, it may be expected that similar relationships exist for the

reasons behind excessive social media use. It is important to note that ways in which

social media is being used is essential, but for the sake of establishing relationships, time

spent and visits to social media was examined on its own. Based on these associations, I

anticipated adolescents who spent more time on Instagram would have negative

perceptions of the learning climate.

Finally, Hampton and colleagues (2011), suggest that higher network diversity

within social networks has been theorized and documented to be associated with

numerous positive outcomes such as trust, autonomy, and knowledge. This is especially

true when taking into consideration settings that are public and social, such as a school.

While some schools may not be as diverse as others based on the neighborhoods they are

in, it is the uncontrolled nature of access to the spaces that affords diversity (Hampton et

al., 2011). Beyond the social space of the learning environment, social media sites consist

of the same uncontrolled access that affords its participant diversity. The positive

outcomes associated with more network diversity, both online and offline, in conjunction

with the need to feel connected and establish relationships in the learning climate, which is often mediated by feelings of trust and autonomy (Ruus et al., 2007), lends itself to a potential relationship. Based on these associations, I anticipated adolescents with higher network reach would have positive perceptions of the learning climate.

Hypotheses

Findings in social media literature and learning climate literature, respectively, provide a foundation for anticipated results in this study. However, without further exploration of the two contexts together, no conclusions can be made. Thus, in this study I explored whether adolescent Instagram use predicted their perceptions of the learning climate. To summarize, the anticipated results for this study were as follows:

- Hypothesis 1: Adolescents with more active participation behaviors (as measured by the Instagram participation subscale on the Social Media Scale) will have a positive relationship with perceptions of the learning climate (as measured by subscales on the School Social Environment Scale).

- Hypothesis 2: Higher scores on Instagram intensity scale (as measured by the Instagram intensity subscale on the SMS) will have a negative relationship with perceptions of the learning climate (as measured by subscales on the SSES).

- Hypothesis 3: Adolescents with a more network reach (as measured by the network reach subscale on the SMS) will have higher perceptions of the learning climate (as measured by subscales on the SSES).

As previous research has not yet examined the relationships listed, it was important to recognize that there may be predictive relationships as well. Based on the above rationales and predicted relationships, it was reasonable to believe components of

adolescent Instagram use would predict perceptions of the learning climate. The

hypotheses were as follows:

- Hypothesis 4: Adolescents with active participation behaviors and more diverse

  Instagram networks (as measured by the network reach subscale on the SMS) will

  have positive perceptions of the learning climate (as measured by SSES).

- Hypothesis 5: Adolescents with higher feelings of connectedness with their

  Instagram (as measured by the Instagram intensity subscale on the SMS), as well

  as more time spent and unique visits to Instagram (as measured by the time/visits

  subscale on the SMS) will have negative perceptions of the learning climate (as

  measured by subscales on the SSES).

Context

Adolescents between the ages of 14 and 20 were recruited from a high school

located in the Midwestern United States. The community was comprised of

approximately 38,000 people. The majority of residents were White (51.5%), followed by

American Indian/Alaskan Indian (16.4%), African American (15%), and Hispanic

(8.3%). Females slightly outnumbered males at 100 to 92, respectively (World Population

Review, 2019). According to data reported from December 2018, the district from which

data was collected was comprised of 49% females and 51% males. Ethnicity was 27.6%

White, 15.96% Hispanic, 17.6% African American, 13.05% American Indian/Alaskan

Native, 1% Asian, and .1% Pacific Islander. Total enrollment was 1,557 students from

freshman through senior grades, with approximately 450 students in 9th grade,

approximately 450 students in 10th grade, approximately 350 students in 11th grade, and

approximately 320 students in 12th grade. I sought to have a representative sample in line

with the high school statistics in terms of gender, race, and class rank (freshman through senior years). The high school from which data was collected was the only high school in the town. Data from this sample provided insight to how adolescents are using Instagram, how adolescents who use Instagram feel about their learning climate, and what relationship, if any, exists between adolescent Instagram use and their perception of the learning climate. Demographic information was collected regarding gender, race, year in school, and age.

Procedure

The Institutional Review Board approved all materials (see Appendix A) before data collection began. Passive parental consent and student assent was obtained before the survey was administered to the participants. Passive parental consent was obtained by sending notice to all parents of the students in the school informing them a survey was to be administered to their child during designated class periods. If the parent or guardian did not want their adolescent to participate in the survey, they indicated so on the form and returned it to the teacher for the class in which the survey was administered. There were twelve students whose parents decided to opt out of the study. Those students did not participate in the survey during the time allotted in class. Passive parental consent was approved by the principal of the school as standard operating procedure for this school district. As such, I did not want to stray from the norm. Permission from the school as well as all procedures that needed to be followed for the district were obtained before dissemination of materials to teacher contacts, parents and students. All data were collected online via an electronic survey during two introductory drama classes at the high school. I went to both classes, during each period for a total of five class periods

throughout the day. I introduced the study, briefly explained the reason for the research, and the process for completing the study. After this process, I left the room so participants did not feel pressured or influenced in any way.

Participants were asked to fill out an electronic survey through an anonymous link provided to them by their teacher. No identifying information linked to the survey was collected. To support recruitment efforts, participants were given an opportunity to be entered into a drawing for $5 gift cards to Starbucks through a separate link, not connected to survey results. There were a total of ten gift cards offered. Completion of the survey constituted one entry into the drawing, with a drawing being held for every 15 surveys that were completed. Nine total gift cards were awarded.

Instruments

Instruments for this study were selected based on their use in research on learning climate and social media use. The full survey consisted of 71 items (not including demographic questions) and took an average of 10 minutes to complete.

Learning Climate

Learning climate was assessed using the School Social Environment Scale (SSES; Zullig, et al., 2011). The SSES is a self-report scale using a Likert-type scale from 1 (*strongly disagree*) to 5 (*strongly agree*). The full scale consists of 10 factors and a total of 48 questions. For the purpose of this dissertation, the scale was reduced from 10 to four factors (20 questions): *Positive Student-Teacher Relationships, Opportunities for Student Engagement, School Connectedness,* and *School Social Environment*. These factors were specifically chosen because they reflect aspects of the learning climate that have been discussed in the literature review of this dissertation. Careful consideration of

the length of the survey was also a factor, as the sample I requested data from gave up valuable class time in an effort to aid the progress of this study. While proper statistical analysis and protocol were followed, I wanted to be mindful of the time I took from this school in order to attain the proper number of participants to meet power requirements.

The subscale to measure positive student-teacher relationships consisted of eight items ($\alpha = .89$) and included statements such as: *Teachers understand my problems* and *My teachers care about me*. The subscale to measure school connectedness consisted of four items ($\alpha = .70$) and included statements such as: *This school makes students enthusiastic about learning* and *Students are frequently rewarded or praised by faculty and staff for following school rules.* The subscale to measure school social environment consisted of two items ($\alpha = .83$) and included statements such as: *I am happy with the kinds of students who go to my school*. Finally, the subscale to measure opportunities for student engagement consisted of six items ($\alpha = .79$) and included questions such as: *Nobody in my school is excluded from being successful* and *Students can express feelings and thoughts about schoolwork and life.* Each subscale received its own score, resulting in four scores within the SSES. Positive student-teacher relationship scores ranged from 8-39 with higher scores indicating positive perceptions of student-teacher relationships. School connectedness scores ranged from 4-19, with higher scores indicating positive perceptions of school connectedness. School social environment scores ranged from 2-10, with higher scores indicating positive perceptions of the school social environment. Opportunities for student engagement scores ranged from 6-30, with higher scores indicating positive perceptions of opportunities for student engagement.

Social Media

Since the study of social media and Instagram is relatively new, well-established and validated scales are continually being developed and revised. The social media scales for this study were based on previous work in this area (Drogos, 2015).

Instagram intensity. In order to understand adolescent values of Instagram, the Facebook intensity scale by Ellison, Steinfield, and Lampe, (2007) was used and revised for Instagram, specifically. This scale was designed to assess how much adolescent's value their Facebook and the extent to which Facebook was incorporated into their daily lives (Ellison et al., 2007). Revisions were made throughout the survey for the purpose of this study by changing "Facebook" to "Instagram." This subscale consisted of six items ($\alpha = .83$) and included questions such as: *Instagram is part of my every day activity* and *I feel out of touch when I haven't logged onto Instagram in a while.* Participants responded to the items on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Scores for this item were summed for an Instagram intensity score. Scores ranged from 6 to 30, with higher scores indicating feelings of more connectedness to Instagram.

Instagram Participation. The ways in which adolescents are engaging with their Instagram were investigated. Users of social media generally fall into two categories when it comes to how they engage with social media: active participants and passive participants. Active participants are those that produce content while on social media sites while passive participants are those that browse others' content but do not engage with the content (Yang, 2016). These different types of participation likely result in different experiences for the users on Instagram as passive social media use has been

50

linked to higher degrees of loneliness and active use has been linked to both higher and lower loneliness (Yang, 2016). This subscale consisted of nine questions. Participants were asked questions to ascertain whether they are active participants or passive participants through questions such as: *When I go on Instagram, I prefer to read and look at what other people are posting rather than respond to those posts; When I go on Instagram, I prefer to comment on other people's photos or posts rather than just look at or reading them.* Response categories were: 1 (*strongly disagree*) to 5 (*strongly agree*). There were four questions to indicate active participation and four questions to indicate lurking. One more question was asked of participants. This question specifically asked for participants to respond with how they engage in their Instagram. Response options were as follows: 1 (*I only like to observe, I rarely participate when on Instagram*), 2 (*I mostly like to observe, I sometimes participate when on Instagram*) 3 (*I equally observe and participate when on Instagram*), 4 (*I mostly like to participate, I sometimes observe when on Instagram*) and 5 (*I only like to participate, I rarely only observe when on Instagram*). Questions asking about passive behaviors were reverse coded in analysis. Participants received a summed score for their type of participation, with scores ranging from 9 to 38. Higher scores indicated more active participation with Instagram while lower scores indicated passive participation behaviors while on Instagram.

Time/visits to Instagram. Participants were asked about how much time and how many unique visits they make to Instagram on weekdays and weekend days, respectively. Questions about usage on weekday days consisted of *before school, during school, after school before dinner* and *after dinner before sleep*. Questions about usage on weekend days consisted of *morning (8am-12pm), early afternoon (12pm-4pm), late afternoon*

(4pm-8pm), evening (8pm-12am). Participant responses included: 0 (*no time*), 1 (*1-10 minutes*), 2 (*11-30 minutes*), 3 (*31-60 minutes*), 4 (*1-2 hours*), 5 (*2-3 hours*), or 6 (*3+hours*). Participants were also asked about how many unique visits they make to Instagram on a weekday and weekend day, respectively. Unique visits were described as, "every time you go on Instagram and use the site in some way." Participants were asked about how many times they make unique visits to Instagram on a typical day: *before school, during school, after school but before dinner, and after dinner but before bed* and on a weekend day: *morning (8am-12pm), early afternoon (12pm-4pm), late afternoon (4pm-8pm), evening (8pm-12am)*. Participant responses included: 0 (*no visits*), 1 (*1 to 5 visits*), 2 (*6 to 10 visits*), 3 (*11 to 15 visits*), 4 (*16 to 25 visits*), 5 (*25-30 visits*), 6 (*30+ visits*). Scores ranged from 16 to 102, with lower scores indicating less time and visits to Instagram and higher scores indicating more time and visits to Instagram.

Network reach. In order to further investigate the ways in which adolescent's ecological systems (Bronfenbrenner, 1979) might be more blurred with the use of social media and Instagram, the number and variety of participant's Instagram followers were measured. Participants were asked about the number of their Instagram followers list, including those they follow and those that follow them and what percentage of their followers they interact with face-to-face on a weekly basis. The percentage of their followers they interact with face-to-face was asked in order to further understand the degrees of separation in the adolescents' Instagram network, with the idea that they would interact more often with those in their microsystems and less often with those in the systems further from them. Response options for the number of participants were left open for participants to fill in. Then, the answers were arranged into categories within a

52

range from 0 (100 or less) to 10 (1,000+), with categories in increments of 100. One question asking about the percentage of friends the participant talked to from their Instagram friends in a face-to-face manner on a weekly basis was included. Response categories ranged from 1 (less than 10%) to 10 (Almost all, 100%). Next, an adapted version of the Social Network Index by Cohen, Doyle, Skoner, Rabin, and Gwaltney, (1997) was used to measure the reach of each participant's Instagram network. The questions in this section asked participants about the different types of social relationships they have established within their Instagram accounts. Examples of these social relationships include relationships with parents/parental figures, siblings, classmates, peers not in the same school/town/state, famous people, and politicians. For example, participants were asked: *Do you follow your parent/guardian on Instagram?, Do you follow people from work on Instagram?, Do you follow famous people (actors, actresses, musical artists, etc.) on Instagram?*. Response categories were 0 (*no*) or 1 (*yes*). From these responses, participants received an Instagram variety score, which was calculated by summing the total number of kinds of Instagram accounts the participant reported they follow. Scores ranged from 0 to 18, with higher scores indicating more variety. Then, the number of total Instagram reach (i.e., the number of followers + number they were following) were added to the variety score to create an index of the reach of the participants' Instagram network. Scores ranged from 19 to 54. Higher scores indicated more variety and numbers of persons within the participant's Instagram network.

Analysis

To investigate the relationships presented in hypotheses 1, 2, and 3, correlational analyses were used. To investigate the predictive relationships presented in hypotheses 4 and 5, four separate regression analyses were used, with scores on the social media scales serving as the predictor variables and scores on the SSES subscales serving as criterion variables. According to VanVoorhis and Morgan (2007), approximately 20-30 participants per predictor variable are necessary in a multiple regression analysis to achieve power. As such, with four predictor variables, 80-120 participants were needed for power of .80.

CHAPTER IV

RESULTS

The purpose of this study was to explore the relationship between adolescent

Instagram use and adolescent perceptions of the learning climate. The data collected were

related to adolescents' Instagram use in terms of intensity (how much they value

Instagram), participation type (active vs. passive), time/visits, and reach (variety and

number of others) and their perceptions of learning climate as defined by positive

student-teacher relationships, school social environment, school connectedness and

opportunities for student engagement. This chapter provides the details of the

participants who completed the study followed by the analyses conducted to respond to

each hypothesis as generated by the research question.

Participants

Data were collected from 156 male and female high school students at a

Midwestern high school. Both males and females participated. Sixteen participants did

not answer any questions in the survey and were removed from the dataset, resulting in a

final number of 140 participants. After careful examination of the data for outliers, it was

determined that there were none. Participant demographic characteristics are given in

Table 4.1. The majority of participants indicated they were female (60%), while other

leading characteristics included age 15 (30.6%), freshmen or sophomores (30% each),

and White/Caucasian (48.6%).

Table 4.1. *Descriptive Statistics of Participant Demographics*

| | N =140 | |
Variable	Frequency (*n*)	Percent (%)
Gender		
Male	43	30.7
Female	85	60.7
Missing	12	8.6
Age		
14	9	6.4
15	44	31.4
16	34	24.2
17	21	15.0
18	15	10.7
19	1	.7
20	1	.7
Missing	15	10.7
Grade		
Freshman	42	30.0
Sophomore	42	30.0
Junior	18	12.9
Senior	26	18.8
Missing	12	8.6
Race/Ethnicity		
White	70	48.6
African American	30	24.3
Hispanic/Latino	35	24.3
Asian	3	2.1
Native American	42	29.2
Native Hawaiian or Pacific Islander	0	0
Multiple Selections	41	29.3
Missing	14	10.0

Analyses

In this study, I examined the relationship of Instagram use and perceptions of the

learning climate. Specifically, I addressed the following research question: How is

adolescents' Instagram use affecting their perceptions of learning climate in school?

The final dataset contained minimal missing data. To address the missing data, Little's Missing Completely at Random (MCAR) test was run in SPSS. Little's MCAR was not significant, meaning all missing data was random, so a Missing Value Analysis procedure was run to fill in missing data. Reverse coding and composite scores were computed for all measures, and descriptive statistics, including means and standard deviations, were obtained for each composite score. Correlation matrices were generated

Based on previous research findings reported in the literature on social media use, adolescence, and the learning climate, the ways in which adolescents use social media -- specifically Instagram -- would predict perceptions of the learning climate were examined. While one research question was examined, five total hypotheses were tested. The first three hypotheses tested relationships among social media behaviors and perceptions of the learning climate. I predicted adolescents with active participation behaviors and higher network reach would have positive perception of the learning climate, while feelings of connectedness (intensity) with their Instagram would have a negative relationship with the learning climate. Hypothesis four explored how adolescents' participation behaviors and network reach might predict positive perceptions of the learning climate. Hypothesis five examined how adolescents' Instagram intensity as well as time and unique visits to Instagram might predict negative perceptions of the learning climate.

Correlational analyses and regression analyses were conducted in order to examine the relationship between perceptions of school connectedness, student teacher relationships, feelings of engagement, and school social environment and adolescent Instagram use. Each analysis is discussed in further detail below.

Correlational Analyses

Pearson correlational analyses were conducted to identify correlations between predictor variables (Instagram intensity, participation type, time and visits to Instagram, and network reach) and the criterion variables (positive student-teacher relationships, school social environment, school connectedness, and opportunities for student engagement). Correlational analysis was necessary before continuing with regression analyses as a relationship is needed before predictive relationships can be measured. As indicated in Table 4.2, no significant correlations were found between the predictor variable of Instagram intensity (how much adolescents' value their Instagram), time/visits to Instagram, and network reach (variety and number of others) with any of the criterion variables. However, the predictor variable of Instagram participation (active vs. passive) was correlated with the criterion variables of school connectedness ($r = .22$, $p = .01$) and opportunities for engagement ($r = .19$, $p = .02$), indicating that there is a positive, statistically significant relationship between the ways in which students participate on Instagram (active vs. passive) and how they perceive they connect with the school and perceive opportunities for engagement in school. Based on the results of the correlation analysis, hypothesis 1 was partially supported as active participation was positively related to school connectedness and opportunities for engagement, but not positive student-teacher relationships and school social environment. Hypotheses 2 and 3 were not supported as there were no significant relationships between Instagram intensity or network reach and learning climate variables.

Both the social media variables and learning climate variables were all positively and statistically significantly related to each other, respectively. Scale reliabilities

reported in Table 4.2 were run with this data. Cronbach's alphas ranged from .71 to .96,

indicating that the chosen scales are consistent and reliable measures.

Table 4.2 *Descriptive Statistics and Correlations Among Social Media and Learning Climate Variables*

Variable	1	2	3	4	5	6	7	8
1. Intensity	-							
2. Participation	.299**	-						
3. Time/Visits	.658**	257**	-					
4. Reach	.524**	.240**	.498**	-				
5. Relationship	.020	.137	-.071	-.073	-			
6. Environment	.033	.084	.016	.043	.570**	-		
7. Connected	-.004	.219**	-.103	-.032	.617**	.414**	-	
8. Engagement	.089	.188*	-.109	.110	.614**	.553**	.655**	-
Scale Range	6-30	9-38	16-102	19-54	8-39	2-10	4-19	6-30
M	19.32	23.51	42.70	36.93	24.70	5.86	9.38	19.33
SD	6.48	5.78	17.76	6.91	6.98	2.18	3.32	5.28
Scale Reliabilities	.88	.75	.96	.71	.90	.81	.76	.81

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

Regression Analyses

All assumptions (i.e., linearity, normality, homoscedascity, and multicollinearity)

of multiple regression were checked for each variable. Normality was checked by

viewing P-P plots to determine whether the data was normally distributed. Next,

homoscedascity was checked by reviewing scatterplots to determine if data was equally

distributed. Linearity was assumed if variables met the assumptions of normality and

homoscedascity. Finally, multicollinearity was checked by reviewing variance inflation factor (VIF) numbers. VIF numbers below 10, and ideally five, indicated no multicollinearity. All VIF numbers for this study were below five. Preliminary analyses revealed there was no linear relationship due to violations of normality and homoscedascity between the predictor variables and the criterion variable of school social environment. Based on the violation of these assumptions, regression analyses were not run for school social environment. The assumptions of regression were met for the remaining variables. Regression analyses were conducted to explore whether Instagram intensity, time/visits to Instagram, active participation vs. passive participation behaviors, and network reach were related to positive student-teacher relationships, school connectedness, and opportunities for student engagement.

Participation and network reach. To examine whether adolescents with active participation behaviors and a larger reaching network predicted a positive perception of the learning climate (hypothesis 4), three separate multiple regression analyses were tested with positive student-teacher relationships, school connectedness, and opportunities for student engagement serving as the criterion variables. As demonstrated in Table 4.3, overall, the regression analyses examining the relationship of the predictor variable participation behaviors and network reach on student engagement ($R^2 = .04$, $F(2, 139) = 2.93$, $p = .05$) and school connectedness ($R^2 = .06$, $F(2, 139) = 4.16$, $p = .01$) were significant. The predictor variables of participation behaviors and network reach on positive student-teacher relationships ($R^2 = .03$, $F(2, 139) = 2.24$, $p = .11$) was not significant. In other words, the overall model suggested there was a relationship between

60

Instagram participation behaviors and network reach with perceptions of opportunities for engagement and school connectedness.

Table 4.3 *Participation Behaviors and Network Reach Regression Analyses Predicting SSES Scores*

Predictors	Engagement		Connected		Relationship	
	β	t	β	t	β	t
Participation	.17	1.17*	.241	2.86**	.164	1.93
Network Reach	.07	.81	-.09	-1.07	-.11	-1.32
F	2.93*		4.16**		2.24	
R^2 (Adjusted R^2)	.04 (.03)		.06 (.04)		.03 (.02)	

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

Inspection of these regression analyses revealed that participation behaviors (active vs. passive) were significantly and positively related to student engagement (β = .17, $t = 2.02$, $p = .05$) and school connectedness (β = .24, $t = 2.86$, $p = .01$), but not positive student-teacher relationships (β = .16, $t = 1.9$, $p = .05$). However, network reach did not result in any relationship with student engagement (β = .07, $t = .81$, $p = .42$), school connectedness (β = -.09, $t = -1.07$, $p = .29$), or positive student-teacher relationships (β = -.11, $t = -1.32$, $p = .19$). In summary, participation behaviors (active vs. passive) were related to perceptions of opportunities for engagement and school connectedness, but not positive student-teacher relationships, and network reach was not related to any of the outcome variables. Based on these results, hypothesis 4 was partially supported as active participation behaviors predicted positive perceptions of some components of the learning climate. However, network reach did not significantly predict any components of the learning climate.

Instagram intensity and time/visits. To examine whether adolescents with greater value of their Instagram (as measured by the Instagram intensity subscale) and those who spend more time and make more unique visits to Instagram predicted a negative perception of the learning climate (hypothesis 5), three separate multiple regression analyses were tested with positive student-teacher relationships, school connectedness, and student engagement serving as the criterion variables. As seen in Table 4.4, the regression analyses examining the relationship of the predictor variables of Instagram intensity and time/visits on opportunities for student engagement ($R^2 = .06$, $F(2, 139) = 4.32$, $p = .02$) was significant, while the relationships of these predictor variables to school connectedness ($R^2 = .02$, $F(2, 139) = 1.27$, $p = .28$) and positive student-teacher relationships ($R^2 = .01$, $F(2, 139) = .92$, $p = .40$) were not significant. In summary, the overall regression model suggested Instagram intensity and time/visits was related to perceptions of opportunities for engagement, but they were not related to perceptions of school connectedness and positive student-teacher relationships.

Table 4.4 *Instagram Intensity and Time/Visits Regression Analyses Predicting SSES Scores*

Predictors	Engagement		Connected		Relationship	
	β	t	β	t	β	t
Instagram Intensity	-.30	-2.73**	-.18	-.16	-.15	-1.34
Time/Visits	.28	2.62**	.11	1.01	.12	1.06
F	4.32**		1.27		.921	
R^2 (Adjusted R^2)	.06 (.04)		.02 (.00)		.01 (.00)	

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

Inspection of these regression analyses revealed that Instagram intensity significantly and negatively predicted student engagement (β = -30, $t = -2.73$, $p = .01$).

Instagram intensity did not result in significant predictions of school connectedness (β = -.18, t = -1.60, p = .11) or positive student-teacher relationships (β = -.15, t = -1.34, p = .18). The predictor variable of time/visits significantly and positively predicted student engagement (β = .28, t = 2.62, p = .01). Time/visits, however, did not result in significant predictions of school connectedness (β = .11, t = 1.01, p = .31) or positive student-teacher relationships (β = .12, t = 1.06, p = .29). Specifically, Instagram intensity (i.e., how much adolescents value Instagram as measured by the Instagram intensity subscale), as well as time/visits to Instagram were related to perceptions of opportunities for engagement. However, these variables were not related to perceptions of connectedness or positive student-teacher relationships. Based on these results, hypothesis 5 was partially supported as Instagram intensity significantly and negatively predicted one subscale of learning climate, but not the remaining subscales. However, hypothesis 5 was not supported in that the time/visits to Instagram subscale significantly and positively predicted opportunities for student engagement, which was the opposite of the hypothesis.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

The primary purpose of this exploratory study was to investigate whether certain adolescent social media behaviors (i.e., Instagram intensity, participation type, time and visits to Instagram, and network reach) were related to perceptions of their learning climate (i.e., positive student-teacher relationships, school social environment, school connectedness, and opportunities for student engagement). While prior researchers focused on different contributors that affect perceptions of the learning climate and how social media can be used in the classroom, few researchers have examined how the two have intersected. Specifically, few have explored how these social media behaviors may have a predictive relationship with adolescents' perceptions of their learning climate. In this study, I aimed to address this gap in the research.

Learning climate research has focused on various contributing factors to a positive climate, such as positive student-teacher relationships, feelings of connectedness with the school, opportunities for student engagement, and positive social environments. Within studies regarding these factors, research has sought to explain what contributes to student perceptions of the factors as well as what outcomes of these positive or negative perceptions mean for students. Social media research has focused on different ways it might be used as a pedagogical tool, as well as how it affects adolescent psychological

well-being. Associations between social media use and psychological well-being provide a rationale for exploring whether social media, specifically Instagram, may have a relationship with perceptions of the learning climate.

The final chapter is presented in four sections. The first section describes a summary of the study. The second section presents a discussion of the findings. The third section addresses limitations of this study. The final section presents implications of these results for educational practice, theory, and future research within the context of adolescents' social and educational lives.

Summary of Study and Findings

In this study, I investigated whether adolescents' perceptions of their learning climate were predicted by their Instagram use and behaviors. According to Bronfenbrenner's ecological model (1979), the various spaces in which adolescents exist on a daily basis are constantly and reciprocally interacting. As the age of social media continues to take up a large amount of time for many adolescents, it is worth examining how adolescents' micro-, meso,- exo-, macro-, and chronosystems may be more closely connected. Social media provides users the freedom to transcend contexts that were once unique, calling for a closer investigation into how relationships work within and between all levels of an adolescents' ecological system.

In the current study, I examined data in order to answer one research question through correlational and regression analyses. The correlation analysis revealed participation behaviors were positively related to feelings of connectedness and opportunities for engagement. For the regression analyses, predictor variables (Instagram intensity, participation type, time and visits to Instagram, and network reach) were

analyzed for their relationship with each of the criterion variables (positive student-teacher relationships, school social environment, school connectedness, and opportunities for student engagement). School social environment was a fourth criterion variable, which was not included in the regression analyses as it did not meet assumptions of regression. Results from the regression analyses revealed active participation behaviors predicted positive perceptions of opportunities for student engagement and school connectedness, Instagram intensity (i.e. adolescent values of Instagram) predicted negative perceptions of opportunities for student engagement, and time/visits predicted positive perceptions of opportunities for student engagement.

Discussion

Based on previous research on learning climate and social media, I expected to find relationships between the ways in which adolescents use their Instagram and their perception of the learning climate (i.e., positive student-teacher relationships, school social environment, school connectedness, and opportunities for student engagement). More specifically, I anticipated active and engaged participation behaviors with Instagram and higher network reach (the variety and number of followers, as measured by the network reach subscale), would result in positive perceptions of the learning climate in the current school situation. Furthermore, I expected that increasing value of Instagram (as measured by the Instagram intensity subscale) would result in negative perceptions of the learning climate. Additionally, I anticipated that network reach and participation behaviors (i.e., active vs. passive) would result in positive perceptions of the learning climate whereas more time and unique visits along with increased value of Instagram (i.e., intensity) would predict negative perceptions of the learning climate.

Correlational analyses revealed that active participation behaviors were positively related to only some factors of the learning climate, specifically student perceptions of school connectedness and opportunities for engagement. This finding is not surprising, based on the literature surrounding adolescent social media use suggesting that social media use can enhance connections with and the quality of new and old friendships as it helps to facilitate and maintain connections (Valkenburg & Peter, 2007). However, there were no other significant relationships among the remaining predictor variables (time/visits, network reach, and intensity) with any of the criterion variables (positive student-teacher relationships, school social environment, school connectedness, and opportunities for student engagement). This was an unexpected result, as I anticipated there would be a significant relationship between all variables related to adolescents' social media use and their perceptions of the learning climate. According to both the *displacement* and *stimulation or increase hypotheses* of adolescent social media use (Tzavela & Mavramorti, 2013), I anticipated significant relationships - either negative or positive - with the social factors of the learning climate (i.e., positive student-teacher relationships, opportunities for student engagement, school connectedness, school social environment) that were presented in this study.

There are a couple of potential reasons why there were no significant relationships between time/visits, network reach, and intensity with perceptions of the learning climate. First, time/visits to Instagram were hypothesized to have a negative relationship with perceptions of the learning climate. The time/visits hypothesis originated from literature discussing Internet gaming disorder and video game addiction, with the assumption that both gaming addiction and social media addiction come from the same overarching

Internet addiction. The time/visits measure was utilized in this study to get a better understanding of the number of visits an adolescent was making to their Instagram and the amount of time they were spending while making those visits. Within this scale, what they were doing while on Instagram and the reasons behind the time and visits was not explored. The Instagram intensity (measuring adolescent values of Instagram) and the network reach subscales attempted to garner insight into the qualitative aspects of adolescent Instagram use. While the focus of this research was not addiction, time/visits was considered an important part of the overall profile of adolescent social media behaviors. However, based on results from this study, time/visits may indicate an automatic behavior rather than an intentional, addictive behavior, yet to be studied. According to the concept of automaticity proposed by cognitive theory (Park, 1999), adolescent's time/visits to Instagram being almost reflexive would make sense. Park (1999) suggested that people perceive themselves to have more control over their everyday behavior than they actually do. Control of behaviors does not come from an active awareness of our behaviors, but from environmental cues that affect us unconsciously that results in an impact on our behavior (Park, 1999). Adolescents may not consciously think about needing to check their social media throughout the day; the behavior may be more automatic and effortless in response to stimuli and result in behaviors that have become automatized through practice (i.e., social media use) (Kihlstrom, 2008). Another potential reason why there were no significant findings comes from both the displacement and stimulation hypotheses being present at the same time, with some experiencing displacement while others are experiencing stimulation or increase, thus cancelling each other out.

Greater network reach was expected to relate to positive perceptions of the classroom climate, based on research presented by Hampton and colleagues (2011), who suggested network diversity is important for various reasons, including increased social capital, better mental health, increased knowledge, autonomy, increased tolerance and trust, and better deliberation skills (Hampton et al., 2011). In addition, according to Lin and Erickson (2008), diversity in social media networks is comprised of resources that people can access through their network. As such, the opportunity to engage with a diverse array of individuals in an offline context may be present. In the context of this study, network diversity was important to investigate considering schools are a context that are both public and social. While some schools may not be as diverse as others based on the neighborhoods they are in, it is really the uncontrolled nature of access to the spaces that affords diversity (Hampton et al., 2011). The assumption that adolescents have networks that have a reach beyond those in their micro-and mesosystems, into their exo-, and macrosystem may not have been adequately measured by the network reach subscale in this study. Further research to investigate whom adolescents connect with on their Instagram and why they choose to follow the people they do, would potentially provide more insight into how much reach an adolescents' social media network has.

Another conclusion to the study is that active participation (rather than passive, lurking participation) positively related to perceptions of opportunities for engagement and feelings of school connectedness in their learning climates. These results indicate that the ways in which adolescents are using their Instagram may have an impact on how they perceive their learning climate. Those who are more active in their Instagram use, liking and commenting on other posts, appear to have a positive perception of their ability to

both find connections and opportunities to engage with others while surrounded by their learning environment. This finding was expected, based on research conducted by Yang (2016) who suggested that active social media users could experience both higher and lower loneliness, as well as research suggesting that connections with peers and the ability to establish and maintain relationships is related to positive perceptions of the learning climate (Cengel & Türkoglu, 2016; Doll, Spies, LeClair, Kuein, & Foley, 2010). Although the current study explored correlations and did not demonstrate causal relationships, it is possible that active participation on social media may give adolescents the tools and practice they need to establish and maintain relationships both online and offline. It may provide opportunities for adolescents to continue connecting with peers in their microsystems outside of their time at school, allowing them to have more people to connect with while online and offline.

The third conclusion revealed that the more time spent on Instagram along with the greater number of visits, the greater the student perceived opportunities for engagement in the learning environment. This is a surprising finding, as the opposite was predicted based on research surrounding video game addiction (van den Eijnden, Lemmens, & Valkenburg, 2016), which has been paralleled with social media addiction research. The expectation was that more time spent on and visits to Instagram would have a negative relationship with perceptions of the learning climate. The positive relationship with opportunities for engagement is one that was not anticipated. Again, based on cognitive theory and automaticity as described by Park (1999), it may be possible that time spent on and visits to Instagram is more of an automatic behavior rather than an intentional action fueled by a need to be on social media. It may also be that adolescents

who spend more time on and have more visits to Instagram have acquired the set of skills needed in the 21st century, as suggested by Cooper and colleagues (2013). These skills indicate that today's learners need to be able to support active and meaningful participation in reciprocal relationships between their online and offline lives. Perhaps the adolescents in this study have adapted to this new world where they must construct their knowledge in a range of everyday settings (Knobel & Lankshear, 2014), including Instagram and their learning climate. While it is possible time/visits to Instagram may be predictive of perceptions of opportunities for engagement, this finding warrants further research and exploration.

The final conclusion is that the more an adolescent values their Instagram, as indicated by the results of this study, the less he or she may perceive opportunities for engagement in the learning climate. This result was one that was anticipated, but this finding provides some interesting insight into results of the study. According to the displacement hypothesis of social media presented by Tzavela and Mavromati (2013), those adolescents who place more value on their Instagram may potentially feel more isolated from their offline worlds (i.e., their learning environment), which may then contribute to a negative perception of the beliefs and attitudes of that world (i.e., their learning climate), potentially resulting in more reliance on social media (i.e., Instagram) for social interaction. In a similar vein, literature about the learning climate (Cengel & Türkoglu, 2016; Doll, Spies, LeClair, Kuein, & Foley, 2010) suggests that if individuals do not feel they are connected with or have opportunities to engage with others while in the classroom, they may develop a negative perception of the learning climate. Based on the results of this study, the more an adolescent places value on their social media

(Ellison et al., 2007), the less an adolescent perceives the opportunity to engage with others and the learning climate while in their learning environment. While on Instagram, users have the opportunity to connect with those individuals who are involved in their online and offline lives. Sometimes, those individuals exist outside of their micro-, meso-, and exosystems, providing the opportunity for them to feel as though they have more or different types of opportunity for engagement with others outside of their learning environment. The value placed on the online connections with those outside of their learning environment appears to hold some power over those perceptions of the learning climate, causing for a call to practitioners to reinforce information literacy skills in order to combat the assumption that everything can be learned on the internet instead of in the classroom (Hubbard, 2007; Naughton, 2010).

Limitations

There are limitations to consider when reviewing the results of this current study. One limitation is that all participants were high school students enrolled in the same Midwestern high school, representing a somewhat homogenous sample of people. The majority of participants identified as female and between the ages of 15 and 16 years old. Though not examined in this research data, the ways in which males and females use social media may be different. There may be a difference in how younger adolescents use their social media. That is to say, those who are younger (14-15 years old) might differ in how they use their social media as compared to those who are older (17-18 years old). This may be especially true considering the shifting role of parental influence to peer influence through adolescence, during this stage of identity development (Tzavela & Mavromati, 2013). This could be explored in future research through qualitative research

asking the different age groups reasons behind how and why they use social media. Further, data were collected from two introductory drama classes that were elective classes. As these classes were not required, the students that participated in this study were comprised of a very specific group, further limiting the generalizability to all adolescents. Data were collected from one high school, limiting the ability to generalize this study's findings to a national level. While the demographics pose limitations to this study, the results provide evidence to support the claim that additional research related to adolescent social media behaviors and perceptions of the learning climate is warranted within a variety of populations. Additionally, results of this study may not be generalizable based on the unique climate of this school. Each school will have its own learning climates based on the values, beliefs, and attitudes that are held and shared by administrators, teachers, and students at the school and classroom level. This makes it challenging to generalize results from any school as each school is unique in their climate as well as what contributes to the climate. For this reason, results from this study could differ significantly if data were collected from another school, even with a similar demographic population.

Another limitation of the study includes the instruments used. While the scales used to measure learning climate variables (School Social Environment Scale – SSES) exhibited sound psychometric properties for this study, the revised full scale is comprised of 10 factors with a total of 48 questions. However, for the purpose of this research, only four factors and 20 questions were used. The rest of the factors were not relevant to the aspects of the learning climate that were investigated in this study; however, the full measure was designed to be used together as a comprehensive overview of the school

social environment. Additionally, instruments used to measure social media behaviors (SMS) were found to be psychometrically sound, but some of the scales were manipulated from their original wording to fit with this study. For example, the Instagram intensity scale was adapted from the Facebook intensity scale (Ellison et al., 2007) for the purposes of this study. The framework of these scales was modeled after previous work from Drogos (2015), though the whole scale had not been tested for reliability or validity beyond that study. However, scale reliabilities were reported and Cronbach's alphas ranged from .71 to .96, indicating that the chosen scales were considered reliable measures.

Finally, self-report measures were used for this study. Self-report measures include potential issues such as answering in the way they thought they should, viewing their own actions as positive and other actions as more negative, and over or underestimating their answers. Specifically, because one of the measures of this study (time/visits) stems from addiction research, those who would be considered addicted to social media may report differently than those that are not considered addicted to social media. For example, those that would be considered addicted to social media may report their behaviors in a more positive way than someone else may report their behaviors.

Implications and Recommendations

One of the primary aims of this study was to examine if there was a relationship between adolescents' social media behaviors and their perceptions of the learning climate. The results with this sample suggest that there are some meaningful relationships between certain social media behaviors and some perceptions of the learning climate.

These relationships provide implications and recommendations for educational practice, theoretical meaning, and likely future research. Each will be discussed in this section.

Educational Practice

Participation type, time/visits to Instagram, and Instagram intensity (i.e. values of Instagram) all resulted in significant relationships with certain perceptions of the learning climate. The results of this study point to the need for educators and parents alike to understand the ways in which adolescents are using their social media and what implications this can have on them in terms of their perceptions of the learning climate, and potentially their learning outcomes.

Results of this study suggest that adolescents value their Instagram (as measured by the Instagram intensity subscale), and potentially other social media platforms, providing reason for administrators, teachers, and parents to pay attention to the ways in which adolescents connect with their social media and attempt to understand why it matters to them. While many acknowledge the amount of time that adolescents are seen on their phones, examining how much value adolescents place on their social media begins to provide a deeper understanding of why they may not feel connected in their offline worlds (i.e., perceptions of the learning climate). Values of Instagram, as measured by the Instagram intensity scale, indicated how much an adolescent felt they needed to be on Instagram and how important it was to them and their daily lives. Results of this study suggest that the value placed on their online lives may impede the perception of opportunities for engagement in the classroom, which is an important part of the learning climate. It may be that the value placed on the social media platform outweighs the value of the learning climate, though adolescent values of the learning

climate was not within the scope of this study, future research is warranted. Knowing that there is negative relationship, based on this study, between the value that adolescents place on Instagram and perceptions of opportunities for engagement in the classroom, it would be advantageous for administrators, teachers, and parents to try to understand further how and why adolescents value their social media as compared to how they perceive components of their learning climate.

Adolescence is a time in which physical, cognitive, and social and emotional changes are taking place. Adolescents are learning to depend less on parental influences and rely more on the influence of friends and romantic partners. Their brains are physically and qualitatively changing. Their bodies are physically maturing. On top of all of these changes, they are constantly inundated with highlight reels from friends, peers, and famous people while on social media. As adolescents are trying to figure out what it means to be independent and autonomous, they look to move from a mostly parental influence to the influence of others. Considering a significant amount of time is spent in school around classmates and teachers, it is important for educators to understand what is going on socially and academically both in and out of the classroom. While this claim is not a new idea to those in education, expanding the understanding of the reciprocal relationship that exists between what happens inside and outside of the classroom because of social media, is newly founded. Results of this study suggest there may be a negative relationship between Instagram intensity (how much adolescents value their Instagram) and perceptions of opportunities for engagement. If students are not finding the positive support they need in the classroom from teachers and peers, a negative learning climate is more likely to develop and persist, causing developmental, emotional,

and learning hardships (Hargraves, 2018). If students are finding connections on Instagram that they do not perceive to have in the classroom, there is potential for further disconnect between their offline and online lives.

Further implications for practice surround educators potentially wanting to set up a school or a class Instagram. Based on results of this study, I would recommend the use of an Instagram in the classroom. This recommendation comes from the results indicating that more time/visits to Instagram as well as active participation behaviors predicts positive perceptions of the learning climate. Those that are actively engaged in their profiles, as well as others' profiles, and spend more time on Instagram appear to perceive more opportunities for student engagement and school connectedness. As connectedness and engagement are important contributors to perceptions of a positive learning climate, it would seem reasonable to suggest that teachers in this school utilize a classroom Instagram to foster these positive perceptions. Even the results suggesting that adolescents that value their Instagram (as measured through the Instagram intensity measure) have negative perceptions of opportunities for engagement could contribute to the argument for a classroom Instagram. While students that value their own Instagram may not have positive perceptions of opportunities for engagement, it may be that a classroom specific Instagram would give them a place to connect with those in their classroom in a way that they value. That is to say, teachers could potentially meet these students where they are and engage them in a platform that they appear to appreciate.

Several other considerations for using a classroom Instagram are the efficiency of features that Instagram provides for connecting with students, especially if they are checking their Instagram throughout the day. Instagram may also be a common place for

students in a class to connect both academically and socially, depending on how the Instagram was designed. Previous research suggests that online social networking behavior may be related to both academic and learning success by allowing for systems of information, contacts, and support (Yu, Tian, Vogel, & Kwok, 2010). Further, it is a social media platform that has continued to increase in popularity since 2016, indicating that it is still a social media site that is utilized by adolescents and young adults (Anderson & Jiang, 2018). However, because of the unique climate of each school as well as different classrooms, I would encourage each teacher to consider fully the reasons why they may want to set up a classroom Instagram before moving forward with these recommendations.

It is important for teachers to understand, and perhaps accept, that social media takes up significant amount of time and interest in many adolescents' lives (Anderson & Jiang, 2018). As a supportive learning climate has been found to promote self-regulatory constructs that resemble that of executive function in children and adolescents (Piccolo, Merz, & Nobel, 2018), the results of this study indicating that time/visits to Instagram predict positive perceptions of opportunities for engagement is important for classroom practice. Executive function and self-regulatory skills allow for children and adolescents to exercise inhibitory control, which is the ability to suppress an automatic response (Blakemore & Choudhurry, 2006; Piccolo, Merz, & Nobel, 2018). If time/visits to Instagram is more of an automatic, habitual behavior, targeting the inhibitory control piece of executive function is important for educators to continue to focus on in their classrooms. As executive function skills have been suggested to improve during adolescence (Blakemore & Choudhurry, 2006), educators could utilize the results of this

study to focus conversations on response inhibitory skills. While the results of this study indicated that time/visits resulted in positive perceptions of the learning climate, there is still room for work on executive function and self-regulation when it comes to adolescent social media use. Finding strategies to help adolescents better navigate between their online and offline lives rather than ignoring the online life may create a learning climate that fosters more opportunities for students to establish perceptions of positive student-teacher relationships, opportunities for engagement, school connectedness, and a positive school social environment as demonstrated by work being done within multiliteracy research (Black & Steinkuehler, 2009). As social media and technology continuously evolve and change, so must the work to identify and implement ways to bridge the gap between adolescent online and offline worlds.

Educational Theory

Another of my primary purposes for this study was to contribute to the field of educational psychology, learning climate, and social media research through the exploration of how adolescents' social and academic worlds are colliding in a very specific way. Previous research has paved the way for studies such as this, as we as a field know that academic outcomes are often affected by outside forces such as home life, working conditions, and relationship (friendly and romantic) dynamics. Social media, while relatively new in terms of the field of research, is something that should be added to the list of outside contributors to academic outcomes for students. This study only touches the surface of what the potential relationships between social media use and perceptions of the learning climate may be.

Social interactions are a key component of Bronfenbrenner's (1979) theoretical

model, and beyond that he acknowledged and emphasized that social interactions were

often not only dyadic, but also reciprocal in nature. His emphasis on third party

contributions to interactions, especially within the micro- and mesosystems, was key to

capturing the social forces at work when studying individual human development (Neal

& Neal, 2013). The purpose for selecting Bronfenbrenner's model as the theoretical

framework in this study was to understand better how all of the systems from

Bronfenbrenner's theory might not be as separate as previously thought. Though the

micro- and mesosystems were always theorized to be interacting, the degrees of

separation from an individual's microsystem to their macrosystem may not be as far as it

was before social media. The results of this study suggest that while Bronfenbrenner's

ecological systems theory is still relevant and important, the contexts may be more

permeable than previously understood. The value that adolescents seem to place on

social media may further blur those once distinct lines between systems and provide them

the opportunity to invest their time, energy, values, and even feelings in systems that

were once harder for them to access, from their microsystem throughout their

macrosystem. The adapted version of the ecological model (Figure 1.1) proposed adding

social media to each system. A revised adapted version of the ecological model is now

being proposed based on the results of the study (Figure 5.1).
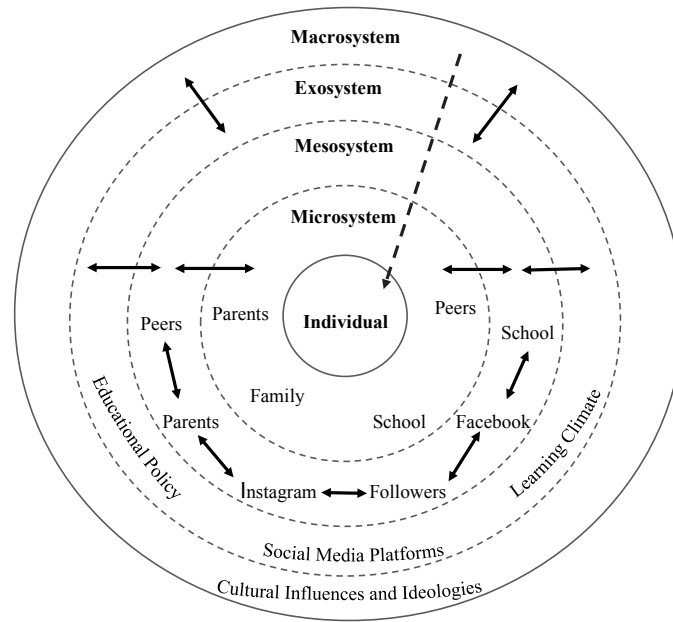
Figure 5.1. Adjusted Adapted Illustration of Bronfenbrenner's Ecological Systems Theory Originally Proposed by Bronfenbrenner (1979)

To illustrate the permeability of the contexts, dotted lines dividing the context have been added between contexts and as well as an arrow from the macrosystem to the individual. Third party contributions are more readily accessible in the various contexts adolescents experience thanks in some part to social media.

Important themes that continue to arise from work surrounding Bronfenbrenner's ecological systems theory include the social and historical context, the active person as central to the theory, and that it is impossible to understand individual development in isolation (Darling, 2007). Results of this study further support these themes, especially when it comes to understanding the individual, as well as the context. Understanding the reciprocal interactions between an adolescent's entire ecological system, both offline and online, is imperative in education and theory alike.

Future Research

There is much additional research needed to explore and understand factors that are related to adolescent social media use and perceptions of the learning climate. Findings in this study suggest some of the ways in which adolescents participate (i.e., Instagram intensity and time/visits) on Instagram plays a significant role in their perceptions of some aspects of the learning climate (i.e., opportunities for student engagement). Results suggest there is a negative relationship between Instagram intensity (how much adolescents value Instagram as measured by the Instagram intensity subscale) and perceptions of opportunities for student engagement. Therefore, researchers should further investigate what those values mean and how the values connected to social media use more directly affects perceptions of the learning climate. Adolescent values of the learning climate were not within the scope of this study, but based on the results of this study, further research into the subject may be warranted while still focusing on adolescent values of their social media.

Research surrounding social media continues to explore what the phenomenon has contributed to the world, and specifically education, but more research investigating offline relationships is warranted. An interesting perspective to consider based on the results of this study revolves around correlation versus causation. While it appears there is a negative relationship between adolescent values of Instagram and the perception of opportunities for engagement, there is room to consider whether values of Instagram *cause* negative perceptions for opportunities for engagement. That is to say, are adolescents that are lonely in their offline relationships seek out social media to stave off that loneliness, or are adolescents lonely in their offline relationships because their online relationships have changed the dynamic of their offline lives? Previous research from

Yang (2016) suggests that passive users of social media are more lonely and active users can be either more or less lonely. Yet, current research has not fully explored which of these comes first, the loneliness or the online connections. Future research in social media should explore this further, as it provides another important piece of the puzzle when it comes to understanding why adolescents may place so much value on their Instagram, and potentially other social media platforms. Current research has begun to look at the ways in which social media has affected offline relationships (Foehr, 2006, McDaniel & Coyne, 2016, Roberts & David, 2016, Yang & Christofferson, under review), in both positive and negative ways, however there is room for more exploration.

Finally, this study suggests that time/visits to Instagram has a positive relationship with perceptions of opportunities for engagement in the learning environment. Researchers should also look further into how and which specific behaviors predict perceptions of the learning climate. Time/visits may indicate a conditioned response rather than an intentional and planned out action, though more research in this area is needed. The way in which adolescents value their Instagram and other social media platforms, as well as what that means to them versus behaviors such as the number of time/visits made to Instagram and other social media platforms appears to be two very different constructs and warrant their own studies.

REFERENCES

Abe, P., & Jordan, N.A. (2013). Integrating social media into the classroom curriculum. *About Campus*, 18(1), 16–20.

Adelman, H., & Taylor, L., (2005). Classroom climate. In Lee, S. W. (Ed.), *Encyclopedia of School Psychology*. Sage.

Alexander, B. (2008). Web 2.0 and emergent multiliteracies. *Theory into Practice, 47*(2). 150-160.

Allen, C. (2013). Utilization of social media in marketing classes. *Journal of Instructional Pedagogies*, *12*, 1–8. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ1097119&site=ehost-live

Anderson, M., & Jiang, J. (2018). Teens, social media & technology 2018. *Pew Research Center*, *31*. Retrieved from: https://www.pewresearch.org/internet/2018/05/31/teens-social-media-technology-2018/

Andreassen, C. S., Pallesen, S., & Griffiths, M. D. (2017). The relationship between addictive use of social media, narcissism, and self- esteem: Findings from a large national survey. *Addictive Behaviors*, *64*, 287–293.

Andreassen, C. S., Billieux, J., Griffiths, M. D., Kuss, D. J., Demetrovics, Z., Mazzoni. E., & Pallesen, S. (2016). The relationship between addictive use of social media

and video games and symptoms of psychiatric disorders: A large-scale cross-sectional study. *Psychology of Addictive Behaviors, 30*(2), 252-262.

Aral, S., Dellarocas, C., & Godes, D. (2013). Introduction to the special issue—social media and business transformation: A framework for research. *Information Systems Research*, *24*(1), 3-13.

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

Belsey, B. (2005). Cyberbullying: An emerging threat to the 'always on' generation. Retrieved from http://www.cyberbullying.ca.

Benn, Sara L., (2017). *The Exploration of Young Audiences and Identity Development Through Social Media Platforms*. (Master's thesis). Open Access Master's Theses. Paper 1077. http://digitalcommons.uri.edu/theses/1077

Black, R. W., & Steinkuehler, C. (2009). Literacy in virtual worlds. In L. Christenbury, R. Bomer, & P. Smagorinski (Eds.) *Handbook of adolescent literacy research*. (p. 271-286). New York, NY Guilford Press.

Blakemore, S. J., & Choudhury, S. (2006). Development of the adolescent brain: implications for executive function and social cognition. *Journal of Child Psychology and Psychiatry*, *47*(3-4), 296-312.

Blankenship, M. (2011). How social media can and should impact higher education. *The Hispanic Outlook in Higher Education*, *21*(7), 40–41. https://doi.org/10.1080/13562517.2010.507307

Block, J. (2007). Pathological computer game use. *Psychiatric Times, 24*(3) 2. Retrieved

    from:http://www.psychiatrictimes.com/display/article/10168/55406?

Bokhorst, C. L., Sumter, S. R., & Westenberg, P. M. (2010). Social support from parents,

    friends, classmates, and teacher in children and adolescents aged 9 to 18 years:

    Who is perceived as most supportive? *Social Development, 19*(2), 417-426.

Bond, L., Butler, H., Thomas, L., Carlin, J., Glover, S., Bowes, G., & Patton, G. (2007).

    Social and school connectedness in early secondary school as predictors of late

    teenage substance use, mental health, and academic outcomes. *Journal of*

    Adolescent Health, 40, 357. e359-318.

boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history and

    scholarship. *Journal of Computer Mediated Communication, 13*(1), 210–230.

    http://dx.doi. org/10.1111/j.1083-6101.2007.00393.x.

Brand, S., Felner, R.D., Seitsinger, A., Burns, A., & Bolton, N. (2008). A large -scale

    study of the assessment of the social environment of middle and secondary

    schools: The validity and utility of teachers' ratings of school climate, cultural

    pluralism, and safety problems for understanding and school effects and school

    improvement. *Journal of School Psychology, 46*, 507-535.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature*

    and design. Cambridge, MA: Harvard University Press.

Brown, J. (2008). Managing the media monster: The influence of media (from television

    to text messages) on teen sexual behavior and attitudes. Washington, DC:

    National Campaign to Prevent Teen and Unplanned Pregnancy.

Brown, K., Jackson, M., & Cassidy, W. (2006). Cyber e bullying: Developing policy to
direct responses that are equitable and effective in addressing this special form of
bullying. *Canadian Journal of Educational Administration and Policy, 58,* 12-23.

Brown, B., & Larson, J. (2009). Peer relationships in adolescence. In R. Lerner & L.
Steinberg (Eds.), *Handbook of adolescent psychology* (3rd ed., Vol. 2, pp. 74-
103). New York, NY: Wiley.

Buyse, E., Verschueren, K., Doumen, S., Van Damme, J., & Maes, F. (2008). Classroom
problem behavior and teacher-child relationships in kindergarten: The moderating
role of classroom climate. *Journal of School Psychology*, *46*, 367-391.

Campbell, S. W. (2006). Perceptions of mobile phones in college classrooms: Ringing,
cheating, and classroom policies. *Communication Education*, *55*(3), 280–294.
https://doi.org/10.1080/03634520600748573

Cassidy, J. (2006). Me media: How hanging out on the Internet became big business. *The
New Yorker, 82*(13), 50.

Çengel, M., & Türkoglu, A. (2016). Analysis through hidden curriculum of peer relations
in two different classes with positive and negative classroom
climates. *Educational Sciences: Theory and Practice*, *16*, 1893-1919.

Chen, H. T., & Li, X. (2017). The contribution of mobile social media to social capital
and psychological well-being: Examining the role of communicative use,
friending and self-disclosure. *Computers in Human Behavior*, *75*, 958-965.

Cohen, S., Doyle, W. J., Skoner, D. P., Rabin, B. S., & Gwaltney, J. M. (1997). Social
ties and susceptibility to the common cold. *Journal of the American Medical
Association, 277*, 1940-1944. doi:10.1001/jama.1997.03540480040036

Cohen, J., & Freiberg, J.A. (2013). School climate and bullying prevention. In T. Dary &

    T. Pickeral (Eds.), *School climate practices for implementation and sustainability.*

    A school climate practice brief (Vol. 1, pp. 1-5). New York, NY: National School

    Climate Center.

Collins, W. A., & Steinberg, L. (2006). Adolescent development in interpersonal context.

    In W. Damon and R. Lerner (Ser. Eds.) & N. Eisenberg (Vol. Ed.). *Handbook of*

    child psychology: Vol. 3. Social, emotional, and personality development (6th ed.,

    pp.1003–1067). New York, NY: Wiley.

Cooper, N., Lockyer, L., & Brown, I. (2013). Developing multiliteracies in a technology-

    mediated environment. *Educational Media International*, *50*(2), 93-107.

Creemers, B. P., & Reezigt, G. J. (1999). The role of school and classroom climate in

    elementary school learning environments. In H.J. Freiberg (Ed.), *School climate:*

    Measuring, improving and sustaining healthy learning environments, (pp. 30-47).

    New York, NY. RoutledgeFalmer.

Darling, N. (2007). Ecological systems theory: The person in the center of the circles.

    Research in Human Development, *4*(3–4), 203–217.

Doll, B., Spies, R. A., LeClair, C. M., Kurien, S. A., & Foley, B. P. (2010). Student

    perceptions of classroom learning environments: Development of the Class Maps

    Survey. *School Psychology Review, 39*, 203-218.

Dotterer, A. M., & Lowe, K. (2011). Classroom context, school engagement, and

    academic achievement in early adolescence. *Journal of Youth and*

    Adolescence, *40*, 1649-1660.

Drogos, K. L. (2015). *The relationship between adolescent identity formation and social network site use* (Doctoral dissertation, University of Illinois at Urbana-Champaign).

Egan, K. G., Israel, J. S., Ghasemzadeh, R., & Afifi, A. M. (2016). Evaluation of migraine surgery outcomes through social media. *Plastic and Reconstructive Surgery Global Open*, 4(10). doi:10.1097/GOX.0000000000001084

Ellison, N. B., Steinfield, C., & 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. doi:10.111/j.1083-6101.2007.00367.x

Erikson, E.H. (1950). *Childhood and society.* New York: Norton (2nd ed. 1963)

Erikson, E.H. (1959). Identity and the life cycle. *Psychological Issues.* Monograph 1, No. 1, New York: International Universities Press.

Fang, L., Mishna, F., Zhang, V. F., Van Wert, M., & Bogo, M. (2014). Social media and social work education: Understanding and dealing with the new digital world. *Social Work in Health Care*, *53*(9), 800–814. https://doi.org/10.1080/00981389.2014.943455

Ferro, E. (Ed.). (2009). *Handbook of research on overcoming digital divides: Constructing an equitable and competitive information society.* Hershey, NY. IGI Global.

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

Flanigan, A. E., & Babchuk, W. A. (2015). Social media as academic quicksand: A

phenomenological study of student experiences in and out of the

classroom. *Learning and Individual differences*, *44*, 40-45.

Foehr, U. G. (2006). Media multitasking among American youth: Prevalence, predictors

and pairings. *Henry J. Kaiser Family Foundation*.

Furman, W., & Buhrmester, D. (1992). Age and sex differences in perceptions of

networks of personal relationships. *Child Development, 63,* 103-115

Ghezzi, A., Gastaldi, L., Lettieri, E., Martini, A., & Corso, M. (2016). A role for startups

in unleashing the disruptive power of social media. *International Journal of

Information Management*, *36*, 1152-1159.

Green, M. C., & Brock, T. C. (2008). Antecedents and civic consequences of choosing

real versus ersatz social activities. *Media Psychology*, *11*(4), 566-592.

Griffiths, M. D. (2000). Does internet and computer "addiction" exist? Some case study

evidence. *CyberPsychology and Behavior*, 3, 211–218

Griffiths, M. D. (2010). The role of context in online gaming excess and addiction: Some

case study evidence. *International Journal of Mental Health and Addiction*, *8*(1),

119-125.

Griffiths, M. D., Kuss, D. J., & Demetrovics, Z. (2014). Social networking addiction: An

overview of preliminary findings. In *Behavioral addictions* (pp. 119-141).

Academic Press.

Gruder, C.L. (1971). Determinants of social comparison choices. *Journal of

Expreimental Social Psychology, 7*, 473-489.

Hale, B. (2017). The History of social media: Social networking evolution! Retrieved from https://historycooperative.org/the-history-of-social-media/

Hampton, K. N., Livio, O., & Goulet, L. S. (2010). The social life of wireless urban spaces: Internet use, social networks, and the public realm. *Journal of Communication, 60*, 701–722.

Hampton, K. N., Lee, C. J., & Her, E. J. (2011). How new media affords network diversity: Direct and mediated access to social capital through participation in local social settings. *New Media & Society, 13*, 1031-1049.

Hand, B., Cavagnetto, A., Chen, Y. C., & Park, S. (2016). Moving past curricula and strategies: Language and the development of adaptive pedagogy for immersive learning environments. *Research in Science Education, 46*, 223-241.

Hargraves, R. M. (2018). *Relationship between teacher emotional intelligence and classroom climate in a school division in the Southeastern United States* (Doctoral dissertation, Regent University).

Heidemann, J., Klier, M., & Probst, F. (2012). Online social networks: A survey of a global phenomenon. *Computer Networks, 56*, 3866-3878.

Hickerson, A., & Kothari, A. (2016). Learning in public: Faculty and student opinions about social media in the classroom. *Journalism & Mass Communication Educator. 72*(4), 397-409. https://doi.org/10.1177/1077695816660639

Hinduja, S., & Patchin, J. W. (2010). Bullying, cyberbullying, and suicide. *Archives of Suicide Research, 14*(3), 206-221.

Hofmann, W., Schmeichel, B. J., & Baddeley, A. D. (2012). Executive functions and self-regulation. *Trends in Cognitive Sciences, 16*(3), 174-180.

Holfve-Sabel, M. A. (2014). Learning, interaction and relationships as components of

    student well-being: Differences between classes from student and teacher

    perspective. *Social Indicators Research*, *119*(3), 1535-1555.

Huang, C. (2018). Social network site use and academic achievement: A meta-

    analysis. *Computers & Education*, *119*, 76-83

Hubbard, R. (2007). What use are lectures now that everything can be found

    online?. *MSOR Connections*, *7*(1), 23.

Jones, S. (2002). *The Internet goes to college.* Washington, DC: Pew Internet &

    American Life Project.

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and

    opportunities of social media. *Business Horizons*, *53*(1), 59–68. http://dx.doi.org/

    10.1016/j.bushor.2009.09.003.

Kennedy, J., & Lynch, H. (2016). A shift from offline to online: Adolescence, the

    internet and social participation. *Journal of Occupational Science*, *23*(2), 156-

    167.

Kihlstrom, J. F. (2008). The automaticity juggernaut—or, are we automatons after

    all. *Are we free? Psychology and free will*, 155-80. New York, NY. Oxford

    University Press.

King, K.M., Lengua, L.J., & Monahan, K.C. (2013). Individual differences in the

    development of self-regulation during pre-adolescence: Connections to context

    and adjustment. *Journal of Abnormal Child Psychology, 41*(1), 57-69.

Knobel, M., & Lankshear, C. (2014). Studying new literacies. *Journal of Adolescent &

    Adult Literacy, 58*(2), 97-101.

Kolliakou, A., Ball, M., Derczynski, L., Chandran, D., Gkotsis, G., Deluca, P., ... & Stewart, R. (2016). Novel psychoactive substances: An investigation of temporal trends in social media and electronic health records. *European Psychiatry*, *38*, 15-21.

Korich, A. L. (2016). Harnessing a mobile social media app to reinforce course content. *Journal of Chemical Education. 93*(6), 1134-1136.

Koth, C. W., Bradshaw, C. P., & Leaf, P. J. (2008). A multilevel study of predictors of student perceptions of school climate: The effect of classroom-level factors. *Journal of Educational Psychology*, *100*, 96–104. http://dx.doi.org/10.1037/0003-066X.53.9.

Kraut, R., Patterson, M., Lundmark, V., Kiesler, S., Mukopadhyay, T., & Scherlis, W. (1998). Internet paradox: A social technology that reduces social involvement and psychological well-being? *American Psychologist*, *53*, 1017–1031. http://dx.doi.org/10.1037/ 0003-066X.53.9.

Kuhn, D. (2006). Do cognitive changes accompany developments in the adolescent brain? *Perspectives on Psychological Science*, *1*(1), 59-67.

Kuzenkoff, J. H., Munz, S., & Titsworth, S. (2015). Mobile phones in the classroom: Examining the effects of texting, Twitter, and message content on student learning. *Communication Education*, *64*(3), 344–365 https://doi.org/10.1080/03634523.2015.1038727.

Lagorio-Chafkin, C. (2012, April 09). Kevin Systrom and Mike Krieger, Founders of Instagram. Retrieved from https://www.inc.com/30under30/2011/profile-kevin-systrom-mike-krieger-founders-instagram.html

Lenhart, A., Madden, M., Macgill, A., & Smith, A.W. (2007). *Teens and social media: The use of social media gains a greater foothold in teen life as they embrace the conversational nature of interactive online medial*. Family, friends and community report, Washington DC: Pew Internet and American Life Project.

Lesesne, T.S. (2007). Of times, teens, and book s. In K. Beers, R .E. Probst, & L. Rief (Eds.), *Adolescent literacy: Turning promise into practice* (pp. 61–80). Portsmouth, NH: Heinemann.

Leung, L. (2013). Generational differences in content generation in social media: The roles of the gratifications sought and of narcissism. *Computers in Human Behavior*, *29*, 997-1006.

Luengo Kanacri, B. P., Eisenberg, N., Thartori, E., Pastorelli, C., Uribe Tirado, L. M., Gerbino, M., & Caprara, G. V. (2017). Longitudinal relations among positivity, perceived positive school climate, and prosocial behavior in Colombian adolescents. *Child development*, *88*(4), 1100-1114.

Lin, N., & Erickson, B. H. (2010). *Social capital: an international research program*. Oxford University Press.

Marcia, J. E. (1967). Identity six years after: A follow-up study. *Journal of Youth and Adolescence, 5,* 145-160.

McCoy, B. R. (2013). Digital distractions in the classroom: Student classroom use of digital devices for non-class related purposes. *Journal of Media Education, 4*(4), 5-14.

McDaniel, B. T., & Coyne, S. M. (2016). "Technoference": The interference of technology in couple relationships and implications for women's personal and

relational well-being. *Psychology of Popular Media Culture, 5*(1), 85-98.

doi:10.1037/ppm0000065

McMillan, S. J., & Morrison, M. (2006). Coming of age with the Internet: A qualitative

exploration of how the internet has become an integral part of young people's

lives. *New Media & Society*, *8*(1), 73-95.

Mirkin, N. A. (2017). *The Impact of Social Media Platforms on Identity Development in*

Adolescence (Doctoral dissertation). The Chicago School of Professional

Psychology.

Moore, S. C. (2012). Digital Footprints on the Internet. *International Journal of*

Childbirth Education, *27*(3).

Moos, R. H. (1980). Evaluating classroom learning environments. *Studies in Educational*

Evaluation, *6*(3), 239-52.

Moreno, M.A. (2010). Social networking sites and adolescents. *Pediatric Annals, 39*,

565-568.

Muuss, R. E. (1996). Urie Bronfenbrenner's ecological perspective of human

development. In *Theories of adolescence.*(6th ed., pp. 312-328). New York, NY:

McGraw-Hill

Naughton, J. (2010). The internet: Everything you ever need to know. The Observer, 20.

Neal, J. W., & Neal, Z. P. (2013). Nested or networked? Future directions for ecological

systems theory. *Social Development, 22*, 722-737.

O'Reilly, T. (2005). *What is Web 2.0: Design patterns and business models for the next*

generation of software. http://oreilly.com/web2/archive/what-is-web.20.html

Park, D. C. (1999). Acts of will? *The American Psychologist, 54*(7), 461.

Pempek, T. A., Yermolayeva, Y. A., & Calvert, S. L. (2009). College students' social

    networking experiences on Facebook. *Journal of Applied Developmental*

    Psychology, 30, 227–238. doi: 10.1016/j.appdev.2008.12.010.

Piccolo, L. R., Merz, E. C., Noble, K. G., & Pediatric Imaging, Neurocognition, and

    Genetics Study. (2019). School climate is associated with cortical thickness and

    executive function in children and adolescents. *Developmental Science*, *22*(1),

    DOI: 10.1111/desc.12719

Piotrowski, C. (2015). Emerging research on social media use in education: a study of

    dissertations. *Research in Higher Education Journal*, *27*(January), 1–12.

    https://doi.org/10.5901/ajis.2015.v4n2p393

Reid, D., & Weigle, P. (2014). Social media use among adolescents: Benefits and

    risks. *Adolescent Psychiatry*, *4*(2), 73-80.

Resnick, M. D., Bearman, P. S., Blum, R. W., Bauman, K. E., Harris, K. M., Jones, J., ...

    & Ireland, M. (1997). Protecting adolescents from harm: findings from the

    National Longitudinal Study on Adolescent Health. *JAMA*, *278*(10), 823-832.

Roberts, J. A., & David, M. E. (2016). My life has become a major distraction from my

    cell phone: Partner phubbing and relationship satisfaction among romantic

    partners. *Computers in Human Behavior, 54*, 134-141.

    doi:10.1016/j.chb.2015.07.058.

Roland, E. & Galloway, D. (2002). Classroom influences on bullying. *Educational*

    Research, *44*, 299-312.

Rosdahl, J. M. (2017). *Shaping and reshaping identities in everyday literacy practices: Adolescent girls' use of selfies in a social and mobile world* (Doctoral dissertation). http://hdl.handle.net/11274/9400

Ruus, V. R., Veisson, M., Leino, M., Ots, L., Pallas, L., Sarv, E. S., & Veisson, A. (2007). Students' well-being, coping, academic success, and school climate. *Social Behavior and Personality: An International Journal*, *35*, 919-936.

Schaps, E., & Solomon, D. (2003). The role of the school's social environment in preventing student drug use. *Journal of Primary Prevention*, *23*, 299-328.

Schools and Staffing Survey (SASS). (2007-08). Retrieved from https://nces.ed.gov/surveys/sass/tables/sass0708_035_s1s.asp

Seifert, T. (2016). Involvement, Collaboration and Engagement–Social Networks through a Pedagogical Lens. *Journal of Learning Design, 9*(2), 31-45

Shapiro, L. A. S., & Margolin, G. (2014). Growing up wired: Social networking sites and adolescent psychosocial development. *Clinical Child and Family Psychology Review*, *17*(1), 1-18.

Simão, A. V., Ferreira, P. C., Freire, I., Caetano, A. P., Martins, M. J., & Vieira, C. (2017). Adolescent cybervictimization–who they turn to and their perceived school climate. *Journal of Adolescence*, *58*, 12-23.

Smith, A. (2017). Record shares of Americans now own smartphones, have home broadband. *Pew Research Center*. 1–3. Retrieved from http://www.pewresearch.org/fact-tank/2017/01/12/evolution-of-technology/

Smith, A., & Anderson, M. (2018). Social media use in 2018. *Pew Research Center*. 1–3. Retrieved from https://www.pewresearch.org/internet/2018/03/01/social-media-use-in-2018/

Smith, P. K., & Slonje, R. (2010). Cyberbullying: The nature and extent of a new kind of bullying, in and out of school. In S. Jimerson, S. Swearer, & D. Espelage (Eds.), (Eds.), *The International Handbook of School Bullying* (pp. 249-262). New York, NY: Routledge.

Sprott, J. (2004). The development of early delinquency: Can classroom and school climates make a difference?. *Canadian Journal of Criminology and Criminal Justice*, *46*(5), 553-572.

Sugai, G., Horner, R. H., Dunlap, G., Hieneman, M., Lewis, T., Nelson, C. M., et al. (1999). *Applying positive behavioral support and functional behavioral assessment in schools. Technical assistance guide #1*. Washington, DC: U.S. Department of Education, Office of Special Education Programs.

Switzer, J. S., & Switzer, R. V. (2013). The myth of the tech-savvy student: The role of media educators in a web 2.o world. *Journal of Media Education, 4*(4), 15-27.

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

Tapscott, D. (1998*). Growing up digital: The rise of the net generation*. New York, NY: McGraw-Hill.

Tapscott, D. (2009). *Grown up digital: How the net generation is changing your world*. New York, NY: McGraw-Hill.

Tzavela, E. C., & Mavromati, F. M., (2013). Online social networking in adolescence: Associations with development, well-being, and Internet addictive behaviors. *International Journal of Child and Adolescent Health. 6*, 411-420.

Valdez, David, (2016). *Representation of adolescent identity status through Facebook use: A qualitative multicase study of adolescent digital behaviors*. (Doctoral Dissertation). http://scholarcommons.usf.edu/etd/6423

Valkenburg, P. M., & Peter, J. (2007). Online communication and adolescent well-being: Testing the stimulation versus the displacement hypothesis. *Journal of Computer-Mediated Communication*, *12,* 1169-1182. doi:10.111/j.1083-6101.2007.00368.x

van den Eijnden, R. J., Lemmens, J. S., & Valkenburg, P. M. (2016). The social media disorder scale. *Computers in Human Behavior*, *61*, 478-487.

VanVoorhis, C. W., & Morgan, B. L. (2007). Understanding power and rules of thumb for determining sample sizes. *Tutorials in Quantitative Methods for Psychology*, *3*(2), 43-50.

Vogel, E. A., Rose, J. P., Roberts, L. R., & Eckles, K. (2014). Social comparison, social media, and self-esteem. *Psychology of Popular Media Culture*, *3*(4), 206.

Wan, C., & Chiou, W. (2006). Why are adolescents addicted to online gaming? An interview study in Taiwan. *CyberPsychology and Behavior*, 9, 762–766.

Wang, M. T., & Holcombe, R. (2010). Adolescents' perceptions of school environment, engagement, and academic achievement in middle school. *American Educational Research Journal*, *47*, 633-662.

Willard, N. (2005). Cyberbullying and cyberthreats. *Washington: U.S. Department of Education*. 1-10.

Wills, T.A. (1981). Downard comparison principles in social psychology. *Psychological Bulletin, 90,* 245-271. doiL10.1037/0033-2909.90.2.245

Wolk, S. (2007). Why go to school?. *Phi Delta Kappan*, *88*(9), 648-658.

Wong, L. H., Sing-Chai, C., & Poh-Aw, G. (2017). Seamless language learning: second language learning with social media. *Comunicar*, *25*(50), 9-21.

Wood, J. V. (1989). Theory and research concerning social comparison of personal attributes. *Psychological Bulletin, 106,* 231-248.

World Population Review. (2019). Retrieved from http://worldpopulationreview.com/us-cities/muskogee-ok-population/.

Yang, C. C. (2016). Instagram use, loneliness, and social comparison orientation: Interact and browse on social media, but don't compare. *Cyberpsychology, Behavior, and Social Networking*, *19*(12), 703-708.

Yang, C.C, & Christofferson, K., (under review). *On the Phone Even When We're Hanging Out: Digital Social Multitasking (DSMT) and Its Socioemotional Implications*.

Yang, C. C., & Robinson, A. (2018). Not necessarily detrimental: Two social comparison orientations and their associations with social media use and college social adjustment. *Computers in Human Behavior*, *84*, 49-57.

Yoneyama, S., & Rigby, K. (2006). Bully/victim students & classroom climate. *Youth Studies Australia*, *25*(3), 34.

Yu, A. Y., Tian, S. W., Vogel, D., & Kwok, R. C. W. (2010). Can learning be virtually boosted? An investigation of online social networking impacts. *Computers & Education*, *55*(4), 1494-1503.

Zedan, R. (2010). New dimensions in the classroom climate. *Learning Environments Research*, *13*(1), 75-88.

Zullig, K.J., Huebner, E.S., & Patton, J.M. (2011). Relationships among school climate domains and school satisfaction. *Psychology in the Schools, 48*, 133-145.

APPENDICES

APPENDIX A

Oklahoma State University Institutional Review Board

Date:	04/16/2019
Application Number:	ED-19-48
Proposal Title:	An Exploration of the Relationship Between Learning Climate and Adolescents' Instagram Use
Principal Investigator:	Kaia Christofferson
Co-Investigator(s):	
Faculty Adviser:	Jane S Vogler, Ph.D.
Project Coordinator:	
Research Assistant(s):	
Processed as:	Exempt
Exempt Category:	

Status Recommended by Reviewer(s): Approved

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in 45CFR46.

This study meets criteria in the Revised Common Rule, as well as, one or more of the circumstances for which <u>continuing review is not required.</u> As Principal Investigator of this research, you will be required to submit a status report to the IRB triennially.

The final versions of any recruitment, consent and assent documents bearing the IRB approval stamp are available for download from IRBManager. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:
1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be approved by the IRB. Protocol modifications requiring approval may include changes to the title, PI, adviser, other research personnel, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
3. Report any unanticipated and/or adverse events to the IRB Office promptly.
4. Notify the IRB office when your research project is complete or when you are no longer affiliated with Oklahoma State University.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact the IRB Office at 405-744-3377 or irb@okstate.edu.

Sincerely,
Oklahoma State University IRB

.

VITA

Kaia Christofferson

Candidate for the Degree of

Doctor of Philosophy

Thesis: THE RELATIONSHIP BETWEEN VARIABLES OF ADOLESCENT INSTAGRAM USE AND THEIR PERCEPTIONS OF LEARNING CLIMATE

Major Field: Educational Psychology

Biographical:

   Education:

   Completed the requirements for the Doctor of Philosophy in Educational Psychology at Oklahoma State University, Stillwater, Oklahoma in December, 2019.

   Completed the requirements for the Master of Science in Educational Psychology at Oklahoma State University, Stillwater, Oklahoma in 2015.

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   Experience: Graduate teaching assistant in Educational Psychology at Oklahoma State University (2014 – 2019). Courses taught include Psychological Foundations for Childhood, Creative Processes and Problem Solving, Exploring the Creative Experience, and Child and Adolescent Development. Graduate research assistant in Educational Psychology at Oklahoma State University (2014 – 2015, 2019).

   Professional Memberships: American Psychological Association, Division 15, Educational Psychology; American Educational Research Association