

An exploratory study of Generation Z students' social presence
preferences in formal online learning

by

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B.S., University of Nebraska-Lincoln, 1992
M.S., Tarleton State University, 2000
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AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

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Department Educational Leadership
College of Education

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Manhattan, Kansas

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Abstract

The COVID-19 pandemic changed many aspects of our society, redefining social interactions and influencing how we work, learn, and communicate. Those influences affect the classroom, the role of online learning, and how teachers educate learners. In post-secondary schools today, the largest population of online learners are Generation Z (Gen Z) students; as such, academia must understand this unique group. In addition, the changes in technology and online learning require academia to understand how online learning is evolving to provide the most effective environment for Gen Z students.

This research examined the online social presence preferences of 12 female Gen Zers and how they made meaning of their experiences based on the technologies used in their formative years and those of today. This study was built on research showing that online learning and social presence are linked and can create an environment that promotes connections and learner satisfaction. The conceptual framework used constructivism and elements of the social presence theory to examine Gen Zers' social presence online. Using a basic qualitative research design, the study collected data using semi-structured open-ended interviews and concept mapping to discover when Gen Z students felt a social presence in their formal online courses.

The findings identified that technology helped the participants develop a social presence at a young age and continues to enhance their social presence today. Synchronous engagements, feedback from professors and peers, and small groups were all ways participants described how they developed a social presence in their online college courses.

Keywords:

Generation Z, Social Presence, Online Learning, Technology

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Acknowledgments

I began this journey when I retired from my first profession in 2020. I knew the trek of a Ph.D. would be hard work, but I wanted to prove to myself that I had the intellect to do it. Four years later, I did, but I was not alone. There were key players “in this thing called life” of a doc student that I would be remiss not to recognize.

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Dedication

My father always told me there was nothing I could not achieve, no mountain too high or race too long to showcase my talents. He was my inspiration: never to settle, always strive to go further, and “never quit.” That advice has guided me well throughout my life. Dad, even though you are no longer physically here, you are always in my heart, and I will never quit and always try to make you proud...I hope this does. I love you and miss you.

Chapter 1 - Introduction

Due to technological advancements and, most recently, the COVID-19 pandemic and physical distancing requirements, all levels of education are moving to provide more online opportunities, and the online classroom is a new normal for many in academia (Lowenthal, 2020; Shahzad et al., 2021). According to the National Center for Education Statistics (2022), the number of online college students continues to rise because of the aftereffects of COVID-19 and the flexibility online classes provide adult learners. However, research suggests that online courses have higher attrition rates than in-person instruction, and student retention is challenging as more and more students take virtual classes (Heyman, 2010; Lui et al., 2009). Because of the exponential evolution of online learning and the link to poor student retention (Lowenthal et al., 2009), adult educators must understand and embrace the online environment to help their students thrive in the virtual domain. Learning about the technologies that enable online instruction and the uniqueness of the learners comprising the student body is a way educators can enhance the online learning environment.

Background

In today's society, most adults use technology to make their lives easier and more comfortable. As an example, smartphones are abundant and help users make phone calls, check the weather, and search the World Wide Web at the touch of their fingertips. According to Harasim (2000), "the telecommunications and knowledge revolution enables greater and faster human communications" (p. 42), forever changing how individuals navigate their lives. Because technology permeates all aspects of society, the modality in how adults obtain and learn information has altered learning environments (Santos, 2011). According to Watted and Barak (2018), Massive Open Online Courses (MOOCs) are one example of technology that provides

opportunities for adults to participate in learning forums that, before the technology boom, would have otherwise been unavailable. Because much of adult learning is migrating from the formal classroom to the less traditional online environment, understanding student motivation by attracting and keeping virtual learners engaged is critical.

An integral part of the online learning environment includes the relationships built within the class and effective communication, which helps facilitate learning (Kehrwald, 2008). Those relationships encompass social presence, which is essential because it “connects individuals in an online learning environment” (Oztok & Brett, 2011, p. 2) and helps learners construct knowledge and make meaning with others. Picciano (2002) asserts that a positive social presence resulting from strong relationships within the virtual classroom can improve a student’s perception of increased learning. Because of the effects of COVID-19 and subsequent growth within the online learning environment, adult educators who understand and foster a forum where social presence is enabled can improve students’ perceptions of the quality of their online education (Shahzad et al., 2021) and reduce drop-out rates.

Generations

How individuals develop social presence differs. According to Strauss and Howe (1991), political, economic, and environmental influences mold how each generational cohort develops a rapport with others, especially while learning. Consequently, it is necessary to understand the learning inclinations of students and the practices that best support their learning preferences (Knowles, 1990). Research shows that some generations are inherently different in terms of learning preferences based mainly on the technology available in their formative years (Seemiller & Grace, 2019; Twenge, 2006).

Older generations did not have access to the same technology at an early age as younger generations and learned in different environments. For example, Baby Boomers born between 1946 and 1964 grew up watching television or listening to the radio to learn about global events such as the landing on the moon or the war in Vietnam and then brought those experiences to social settings (Strauss & Howe, 1991, 1997). Conversely, the digital generations, including Millennials and Generation Zers, 20 to 40 years younger than baby boomers, were continuously connected through the internet and collectively experienced global events through social media in real time (Seemiller & Grace, 2019). Howe and Strauss (2007) assert that technology created different life experiences for both generations, especially regarding how they develop social networks. Boomers attended rallies with large groups of people to show their convictions and beliefs, but today's younger generations assert their beliefs individually and online using social media platforms. Consequently, recognizing the generational uniqueness of each cohort can cultivate social presence environments appropriate to current classroom demographics and move beyond "old habits that made sense twenty years ago but no longer do" (Strauss & Howe, 1997, p. 307).

Generation Z

In 2021, 85% of college students in undergraduate programs were under the age of 25 and within one of the youngest generations, known as Generation Z (National Center for Education Statistics, 2022; Hanson, 2021). According to Seemiller and Grace (2019), Generation Z, also known as Gen Zers or the IGeneration, comprises people born between 1995 and 2010 and is unique compared to previous generations, primarily because they are the first generation exposed to technology at a young age.

However, despite the many Gen Z students currently enrolled in college and studying online, generational studies lack research on Generation Z-specific social presence preferences (Seemiller et al., 2021). As previously mentioned, Gen Zers are unique based on their early exposure to technology, and those experiences may influence their social presence preferences in a virtual learning environment (Chicioreanu & Amza, 2018; Lai & Hong, 2015; Seemiller & Grace, 2019). Many Generation Z students had technology embedded in their lives from birth, yet current research fails to examine how the generation's greater comfort level with technology impacts how they socially connect in an online learning forum (Yu & Canton, 2020). By examining the influence of technology on Gen Zers' ability to develop connections virtually, research can help explore when and how the generation feels a social presence in online college courses.

Social presence is an intangible sense of being that sets the stage for learning in the online environment (Lowenthal, 2020). Online presence is naturally susceptible to discourse based upon the sometimes asynchronous and detached sense of connection in virtual learning modalities (Harasim, 2002; Lowenthal, 2010). Gen Zers desire interactions with their teachers and peers (Yu & Canton, 2020) in order to feel a social presence. Even in today's hybrid delivery methods of synchronous and asynchronous classroom engagement opportunities, social presence is more challenging to develop because of the potential differences among generations.

Regardless of which generation participates in virtual classes, social presence preferences are essential to understand because "literature suggests that social presence not only supports and facilitates the communicative actions of individuals but also potentially enables learning in online environments" (Oztok & Brett, 2011, p. 3). For example, Richardson and Swan (2003) determined in their research that students in online courses perceived higher learning outcomes when they had increased perceptions of social presence. The researchers conducted a correlational study with over

350 participants between the ages of 19 and 63 and found that activities increased online social presence when designed for both group and individual learners (Richardson & Swan, 2003).

Though their study identified the ages of participants, it failed to explore if or how environmental influences like technology impacted perceptions of social presence (Richardson & Swan, 2003). Technology can alter how generations learn (Strauss & Howe, 1991) and impact learning outcomes. Gen Z students and the influence of technology matters because they “will continue to be the majority of traditional-aged college students through the class of 2032” (Seemiller & Grace, 2019, p. 193). Accordingly, it is necessary to understand the uniqueness of the young and digital-savvy group when it comes to online learning.

Social Presence Theory

The social presence theory (SPT) helps explore the “degree to which a person is perceived as a real person” (Gunawardena & Zittle, 1997, p. 9) in an online environment. SPT continues to evolve as technology improves, and the method for measuring social presence has changed with the introduction of real-time and video capabilities in the online classroom (Oztok & Brett, 2011).

SPT was first formally defined by Short et al. (1976), who used the term to describe people’s sense of connection when using communication media, including audio systems, videophones, conference television systems, and computer-mediated conferencing systems. These researchers tried to determine if social presence was perceived when using communication media compared to interacting face-to-face (Short et al., 1976). Short et al. (1976) examined numerous quantitative and qualitative studies using several theoretical approaches, and with further analysis, the researchers concluded that social presence varied based on the type of media used to facilitate interactions and was influenced by factors including proximity, eye contact, and facial expressions.

Next, in the 1990s, based on the need to provide global “unified educational access” (McIsaac & Gunawardena, 1996, p. 406), researchers further explored SPT and distance education to determine what technologies were tied to social presence and positively influenced learners’ satisfaction. In their research, Gunawardena and Zittle (1997) expanded Short et al.’s examination of intimacy and immediacy to determine if physical and psychological distance influenced a learner’s sense of social presence in distance education. Gunawardena and Zittle (1997) concluded in their study that despite Short et al.’s (1976) research findings, a learner’s social presence is not solely developed based on the type of technology used during communication but rather the environment created within the distance education community.

The most recent evolution of research explores the social presence construct as technology explodes and online learning becomes more prevalent in adult education. Similar to Gunawardena and Zittle’s (1997) research, Kehrwald (2008) proposes that social presence has less to do with the type of technology used in the learning environment and more with the “meaningful interactions” (p. 99) and relationships developed in the online community. Current studies examine asynchronous and synchronous modalities and contend that developing an environment that encourages interactions and a sense of community that provides a rich social presence improves overall learning (Aragon, 2003; Kehrwald, 2008; Lowenthal, 2010).

Problem Statement

Gen Zers are currently the largest population of college-aged students in the U.S. (National Center for Education Statistics, 2022). A better understanding of generational influences and social presence preferences can help practitioners build a learning environment that accentuates generational experiences while fostering a presence where Gen Z students excel. Research

maintains that online instructors can support their students' uniqueness and foster a social presence through their teaching practices (Garrison, 2019).

Although interest in social presence continues to grow in industries like business and government (Van Doorn et al., 2017; Yasir et al., 2020), the analysis of social presence preferences for Gen Z online learners is lacking from current research. A recent study by Yu and Canton (2020) explores Millennial and Gen Z learning characteristics and social presence to determine if they preferred face-to-face, online, or hybrid learning environments. Although the researchers determined that Gen Z learners prefer a hybrid learning environment over others, they failed to examine the influences of technology and the development of social presence in a purely online classroom (Yu & Canton, 2020).

Previous research also demonstrates a positive correlation between social presence and students' perceived learning and course satisfaction (Garrison et al., 2010). However, current studies fail to explore social presence preferences for Gen Z students through the lens of generational experiences (Lowenthal & Dunlap, 2020; Oztok & Brett, 2011). A gap in research is prevalent in examining Gen Z students' early exposure to technology and their current preferences in developing a sense of social being in online courses.

Purpose Statement

This research explored how Generation Z students made meaning of their experiences growing up with technology and their current social presence preferences in formal online courses. This study defined social presence as a learner's sense of belonging in the online community based upon the ability to feel part of a group within a trusting environment and building personal relationships to project a persona (Biocca et al., 2003; Garrison, 2011; Gunawardena & Zittle, 1997; Kehrwald, 2010). The definition of social presence drove this research to examine Gen Z

online learners' social presence preferences based on the influence of technology while growing up.

Research Questions

Two primary and five sub-research questions guided this qualitative study:

1. How do Gen Z students make meaning of their technology experiences in developing a social presence in a formal online learning environment?
 - a) How do Gen Z participants describe their experiences with technologies in developing social presence during their primary through high school years?
 - b) How do Gen Z participants describe their experiences with technologies they use today in developing a social presence in a formal online learning environment?
2. How do Gen Z students perceive social presence in a formal online learning environment?
 - a) How do Gen Z participants perceive others in an online learning environment?
 - b) How do Gen Z participants express emotions in an online learning environment?
 - c) How do Gen Z participants perceive belonging in an online learning environment?

Research Design

This study used a basic qualitative design, a common methodology in adult education research that facilitates a framework allowing researchers to respond to questions based on participants' experiences (Bhattacharya, 2017; Merriam & Tisdell, 2016; Roulston, 2018). According to Creswell and Creswell (2018), qualitative research gained notoriety in the last 20 years because it assists in determining how or why something is based on the researcher's ability to interact with study participants through personal communications, specifically in the interview process. Basic qualitative research helped explain Gen Z students' social presence preferences, and

more importantly, it allowed the researcher to hear the experiences concerning participants' use of technology growing up and its significance on their preferences today.

Population

According to research, genders perceive social presence uniquely. Richardson and Swan (2003) suggest that females perceive higher levels of social presence than males and that “gender could account for 5% of the variability” (p. 79) when examining social presence. As such, this study used female participants because, as described by Wempe (2022), females appear to be more connected in an online learning environment than male learners and may provide a more in-depth examination of technology experiences and the development of social presence.

Participants in the study met the following criteria: they were females who were enrolled (or completed) an online course with both synchronous and asynchronous delivery elements at undergraduate colleges within the U.S. in the last 24 months, were in the Generation Z cohort between the ages of 18 and 28, and had previously completed a face-to-face college course. Participation in the research was criterion-based and used the network selection process, also known as snowballing selection (DeMarrais, 2014; LeCompte & Goetz, 1982; Merriam & Tisdell, 2016). Network selection is primarily used when participants have a unique set of criteria and allows “the researcher to use personal contacts to locate...potential participants for the study” (DeMarrais, 2014, p. 60). Using personal contacts, the researcher identified the initial participants and then used the snowballing technique to identify further participants until data saturation was achieved. Creswell and Creswell (2018) prescribe that the sample size depends upon the type of research. In the case of this research and snowballing approach, 12 participants resulted in data saturation and insight into Gen Z online students and their social presence preferences.

Data Collection

Basic qualitative studies use multiple types of data collection to aid in data analysis (Bhattacharya, 2017; Creswell & Creswell, 2018; Merriam & Tisdell, 2016). Specifically, Saldaña (2016) recommends that qualitative studies collect from as many sources as possible, including documentation and interviews, to develop holistic and comprehensive conclusions. This research used three data collection methods: initial participant interviews, concept mapping, and follow-up interviews.

The study used the semi-structured, in-depth, and open-ended interview method frequently used by researchers in the social sciences to explore the research questions and apply context within the study (Bhattacharya, 2017). Once the initial interview concluded, the researcher reviewed and engaged in a concept map exercise, allowing the researcher to verify “shared meaning” (Yelich Biniiecki & Conceicao, 2016, p. 52) with the participants concerning the influence of technology and social presence preferences. Finally, follow-up interviews allowed for probing and additional questions after the initial interview and concept map sessions. Together with the concept maps and transcriptions of the initial and follow-up interviews, the researcher used various data sets to triangulate information and strengthen credibility (Merriam and Tisdell, 2016).

Data Analysis

The descriptive coding process described by Saldaña (2016) assisted in data analysis. As such, coding occurred throughout the research using inductive coding, where the researcher coded in two distinct iterations. The first iteration of coding used inductive coding to identify unique codes based on short phrases found throughout the data. During the second iteration of coding, the researcher narrowed codes by combining related words or phrases and omitting codes with only

limited references. The researcher developed categories to compartmentalize standard codes and then analyzed the categories to create themes that provided meaning and assisted in answering the research questions (Saldaña, 2016). Through the descriptive coding process, developed themes helped answer the research questions and provide insights concerning Generation Z students' social presence preferences when learning online.

Subjectivity Statement

Subjectivity influences all qualitative research, and as Peshkin (1988) emphasizes, scholars must recognize and then identify personal positions that intercede with their studies. My interest in social presence among Generation Z students stemmed from two premises. First, the assumptions about the young generation tend to be grossly inaccurate and biased. Specifically, my encounters with senior community leaders demonstrated older generations' propensity to apply negative stereotypes in describing Generation Z learners, specifically in their perceived reliance on technology. In addition, my current profession in teaching Gen Z students online also lent itself to personal experiences that may have influenced the research. Because of my daily interactions with the younger generations, I am privy to watching how they make meaning and develop social structures in online classes. I have had frequent exposure to the generation that this study examines, which has molded my beliefs and assumptions about Gen Zers.

According to Bhattacharya (2017), positionality shapes one's approach and outlook on research, and identification of such is required to ensure complete transparency and understanding of the researcher's negotiation of any discourse within the study. My positionality was founded mainly upon my role as a parent who raised two Gen Z children. While my children were growing up, I recalled both of them developing a social presence by using technology at a young age, and their abilities fascinated me. Even more interesting was that they were unaware of their unique

skill in developing virtual relationships. Their capacity to develop and maintain connections and a sense of belonging with friends and acquaintances across the globe was intriguing.

For example, at age 11, my daughter maintained relationships with her military friends scattered across the globe and unknowingly developed a social presence in their video chat sessions. Six years later, during the COVID-19 pandemic, both she and my college-aged son continued with their abilities to develop a virtual social presence when they were forced to take their high school and college classes online using synchronous video technology. I observed them developing relationships and a sense of belonging during their online learning sessions. In my son's case, he developed a social presence with peers and teachers he had never met and located over 1,000 miles away. I am a Generation X researcher and cannot pretend to understand Gen Z experiences. However, because of my experiences watching my children develop social presence, my positionality helped me appreciate what my participants shared during data collection.

Significance of the Study

Previous SPT research lacks detailed analysis of specific populations and their social presence preferences, making it almost impossible to apply strategies to improve learning environments specific to the demographics of Gen Zers (Yu & Canton, 2020). However, positive learning outcomes and course retention are linked to social presence (Chicioareanu & Amza, 2018), and adult educators must understand and develop teaching approaches that complement Gen Z student preferences. Through this research, educators may better understand how the younger generation makes meaning in the online domain and the level of social presence they desire in order to maximize learning in a virtual environment. Also, adult educators can use the research findings in the review of their course design to implement teaching techniques that nurture Gen Z social presence preferences based on their experiences using technology. Similarly, program

directors and administrators who develop courses for Gen Zers can benefit from the findings to provide opportunities that support their generational personalities.

Limitations of the Study

According to Terrell (2016), limitations are unavoidable in research studies and occur in most qualitative designs, which may influence the findings. This study's basic qualitative research design lends itself to two notable limitations. First, participants were asked to recall technology experiences in their youth during the interview process. As such, interview results were based on participant memories and willingness to share their stories and experiences. Additionally, there is a lack of research exploring Gen Zers and their online social presence preferences by which to frame this study. Although studies on social presence and generations are growing, none explore the Gen Z online learner nor how technology has molded their preferences.

Definition of Key Terms

Digital generation- a term developed by Prensky (2001) that describes both the Millennial and Generation Z cohorts based on their abilities as “native speakers” (p. 2) of information technology and their skill to understand and navigate their worlds using computer-based devices.

Experiences- learning that uses past knowledge and actions that influence “mental habits, biases, and presuppositions” (Knowles, 1990, p. 59) and helps process knowledge and skills.

Generation- a group of people based upon a “birth cohort” that Strauss and Howe (1991) assert share a “lifecycle” that starts in “childhood through old age” (p. 8) and helps define characteristics of the unique subset of populations.

Generational differences- are the differences between subgroups of people within a society primarily based on age, birth years, and cultural influences (Twenge, 2006).

Generational influences- are the life experiences of a generational cohort (Howe & Strauss, 2000).

Generation Z comprises individuals born after 1995 through 2010 (Seemiller & Grace, 2019).

Formal online learning environment- a formal learning environment in which education is delivered and controlled by colleges. All course conduct occurs online; students and teachers must use the internet to communicate, and course material is delivered solely online (Harasim, 2000).

Social presence- is defined as a learner's sense of belonging in the online community based upon the ability to feel part of a group within a trusting environment and build personal relationships to project a persona (Biocca et al., 2003; Garrison, 2011; Gunawardena & Zittle, 1997; Kehrwald, 2010).

Summary

Generation Z students are the first generation to grow up with technology early in their lives, and little research explores the influence of technology on their social presence in the digital learning environment (Seemiller & Grace, 2019). As online learning in higher education continues to grow, it is paramount to realize the unique characteristics of Gen Z students and adapt classrooms to facilitate a social presence that resonates with the learners (Hodges, 2020; Seemiller & Grace, 2019). This chapter defined Gen Z learners, the need to explore their social presence preferences further, and the research design, which investigated the experiences of the largest population enrolled in colleges across the United States.

Chapter 2 - Literature Review

This study examined Generation Z learners' social presence preferences in the online classroom. This chapter describes social presence preferences using the underpinnings of generational theory, the evolution of online learning, the community of inquiry (CoI) framework, and the social presence theory (SPT). The generational theory proposes that although commonalities exist throughout the lifecycle of each generation, unique circumstances, including innovation, can influence the tendencies of a particular cohort (Strauss & Howe, 1991). Differences amongst generational environments, coupled with technological advancements in the 21st century, can change how society interacts and education evolves when providing learners' curriculum. CoI helped examine the experiences of learners in the online community. At the same time, SPT provided the foundation in the conceptual framework to explore the social presence preferences of Gen Z online college students and the influence of technology on their sense of connectedness.

College students are learners who transition from primary education and are now part of higher education and integrated into the adult education community. As described by Brookfield (2013), adult learners have "prior experiences to create connections" (p. 19) and, as such, bring more to the social settings in the online classroom. This research will examine the Gen Z cohort and their technology experiences and social presence preferences through the adult learner spectrum within higher education.

Generational Cohorts

Understanding uniqueness amongst various groups of learners and the theory behind how these cohorts may differ is vital. For example, in the late 1960s, the American people were in societal upheaval as the Baby Boomer generation feared governmental power and demanded

equality and social justice (Strauss & Howe, 1997). Perhaps because the generations before them did not fully understand what was valued by the Baby Boomers, the nation experienced social turmoil until late 1970 (Samuel, 2022). History has taught us that adult educators must also understand the generations they are teaching and the value system they hold important (Chitiga et al., 2011) to provide relevant and timely information.

According to Friedman (2008), those believing generations never change miss opportunities to “fully tap the vast rivers of idealism, innovation, volunteerism, and philanthropy” (p. 5) by assuming beliefs and values remain constant through time. By examining generations, Howe and Strauss (2007) assert that educators can examine patterns and predict future requirements based on the trends of each era. Because generations transition through time and give “way to its successors” (Strauss, 2005, p. 10), academia must pave a path for new generations to fill the future classrooms and understand their personalities and how they learn.

Generational Theory

Many definitions describe generations or generational cohorts, terms often used to cluster groups of people born in a particular era. Strauss and Howe (1991) assert that cohorts themselves are simply groups of individuals based on undefined birth years. However, a generational cohort is a “special cohort-group” (Strauss & Howe, 1991, p. 34) that spans 20 years and progresses through similar lifecycle phases. Individuals advance through lifecycle phases, including youth, young adulthood, midlife, and elderhood, which shapes unique behaviors and attitudes and can help researchers understand relationships between history and generational cohorts (Strauss & Howe, 1991).

Most academics acknowledge Strauss and Howe’s (1991) interpretation of generational cohorts as a distinct group born within a specified period that helps define or categorize them in

order to describe or draw conclusions concerning their “personality and behavior shaped by” their experiences (p. 437). Research asserts that political, economic, and environmental influences mold people within each cohort (Glenn, 2005; Strauss & Howe, 1991, 1997). As a result, awareness of generational social and environmental manifestations and their impacts is necessary to understand Gen Z’s social presence preferences.

In addition to the ambiguity in defining generations, researchers have differed in characterizing each generation’s timespan. Specifically, literature varies in explaining the years for the four most recent generations, and many, including Strauss and Howe (1991), fail even to acknowledge Generation Z in their earlier studies. Based on the specific attention given to Gen Zers and their influence on generational research, generational cohort birth years for this study are derived from Seemiller and Grace (2019). The Silent Generation encompasses those born from 1925 through 1945, Baby Boomers 1946 through 1964, Generation X from 1965 through 1980, Millennials 1981 through 1994, and Generation Z from 1995-2010 (Seemiller & Grace, 2019).

Silent Generation to Millennials

The Silent Generation was born between 1925 and 1945 during the Great Depression and before World War II and was known for conforming and possessing civic sentiments (Strauss & Howe, 1991, 1997). According to Strauss and Howe (1991), this generation exceeded the previous generation’s educational aspirations. However, men and women alike had a general sense to “keep quiet, attempting not to call attention” (Strauss & Howe, 1991, p. 286) to themselves and to conform to what their parents and society told them.

The technology available to children of the Silent Generation was limited to watching movies on the big screen and listening to the radio at home (Seemiller & Grace, 2019). Though computers were designed during this generation in 1937, it would be more than 60 years later that

they were available to the average person (Britannica, n.d.). Researchers all agree on common themes when describing this generation, including conformity, risk-averse, and seen but not heard, all of which indicate their sense of belonging or social presence as secondary to conforming to what was expected by their older generations (Seemiller & Grace, 2019; Strauss & Howe, 1991, 1997). The Silent Generation learned in formal classroom environments, where face-to-face interactions between teachers and students aided communication and the development of social bonds (Gunawardena, 1995).

On the other hand, the Baby Boomer Generation was labeled by their rebellion, self-indulgence, high self-esteem, and privileged upbringing (Seemiller & Grace, 2019; Strauss & Howe, 1991, 1997). The cohort was born between 1946 and 1964, was considered highly individualized, and believed in achievement and working long and hard hours to attain success (Petroulas et al., 2010; Strauss & Howe, 1991, 1997). However, academically, the Baby Boomer students experienced declining SAT scores, spanning over 15 years, despite the growth and confidence in the public school system (Strauss & Howe, 1997).

Baby Boomers developed a sense of belonging at a young age as they were the first generation to be fully integrated by their parents and communities through their assimilation into churches and other public establishments, including libraries and community centers (Strauss & Howe, 1997). Television helped develop the generation's social bonds and confidence beginning in their youth, as 90% of homes had a television (Seemiller & Grace, 2019). Most programs offered to Baby Boomer children were family-oriented genres that portrayed an environment that was community-oriented and a cohesive sense of belonging (Seemiller & Grace, 2019; Strauss & Howe, 1997). Technology's influence on the generation was not necessarily physical in the sense that hand-held devices are today, but rather the emotional sense of connectedness they saw while

watching television (Strauss & Howe, 1997) and programs including *Leave it to Beaver*. Like their parents, the Baby Boomers attended school in formal and face-to-face classrooms, influencing how they developed a sense of belonging in the educational setting, and the environmental factors were mainly unrelated to technology (Strauss, 2005).

Generation X was born between 1965 and 1980 and is notorious for their self-reliance and preference to work independently, differing from the Baby Boomer and Silent Generations (Petroulas et al., 2010; Strauss & Howe, 1991, 1997). However, like Baby Boomers, later in their lives, this generation became highly distrustful of their environment, schools, government, and social systems (Seemiller & Grace, 2019). Because many mothers of Generation X children were in the workforce and the divorce rate skyrocketed, many children in the generation had fractured social settings and limited modeling and opportunities to develop a sense of belonging that previous generations experienced (Seemiller & Grace, 2019; Strauss & Howe, 1991).

Gen Xers were the first to experience open-designed face-to-face classrooms focused on self-esteem and experiential learning in their K-12 education (Strauss, 2005). This generation was the first to access personal computers in their early adulthood, and in the last 15 years, they have evolved into a technology-savvy cohort (Howe & Strauss, 2007; Seemiller & Grace, 2019). Though their ways of developing social connectedness as children were not dependent upon technology, today, their social presence preferences are affected based on their efforts in providing cutting-edge technology to their children.

The Millennial Generation represents those born between 1981 and 1994, and most research agrees that the cohort believes they are vastly different from any previous generation (Howe & Strauss, 2000; Partridge & Hallam, 2006; Pew Research Center, 2010; Twenge, 2006). Millennials are dramatically distinct from their parent's generation and even more so from the

Baby Boomers in how they learn and the modalities in which they thrive (Wilson & Gerber, 2008). Compared to previous generations, who attended school in formal classrooms, how Millennials participate in higher education is changing as online college enrollment for the cohort increases (Collay, 2017).

Whether Millennials are learning face-to-face or online, they want more from their education and teachers, including a voice in the classroom and a curriculum relevant to their world (Chitiga et al., 2011). As a result of positive relationships with their families and the older generations, Millennials yearn for a learning environment that is “multidimensional, involving cognitive, social and experiential factors” (Ricketts, 2016, p. 30), including more interaction and a sense of equality with their instructors. Research advocates that Millennials collectively prefer to develop a social presence through interaction with their professors and classmates, including developing bonds that allow them to receive constant and constructive feedback throughout the learning process (Howe & Strauss, 2000; Partridge & Hallam, 2006).

Generation Z

Generation Z embodies those born between 1995 and 2010, and educational expectations and technology mold their identity and sense of value within society (Seemiller & Grace, 2019; Seemiller et al., 2019; Yu & Canton, 2020). Children born in this generation experienced a new culture intertwined with technology, influencing how they communicate and develop and maintain relationships (Prensky, 2001). Generation Z’s parents strived to provide the best for their children academically and socially by supplying communication devices early to foster learning and social bonds (Howe & Strauss, 2007).

According to Seemiller and Grace (2019), Gen Z see themselves as a cohort with integrity, openness, tenacity, and caring dispositions. Because of the diversity they see throughout their

virtual communities, they are accepting of people and have a “strong desire for inclusion and equality” (Seemiller & Grace, 2019, p. 30). Nearly all Gen Zers engage in social media via Snapchat, Facebook, Instagram, and other platforms to develop and maintain social relationships; they know no other way (Seemiller & Grace, 2019). Similarly, most schools in this generation integrated the use of iPads and required students to engage in education holistically using technology, versus the education methods used in previous generations of hardback books, paper, and pencils (Lai & Hong, 2015).

Because of the advanced technology, this generation uses different strategies to build connections and develop a social presence (Seemiller & Grace, 2019). More than three-fourths of Gen Zers communicate through digital communications rather than in person (Seemiller & Grace, 2019). Gen Zers prefer working together in group settings, relying on peers to learn, and favor activities involving social interaction both virtually and in person (Lai & Hong, 2015; Seemiller & Grace, 2019). Research indicates that this generation spends less time with their social groups in person but still wishes to connect through face-to-face communication using technologies like FaceTime (Chicioreanu & Amza, 2018; Seemiller & Grace, 2019). Even though Gen Z students feel intellectual, they may lack social confidence, and a sense of belonging is more challenging to obtain than was in previous generations (Seemiller & Grace, 2019).

Dissecting generations and understanding the uniqueness of each is critical to avoid stereotypes and aid in research development. Educational programs and delivery methods must evolve based on generational experiences. Geraci et al. (2017) state that by viewing student populations through the lens of generations, educational institutions can “design strategies that will maximize the potential” (p. 13) for Gen Z learners. Additionally, Strauss and Howe (1991) believe that the identification of generations is essential as “projecting the cycle is a new way to predict”

the future (p. 25). Table 1 highlights the differences between the generations and the unique characteristics of each.

Table 1
Generation Comparison

	Silent Generation	Baby Boomer	Generation X	Millennial	Generation Z
Years	1925-1945	1946-1964	1965-1980	1981-1994	1995-2010
Other Names	Radio Babies	Boomers, Me Generation	Xers, 13th Generation	Generation Y, Net Generation	Digital Generation, iGen
Percentage of Postsecondary Students in 2019		Less than 9%		12.00%	79.00%
Aspirations	Retirement and Living out Years	Retirement	Job Security	Work Life Balance	Diversity, the World Around Them
Technology Background	Disengaged	Early IT Adaptors	Digital Immigrants	Digital Natives	Technology Dependent
Influences	Great Depression and World War II	Vietnam War, Travel to the Moon	Stock Market Crash, Berlin Wall	September 11 Attack, Columbine Shooting	Iraq/Afghanistan Wars, WikiLeaks
Iconic Technology	Automobile, Radio	Television, Audio Cassette	IBM Personal Computer, VCR	DVD, World Wide Web, Mobile Phone, Laptop Computer	Smart Phone, iPad, Google
Ways they Communicate	Formal Letter	Telephone	Email	Text Message and Social Media	Smart Phone Apps
Communication Preferences	Face-to-Face	Face-to-Face	Text Message or Email	Online and Smart Phone	Facetime and Text
Learning Environment	In Person Military Style & Disciplined	Face-to-Face Classroom and Quiet Atmosphere	Round Table and Relaxed Atmosphere	Electronic and Online (Google) Café Style	Online and Multi-Stimulus
Learning Format	Formal and Instructive	Relaxed Structured	Spontaneous Interactive	Multi-Sensory and Visual	Student-Centric and Kinesthetic

Note. The author created the table using sources from the National Center for Education Statistics. (2021, May). *Postbaccalaureate enrollment*. <https://nces.ed.gov/programs/coe/indicator/chb>; Seemiller, C. & Grace, M. (2019). *Generation Z a century in the making*. Routledge; Steiner, S. (2016, March). *Generation Y in the workplace*. Recruitment Trends. <https://talentor.com/blog/generation-y-in-workplace>.

Distance Education and Online Learning

Leading philosophers agree that technology shapes and molds society, and determinists like Karl Marx (1996) propose that technology affects “the production of the social relations” (p. 330) and how people develop a social presence. Gen Zers were born learning with the aid of technology (Seemiller & Grace, 2019), and according to Carr (2010), technological advancements like the internet change how people cognitively develop, communicate, and build relationships. The link between Gen Z and technology is symbiotic, and the evolution of technology directly ties to how and when generations learn social connectedness during online learning (Malysheva et al., 2022).

Background

Distance education originated in the 1800s but did not evolve into what we now refer to as formal online learning until after the World Wide Web became available in 1992 (Allen & Seaman, 2003; Harasim, 2000; Kentnor, 2015). Distance education’s unique style of instruction was initially geared toward providing opportunities for non-affluent men who could not attend school in person and offered a curriculum where teachers and students did not meet face-to-face (McIsaac & Gunawardena, 1996; Short et al., 1976). Teachers first provided instruction via correspondence through the post office and later through radio using educational broadcasting, where universities delivered instruction over the airways (Kentnor, 2015). Television was a critical part of distance education. From 1937 through the 1970s, television helped facilitate instruction through broadcasting, where teachers used video technology to provide instruction outside the classroom and into learners’ homes (Kentnor, 2015). Throughout most of the 20th century, distance education provided knowledge to those not customarily offered the opportunity to continue learning after primary school (Kentnor, 2015).

Then, in 1981, distance education expanded as the first online course became available as part of executive training using computer conferencing technologies (Harasim, 2000). However, online courses did not become familiar in academia until 1989, when the first university provided online instruction, and soon after, most universities began offering courses using the internet (Kentnor, 2015). After the World Wide Web became available to the masses in the 1990s, distance education became synonymous with online learning (Harasim, 2000).

In 2020, the COVID-19 pandemic forced colleges to move to online learning (National Center for Education Statistics, 2022), compelling teachers and students to embrace technology supporting social distancing despite prior online experiences or personal preferences. The forcing function of social distancing led to an extreme increase in online enrollment, and in the fall of 2020, 75% of all undergraduate students took part in online learning, and almost 44% of students enrolled in only online courses (National Center for Educational Statistics, 2022). Technology and recent pandemic events have fostered a need to increase online learning opportunities and require academia to understand how to deliver effective online learning environments while fostering students' social presence.

After the COVID-19 pandemic, the definitions of distance education and online learning became blurry (Shahzad et al., 2021). By understanding the critical elements and history of distance education and, even more so, online learning, researchers can eliminate confusion and provide a common understanding of the two key terms. Although distance education and online learning may be perceived as the same in today's society, they have two distinct purposes and backgrounds in academia.

According to the National Center for Education Statistics (2021), distance education provides instruction to learners when students and instructors are physically separated,

incorporates numerous types of technology to achieve learning objectives, and is broad in nature. On the other hand, this study focuses on formal online learning, a subset of distance education that solely uses the “internet for teaching and learning” (Singh & Thurman, 2019, p. 302). Like distance education, formal online learning occurs synchronously or asynchronously, and teachers and students are not located in the same space (Allen & Seaman, 2003; Singh & Thurman, 2019). In essence, formal online learning is a subsection of the distance education construct.

Online learning is distance education that uses technology instead of non-technological means like mail to deliver instruction and should not be confused with online computer training or collaboration (Harasim, 2006). Computer training, sometimes called Massive Open Online Courses (MOOCs), typically consists of large audiences and is accessible to the public, providing personal, educational, or career-enhancing knowledge (Watted & Barak, 2018). This study did not consider MOOCs as classrooms in online learning; instead, they are learning environments that focus on attaining knowledge through the work of groups of people to collect information (Harasim, 2006).

This study used Harasim’s (2006) premise of online learning, which is formal education where schools control and monitor the course’s structure, grading, and activities. Online learning includes course material delivered solely online, all interactions are conducted virtually, and students and teachers must use the internet to communicate (Harasim, 2000). In summary, this study defined formal online learning as formal education delivered and controlled by colleges or universities where all courses are conducted purely online.

Community of Inquiry

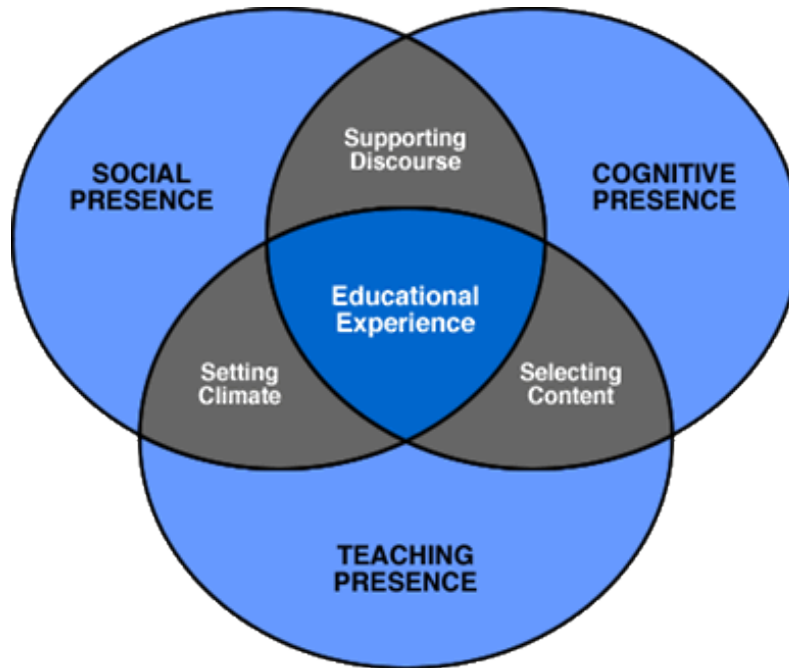
Though distance education and online learning are not new, their understanding has progressed in the last 20 years to support the technological approach to learning. Analysis and

interpretation of online learning are prudent when examining the social presence preferences of Gen Z students learning virtually. The community of inquiry (CoI) framework is an ideal model that focuses on online instruction and was developed by Garrison et al. (1999) to explicitly address the virtual domain and a learner's sense of presence online.

CoI is the most recent and widely accepted concept in academia that describes how learners present themselves individually and uniquely in an online community. Rourke et al. (1999) suggested that learner presence “occurs through the interaction of three core components” (p. 51), including cognitive, teacher, and social presence. Incorporating the three elements of the CoI structure in the online environment can facilitate successful educational experiences and increase learners' social presence (see Figure 1). The CoI construct complemented this study because when viewed together with generational theory and the evolution of online learning, it allowed the researcher to dissect social presence in an online domain while simultaneously exploring the relationships between the learner and other elements in the virtual environment (Garrison, 2019; Oztok & Brett, 2011).

Figure 1

CoI Model



Note. From Garrison, D. R. (2019). Online community of inquiry: Social, cognitive, and teaching presence issues. *Online Learning*, 11(1), p. 62. Used with permission.

Elements of CoI

The first CoI element of cognitive presence is primarily based on Dewey's view of reflective thinking. Dewey (1944) asserts that reflection is a process of understanding within a community based on a learner's beliefs and experiences. Garrison et al. (2010) incorporate Dewey's reflective thinking in developing cognitive presence by acknowledging that learners construct truth in learning through reflection based on a learner's experiences and engagement within an online community. Gen Z learners' experiences differ from those of previous generations, and many construct reality using technology on virtual platforms like Khan Academy or YouTube (Seemiller & Grace, 2019). Garrison (2019) further explains cognitive presence as the exploration and integration whereby learners develop knowledge online, which the Gen Zers are intimately familiar with as they did this at a very young age.

Next, teaching presence is the second element of the CoI model and helps identify how instructors influence a learner's social presence. Teacher presence is the effect instructors have within the online classroom and their influence on the learner's sense of belonging (Rourke et al., 1999). Garrison et al. (2010) imply that effective teaching presence encompasses guidance through clear direction, purposeful design, and effective facilitation within the online community. A teacher's presence in the virtual domain is significant in providing appropriate support and is mainly dependent upon the topic and method of instruction (Garrison, 2019; Shea et al., 2019). Garrison et al. (1999) contend that a teacher's presence is critical but must be appropriately monitored and altered accordingly to meet learner needs at the right place and time to facilitate learning. Teacher presence is essential to Gen Z learners as they thrive by developing relationships with their instructors, who can provide emotional support and help in developing a social presence within the virtual classroom (Seemiller & Grace, 2019).

Finally, social presence is the third element of the CoI model, and according to Swan et al. (2009), it facilitates learning stemming from experiences that are contextually based and socially situated. Social presence helps mold learning in online communities through participation and interaction, which facilitates problem-solving abilities (Bruce & Bloch, 2013). Because of today's technological advancements, social presence does not require learners within a community to come together physically to solve problems; learners can meet virtually to accomplish the same goals while building relationships. Rourke et al. (1999) further explained the concept of social presence by defining it as the "ability of learners to project themselves socially and affectively into a community of inquiry" (p. 50), and through the technologies of the digital age, the projection of self can be made virtually.

Developing a social presence for Gen Zers differs from previous generations as they do not require proximity when establishing a sense of belonging; additionally, they may not have the social confidence of Millennials or Generation Xers when building social connections (Seemiller & Grace, 2019). The CoI framework helped this research define and understand social presence in the online environment in order to dissect Gen Z students' unique generational experiences and determine how they develop a sense of belonging in the online classroom. Garrison et al. (2001) suggest that the CoI model provides an appropriate structure for examining Gen Z social presence preferences determined by generational experiences. Combined, CoI and SPT helped the research link how learners gain a sense of connectedness online and the impact of others in the community (Oztok & Brett, 2011).

Social Presence

Despite progress in understanding social presence using the CoI model through numerous quantitative studies, qualitative studies are far fewer (Oztok & Brett, 2011). Increased qualitative research can help further explore Gen Z's experiences with technology and how they enhance learning through perceptions of being socially connected (Lowenthal, 2010; Lowenthal & Dunlap, 2020). For example, a study developed by Shelton et al. (2017) highlighted that current research tools using quantitative algorithms could determine social presence preferences for learners, but the research failed to consider demographics, including cohorts and generational environments that can impact learning outcomes. Their research examined social presence preferences and predicting at-risk learners, but the algorithms used for the study neglected to use qualitative approaches in considering if or why generational experiences influenced social presence preferences (Shelton et al., 2017).

However, building upon Shelton et al.'s (2017) research, Yu and Canton (2020) developed a mixed methods study looking at students born between 1965 and 2001 and “learner characteristics” and their relationships with “instructional delivery modality for communication skills” (p. 2). Though qualitative aspects of the research examined the generational uniqueness of Millennials and Gen Zers, Yu and Canton (2020) focused on learner motivation, learning management systems, and instructional delivery modality, not specifically on how learners feel a sense of belonging in the online environment nor the technology experiences of the participants. Their study used SPT and found that a “learner’s generation does not impact” (Yu & Canton, 2020, p. 4) their preferences for online or face-to-face classes and that learners preferred learning management systems with easy access and that were self-paced.

Social Presence Theory

SPT has evolved through three eras as technology improves and the medium for measuring social presence changes, including today’s real-time video capabilities in the online classroom (Oztok & Brett, 2011). SPT was first developed via a formal definition by Short et al. (1976), who used the term to describe people’s feelings when using communication media, including audio and video technology. These researchers tried to determine how social presence, or the sense of belonging, was influenced when using technologies of interaction that were not face-to-face. The research concluded that social presence varied based on the types of technology used in communicating long distance (Short et al., 1976).

First Era

The first era of SPT proposed that a learner’s sense of belonging is interdependent upon the type of technology, and the impersonal characteristics of some types of technology can affect one’s ability to develop a presence with others (Short et al., 1976). Researchers tried to understand how

communication in teleconference environments using equipment like the telephone, television, and radio impacted a person's ability to feel socially connected and compared mediated and non-mediated exchanges (Short et al., 1976). The theories in this era developed two key concepts of intimacy and immediacy to describe social presence when teleconference participants were not physically together (Argyle & Dean, 1965; Wiener & Mehrabian, 1968).

Specifically, Short et al. (1976) used intimacy and immediacy to examine how participants of teleconferences developed a more intimate and, thus, better social presence based on influences including physical responses like facial expressions and body movements. Using Argyle and Dean's (1965) construct of intimacy, Short et al. (1976) determined that participants in small group settings using video technologies "rather than audio alone" (p. 72) perceived social presence and felt a connection through the use of facial gestures and personal conversations.

Additionally, Short et al. (1976) incorporated the concept of immediacy in their research, which Wiener and Mehrabian (1968) describe as a psychological distance between participants who communicate in group settings. Their research concluded that participants could "convey immediacy or non-immediacy non-verbally as well as verbally" (Short et al., 1976, p. 73), enhancing social presence regardless of physical proximity. Additionally, Short et al. (1976) asserted that fostering a sense of nearness despite not being together can be achieved using a particular tone of voice.

Ultimately, research in this timeframe indicated that social presence, regardless of the learning environment, was based on effective verbal and nonverbal communication (Oztok & Brett, 2011). Short et al. (1976) determined that "students learn as much or more in telephone classes as in face-to-face discussion" (p. 171), and the type of technology had more influence over social presence than physical proximity. However, research in the next era disagreed that

technology instruments were the driver for developing a social presence; instead, the individual learner was the link in determining a sense of connectedness (Oztok & Brett, 2011).

Second Era

The second evolution of SPT began in late 1980 and extended through the 1990s. Because of technology's impact on people found during this time, research focused more on the learner and less on the type of technology and studied individual perceptions of social presence (Gunawardena & Zittle, 1997; Hackman & Walker, 1990). During this time, studies determined that Short et al.'s hypothesis weighted too much on communication platforms and rather online communities were more influenced by the interactions of learners and those within their virtual community, including teachers or moderators (Gunawardena, 1995; Hackman & Walker, 1990; Rourke et al., 1999).

As previously discussed, the CoI framework developed during this era also supported the premise that online learning is influenced more by the learner, teacher interactions, and experiences and less by the technology used to assist learning (Garrison et al., 1999). The second generation of SPT research further explored immediacy within the online environment and its relationship to social presence. For example, Hackman and Walker (1990) expanded upon Short et al.'s theory of immediacy and asserted that teacher behaviors like "encouraging students to participate, using humor, and addressing students by name" (p. 202) reduced the sense of disconnectedness in distance education and furthered the learning and satisfaction of students.

Most studies in the second era examined learner satisfaction and social presence in eLearning environments that used non-visual communication, including text-based methods (Gunawardena, 1995; Gunawardena & Zittle, 1997; Walther, 1992). For example, Gunawardena and Zittle's (1997) research examined graduate students enrolled in distance education courses primarily using asynchronous discussion board activities. Their study determined that learner

satisfaction is based on the “student perception of having equal opportunity to participate” (Gunawardena & Zittle, 1997, p. 23) and that learners who perceive a high social presence led to strong predictors of satisfaction. Because research during this era did not have the technology of synchronous visual communication available today, including platforms like Zoom and Microsoft Teams, many studies focused on asynchronous online learning activities like discussion boards to explore a student’s sense of social presence (Garrison et al., 1999; Gunawardena & Zittle, 1997; Rourke et al., 1999).

Studies for the second generation of SPT progressed and utilized mix-methods research through questionnaires and interviews to learn more about student perceptions and to create a deeper understanding of why and how learners felt a sense of social presence (Gunawardena & Zittle, 1997; Hackman & Walker, 1990; Kearney et al., 1985). Research tools also intermingled the quantitative study concepts from Short et al.’s (1976) immediacy and intimacy frameworks in developing additional findings when examining teacher influence and overall sense of connectedness by the students (Gunawardena & Zittle, 1997). Studies showed that students rated their sense of social presence based on a perception of community with descriptors including personal, sociable, interactive, helpful, and unthreatening (Gunawardena, 1995). Gunawardena and Zittle’s (1997) study included the impact of technical skills and previous online experiences to measure a learner’s social presence. They found that familiarity with technology and previous online encounters positively correlated with a higher social presence and student satisfaction in text-based computer conferencing (Gunawardena & Zittle, 1997).

Johnson et al. (2000) expanded Gunawardena and Zittle’s (1997) study and compared face-to-face and online college courses to determine learning outcomes, student perceptions of course content, and the teacher’s ability to help students develop a sense of belonging. Their research

asserts that “student satisfaction with their learning experience tends to be slightly more positive for students in a traditional course format although there is no difference in the quality of the learning that takes place” (Johnson et al., 2000, p. 44). Although the findings of Johnson et al. (2000) suggest that students prefer in-person classes over online classes, they also contend that online learning can be just as effective if instructor interactions and communication techniques are designed to replicate a learner’s experiences in a face-to-face classroom.

The combined research efforts of this era ultimately concluded that learners developed a connection with their peers and teachers despite a purely asynchronous environment, and the activities developed to establish a sense of community were more important than seeing someone face-to-face (Gunawardena, 1995; Gunawardena & Zittle, 1997). The second era of SPT research also showed a relationship between students’ sense of social presence and learner satisfaction and dispelled Short et al.’s (1976) premise that the type of technology is what determines a learner’s social presence (Gunawardena, 1995; Gunawardena & Zittle, 1997; Hackman & Walker, 1990; Walther, 1992). Yet, because of the limited ability to teach courses online using real-time video, the theory did not explore the relationship between social presence and synchronous methods.

Third Era

The third and most recent evolution of social presence research began in the early 2000s, exploring the construct of social presence as online learning became more prevalent in higher education. This era was part of Garrison’s (2011) expanded CoI research, suggesting social presence is linked to a trustful environment where online students can project themselves and communicate “purposefully” (p. 252) to learn. Studies focused on how learners developed relationships online and the importance of interactions within the online community to create a sense of virtual connectedness (Kehrwald, 2010; Oztok & Brett, 2011).

In his collective case study, Kehrwald (2010) concluded that there are various levels of social presence primarily based on learners' ability to project themselves within a group and the degree to which they are involved in the online environment. The study asserts that online social presence is expressive as learners engage with others, dynamic in that it changes throughout the course, and is cumulative building over time (Kehrwald, 2010). In addition, Shea et al. (2019) used a multi-institutional study to suggest a considerable link between a student's perceived social presence, instructional design, and instructor interactions. The researchers contend that course design and teacher presence using "directed facilitation of discourse" (Shea et al., 2019, p. 71) in the conduct of the instruction provided environments where students feel a higher social presence.

The third-era research contends that learner satisfaction is essential because it correlates with an increased perception of student success in the classroom, and when social presence is perceived, performance can improve while course retention increases (Lowenthal & Dunlap, 2020; Picciano, 2002). Lowenthal and Dunlap (2020) found in their mixed method exploratory case study that the identification of social presence is "more complicated than previously imagined" (p. 509), and they developed a modified set of indicators to help measure presence. Their study found that smaller group sizes and students with prior relationships tend to develop a higher social presence and that each student develops a social presence based on needs, and no one strategy for building a social presence suits every learner (Lowenthal & Dunlap, 2020).

Picciano (2002) examined the relationship between student performance and a sense of presence in an asynchronous online course using descriptive analysis of 23 graduate students. The study found a relationship between perceived performance based on students' "quality and quantity" (Picciano, 2002, p. 32) of online interactions and that more group interaction leads to higher scores. Picciano (2002) asserts that a student's social presence had little statistical

significance concerning examination scores but a more extensive statistical significance on written assignment grades.

The most recent SPT research implies that facilitating discourse in a productive and monitored fashion increases a learner's sense of community and social presence and can help students learn more effectively (Shea et al., 2019). In the study by Shea et al. (2019), students responded to a 42-item survey regarding their perceptions of teachers and their facilitation of discourse in the online classroom. The researchers found that a student's sense of social presence occurs more strongly when learners have an "opportunity for discussion that is actively and publicly facilitated" (Shea et al. 2019, p. 72), and students can integrate discourse and sharing of knowledge to improve learning.

Categories and Indicators

Third-era researchers also developed methods to "examine the development and course of social presence" (Hughes et al., 2007, p. 19) and concentrated on creating categories and secondary indicators to help identify social presence. Since research through the previous two eras solidified the definition of social presence, the third era focused on identifying the occurrence of social presence in the development of categories and indicators to aid researchers in analyzing and coding participant responses (Garrison et al., 1999). According to Garrison et al. (1999), a category is "the phase or aspect of each element" of social presence, and supporting indicators are the "occurrence of key words or phrases, or synonyms thereof" (p. 90). Throughout the third generation of SPT research, four primary research teams developed and refined the categories and indicators to identify social presence in the online environment. Garrison et al. (1999), Rourke et al. (1999), Swan (2002), and Hughes et al. (2007) all helped develop and refine social presence

categories and indicators to aid scholars in identifying and assessing when learners feel a social presence online (see Appendix A).

Garrison et al. (1999) were the first to analyze and develop categories and indicators based on computer conferencing responses generated in second-era research. Garrison et al. (1999) developed three categories; expression of emotion, open communication, and group cohesion, to categorize participant phrases in the coding process and help measure learners' online social presence. According to Garrison et al. (1999), expression of emotion is the "ability and confidence to express feelings related to the educational experience" (p. 103) and includes indicators of humor and self-disclosure. Expression of emotions assists learners in developing relationships virtually and decreases the social distance or lack of immediacy often found in online learning (Garrison et al., 1999).

The category of open communication describes a learner's ability to build relationships which are more difficult to develop when not face-to-face (Garrison et al., 1999). In Garrison et al.'s (1999) study, computer-mediated communication participants demonstrated open dialogue when they respectfully replied to each other's discussion board posts and referred to other students' information, fostering positive relationships (Garrison et al., 1999). Indicators of open communication include mutual awareness and recognition found when students compliment and encourage each other in the learning process (Garrison et al., 1999).

Garrison et al.'s (1999) third category in the identification of social presence is group cohesion, which is described as "activities that build and sustain a sense of group commitment" (p. 103). Their study found that learning in a computer-mediated communication environment can cause shallow dialogue, and through group cohesion, students can construct knowledge and engage in personal and contextualized relationships, enhancing social presence (Garrison et al., 1999).

Garrison et al. (1999) developed a nested indicator of encouraged collaboration, which included group participation and empathy, to help identify if a learner feels socially connected through group cohesion.

Shortly after Garrison et al. (1999) published their categories and indicators, Rourke et al. (1999) conducted further research to test the efficacy of their study and consequently “re-labeled” the categories “to reflect better the nature of the emergent indicators” (p. 56). Rourke et al. (1999) tested their refinement of categories and indicators utilizing online discussion board posts from two graduate-level computer conferencing courses. In their findings, Rourke et al. (1999) found that Garrison et al.’s (1999) categories and indicators sometimes failed to provide the ability to code varying levels of social presence found in computer-mediated communication forums and, in turn, modified them to provide more breadth and depth when coding participant data.

Rourke et al. (1999) changed Garrison et al.’s (1999) category of expression of emotion to affective responses because it was broader in scope. Simultaneously, the researchers moved the expression of emotion category down to an indicator under affective responses along with Garrison et al.’s (1999) two other indicators of humor and self-disclosure (Rourke et al., 1999). By renaming the category and adding the expression of emotion indicator, the researchers could determine that participants so infrequently used expressions of emotion and humor that it did not statistically help measure social presence (Rourke et al., 1999) and that further research may eliminate the two indicators altogether.

Rourke et al. (1999) also modified Garrison et al.’s (1999) open communication category label to interactive responses to capture the “socially meaningful interaction” (Rourke et al., 1999, p. 58) found in online forums. Indicators for interactive responses were changed from Garrison et al.’s (1999) model and included referring to others in the forum, asking questions, complimenting

or expressing appreciation, and expressing agreement (Rourke et al., 1999). Rourke et al. (1999) determined that interactive response indicators measure student social presence appropriately but “should be viewed on a continuum ranging from weak to strong levels of interaction” (p. 67).

Finally, Rourke et al. (1999) changed the label of Garrison et al.’s (1999) third category from group cohesion to cohesive responses and added indicators of phatics and salutations, vocatives, and group reference to add clarity to the meaning of the category. Their study determined that vocatives were the most prevalent in describing when students felt socially present in the online forum, and phatics and group references were less frequent in the transcripts and had less influence on when students engaged in activities that built a sense of community (Rourke et al., 1999).

Swan (2002) expanded research and examined the concept of immediacy using Rourke et al.’s (1999) categories and indicators and students’ perceptions of social presence in online courses compared to face-to-face classes. In her study, Swan (2002) used online discussion forums from 2001 graduate-level courses and found that previously developed categories and indicators used to determine social presence “were found to match quite well” (p. 36) with those indicators found in face-to-face courses. Her findings assert that as cohesive response indicators decreased, interactive indicators increased as courses progressed, and affective indicators remained constant throughout the course (Swan, 2002). As such, Swan (2002) added indicators and updated definitions of the three existing categories to help refine and identify the progression and changes in a learner’s social presence as they moved through the semester.

Concerning the affective category, Swan (2002) added an indicator titled “value” (p. 37) and separated Rourke et al.’s (1999) expression of emotion indicator into paralanguage and emotion indicators in addition to the existing indicators of humor and self-disclosure. Swan (2002)

defines paralanguage as “features of text outside formal syntax” and emotion as the “use of descriptive words that indicate feelings” (p. 37). Value is the expression of personal beliefs and attitudes, and similar to Rourke et al.’s descriptions, Swan (2002) defines humor through “teasing, cajoling, irony, sarcasm,” and self-disclosure by “sharing personal information, expressing vulnerability” (p. 37).

Additionally, Swan (2002) added personal advice to Rourke et al.’s (1999) interactive indicators and renamed the remaining ones. According to Swan (2002), personal advice occurs when students offer specific advice to each other in the online course, and approval is “offering praise and encouragement” (p. 38). Swan (2002) changed the referring to others indicator to acknowledgment and defined it as when students refer to each other’s conversation. Rourke et al.’s (1999) expressing agreement was expanded to agreement and disagreement in describing the dialogue between learners. The invitation indicator is synonymous with Rourke et al.’s (1999) indicator of asking questions or “otherwise inviting response” (Swan, 2002, p. 38), which is self-explanatory.

In the third category of cohesive response, Swan (2002) added two indicators, including social sharing and course reflection, to Rourke et al.’s (1999) framework. Social sharing is a student’s use of information unrelated to the class, and course reflection occurs if learners reflect “on the course itself” (Swan, 2002, p. 38). Swan (2002) left Rourke et al.’s (1999) term of group reference and vocatives unchanged but altered their phatics indicator name to greetings and salutations, which consisted of greetings and closures students used in the course.

Most recently, Hughes et al. (2007) replicated earlier studies to measure, validate, and ultimately amend findings to assess a learner’s sense of being in the online classroom. Initially, the researchers only sought to examine the expression of emotion in the affective response category

but expanded the scope to reproduce Rourke et al.'s (1999) entire study to ensure all relationships to social presence were examined (Hughes et al., 2007). The study included 460 undergraduate students engaged in online discussion boards and examined their sense of social presence using the categories and indicators developed primarily by Rourke et al. (1999).

During the coding process, Hughes et al. (2007) determined that affective category indicators led to the "doubling up of the codes" (p. 23). Because the codes supported more than one indicator in the affective category, Hughes et al. (2007) developed detailed criteria for indicators to assist coders in reducing ambiguity. Additionally, researchers added criteria to Rourke et al.'s (1999) model to help "coders identify the correct category and indicator to reduce potential uncertainty" (Hughes et al., 2007, p. 26) when examining the data. The researchers determined that some affective experiences in the self-disclosure indicator "included information about life outside the group" (Hughes et al., p. 23), which does not nest with affective tenets. To address the misalignment concerning participant references to life outside the context of the online classroom, Hughes et al. (2007) added an indicator to the cohesive category titled "embracing the group" (p. 25) to capture participant responses that described experiences not stemming from the online forum.

Hughes et al. (2007) also modified the interactive category because of identified limitations in coding software. Their study determined that referring to others' indicators had little meaning in the coding software; consequently, Hughes et al. (2007) removed Rourke et al.'s (1999) indicator altogether. Concerning the final cohesive category, the only change Hughes et al. (2007) made, in addition to adding examples for indicators, was the previously mentioned addition of embracing the group indicator, which allowed the researchers to capture the influences of participant experiences from outside the online classroom on a learner's social presence.

Categories and indicators permeate today's research community, specifically in analyzing social presence in asynchronous environments (Lowenthal & Dunlap, 2020; Richardson et al., 2017). Researchers use categories and indicators to measure social presence in online text-based discussions (Garrison et al., 1999; Hughes et al., 2007; Rourke et al., 1999; Swan, 2002) but not specifically in the synchronous aspects of online learning or the analysis of basic qualitative interviews. Lowenthal and Dunlap (2020) suggest some researchers are more concerned with measuring all three presences described in Garrison et al.'s (1999) model, which creates a void in social presence research in the online environment beyond just discussion boards. As such, this study examined Gen Z learners' online social presence preferences using the categories and indicators developed by third-era scholars in examining both asynchronous and synchronous learning environments.

Conceptual Framework

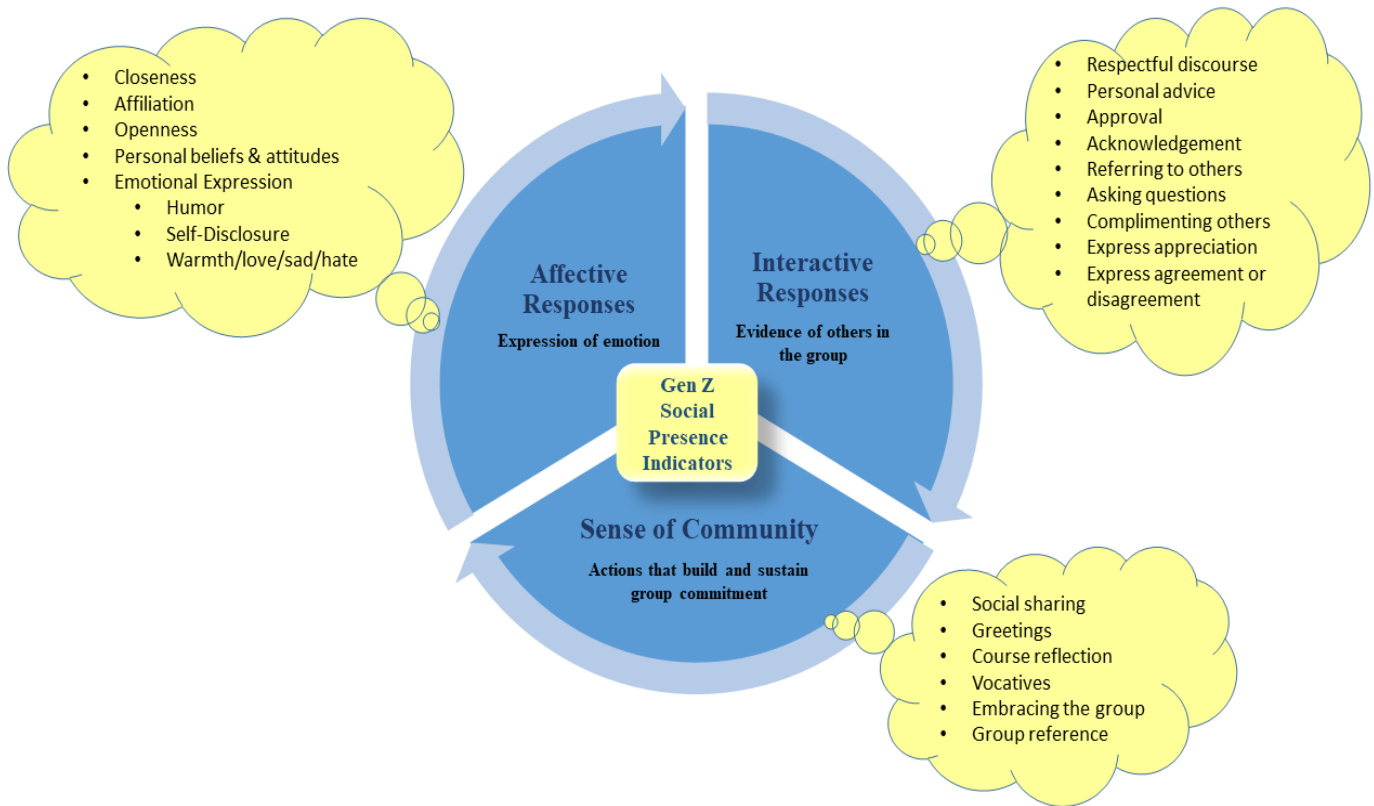
The conceptual framework for this research comprised three categories: affective responses, interactive responses, and sense of community, and the indicators associated with each category to help identify the social presence of Gen Z learners within the online community. The research purpose was to examine Gen Z learners' experiences using technology and their social presence preferences. The conceptual model in Figure 2 displays the specific categories and indicators the researcher used in identifying and assessing the participants' social presence when enrolled in online courses.

The affective response category, as defined by Garrison et al. (1999), is a learner's ability to express emotions related to the online experience and the first category the study used to gauge the participants' social presence in the online environment. Specifically, the category used indicators of closeness, affiliation, openness, expression of personal beliefs and attitudes,

emotional expressions of humor, self-disclosure, warmth, love, sadness, or hate to examine social presence (Hughes et al., 2007; Rourke et al., 1999; Swan, 2002). The next category of interactive responses demonstrates evidence of acknowledging others in the group and encompasses indicators consisting of respectful discourse, personal advice, approval, acknowledgment, reference to others, asking questions, complimenting, expression of appreciation, agreement, and disagreement (Hughes et al., 2007; Rourke et al., 1999; Swan, 2002). The final category, a sense of community, are actions that build and sustain group commitment (Garrison, 2019) and comprises indicators including social sharing, greetings, course reflection, vocatives, embracing the group, and group references (Hughes et al., 2007; Rourke et al., 1999; Swan, 2002). The conceptual framework depicting each category and subsequent indicators is outlined in Figure 2.

Figure 2

Social Presence Conceptual Framework



Note. The researcher developed this figure and incorporated categories and indicators to explore social presence from Garrison, D. R., Anderson, T., & Archer, W. (1999). Critical inquiry in a text-based environment: Computer conferencing in higher education. *Internet and Higher Education*, 2(2-3), 87-105; Hughes, M., Ventura, S., & Dando, M. (2007). Assessing social presence in online discussion groups: A replication study. *Innovations in Education and Teaching International*, 44(1), 17-29; Rourke, L., Anderson, T., Garrison, R. D., & Archer, W. (1999). Assessing social presence in asynchronous text-based computer conferencing. *Journal of Distance Education*, 14(2), 50-71; Swan, K. (2002). Building learning communities in online courses: The importance of interaction. *Education, Communication & Information* 2(1), 23-49.

Summary

Literature on generational, CoI, and social presence theories provided the theoretical lens to frame the study. Generational theory proposes that each cohort of learners is unique, and generations differ in their experiences based on technology, which can change how students feel connected in the online classroom (Seemiller & Grace, 2019; Strauss & Howe, 1991). Additionally, when generational experiences are analyzed through the lens of the CoI model, researchers can better understand the formal online learning environment and how learners develop a presence in the virtual classroom. When examining the unique cohort of Gen Z learners using the underpinnings of the CoI construct, SPT enabled the researcher to take advantage of categories and indicators that help identify and explain how students develop a social presence online.

In 2021, more than 85% of full-time undergraduate learners were Gen Z students, making them a prominent group for further examination (National Center for Education Statistics, 2022). The evolution of technology and the COVID-19 pandemic resulted in the explosion of online learning opportunities, necessitating adult educators to understand how Gen Z learners achieve social presence virtually because of its tie to learning satisfaction and performance. The progression of SPT suggests that technology is not the driving force behind a person's ability to feel socially present; instead, it is the relationships developed and the sense of community built during online instruction that facilitate an environment fostering a sense of connection (Jaber & Kennedy, 2017; Kehrwald, 2010). Gen Z students saturate online college courses across the country; prudence necessitates further studies like this to identify and more fully understand them as learners in the advanced technological age of today's academia (Rickes, 2016).

Chapter 3 - Methodology

This research explored how Generation Z students made meaning of their experiences growing up with technology and their current social presence preferences in formal online college courses. The study defined social presence as a learner's sense of belonging in the online community based upon the ability to feel part of a group within a trusting environment and building personal relationships to project a persona (Biocca et al., 2003; Garrison, 2011; Gunawardena & Zittle, 1997; Kehrwald, 2010). The definition of social presence drove the research to examine Gen Z online learners' social presence preferences based on the influence of technology while growing up.

Research Questions

Two primary and five sub-research questions guided this qualitative study:

1. How do Gen Z students make meaning of their technology experiences in developing a social presence in an online learning environment?
 - a) How do Gen Z participants describe their experiences with technologies in developing social presence during their primary through high school years?
 - b) How do Gen Z participants describe their experiences with technologies they use today in developing a social presence in online learning environments?
2. How do Gen Z students perceive social presence in an online learning environment?
 - a) How do Gen Z participants perceive others in a learning environment?
 - b) How do Gen Z participants express emotions in a learning environment?
 - c) How do Gen Z participants perceive belonging in a learning environment?

Constructivist Approach

The perspective used to guide the basic qualitative study was constructivism.

Constructivism is a research philosophy focusing on unique experiences and how individuals make sense of those experiences (Ackermann, 2001). As described by Rob and Rob (2018), in educational settings, learners' prior knowledge and experiences are often determined by their social and cultural environment, where they "construct" (p. 274) meaning out of their experiences. With the internet providing continuous social connectivity, Generation Z students' exposure to technology at an early age has impacted their view of the world (Seemiller & Grace, 2019; Twenge, 2006). Examining those experiences through constructivism allowed the researcher to study the generation's uniqueness, especially with regard to the online learning environment. Constructivism does not presume that learners construct knowledge the same throughout the generations, but rather, each learner is unique and makes meaning by assimilating or accommodating new information into existing frameworks (Ackermann, 2001).

Seemiller and Grace (2019) suggest that because Gen Z learners were exposed to technology early and consistently, their experiences and how they assimilate information differ from previous generations. As such, it calls to reason that Generation Z college students "make sense of the same reality in quite different ways" (Crotty, 2015, p. 47), resulting in unique social presence preferences when learning online. The constructivist paradigm in qualitative research is complementary to generational and social presence theories primarily because it supports the argument that people make meaning of their world differently based on their experiences (Ackermann, 2001; Seemiller & Grace, 2019). Because generations grow and learn differently based on changing environments, constructivism helps researchers examine how generations make sense of their reality (Ackermann, 2001) in developing a social presence.

Rationale for Qualitative Research Design

This study used a qualitative design, as described by Crotty (2015), which facilitated the researchers' view of information, enhancing the understanding of Gen Z experiences. Literature suggests that qualitative research was a logical design strategy because it expands the understanding of generational experiences and their relationship with social presence preferences (Creswell, 2012). Using a qualitative design allowed the researcher to hear rich and detailed participant experiences based on the research questions (Creswell & Creswell, 2018) that previous social presence quantitative studies failed to answer.

As illustrated by Sawyer and Norris (2013), qualitative research also permitted the researcher to gain deep and rich insights concerning participant experiences and “dialogically critique and question the meanings” (p. 2) of the data. Though previous quantitative studies explored the social presence preferences of online students (Yu & Canton, 2020), a qualitative gap in understanding Gen Z social presence preferences based on experiences with technology still exists. This research helped describe when Gen Z students feel socially connected online, which is important because when they feel present, their satisfaction will likely increase. More importantly, it allowed the researcher to hear students' experiences of using technology growing up and its significance on their sense of belonging in today's online classroom.

Basic Qualitative Methodology

Several types of qualitative designs enable researchers to study the meaning behind participant responses, including phenomenological, ethnographic, and grounded theory research (Bhattacharya, 2017). However, because of this study's purpose and conceptual and theoretical frameworks, the basic qualitative design allowed the researcher the most flexibility in understanding Gen Z's experiences. According to Merriam and Tisdell (2016), the education field

commonly uses the basic qualitative approach because there is not an “additional dimension” (p. 24) to the research, such as the examination of cultural influence on participants, which necessitates other methodologies.

Like other qualitative methodologies, basic qualitative designs help researchers understand participants’ explanations of their experiences, how they construct knowledge, and how they make meaning in their world (Merriam & Tisdell, 2016). The design permitted the researcher to purposefully select methods for collecting data to address research questions (Creswell & Creswell, 2018), including interviews and other participant-generated documents like concept mapping. Merriam and Tisdell (2016) assert that basic qualitative studies use interviews and other study documents to find immersed and vivid outcomes. Because this study focused on the experiences of Gen Z learners in constructing knowledge online and their social presence preferences, the basic qualitative method provided a well-suited research framework.

Population

The population for this research included Gen Zers, who comprised 85% of full-time undergraduate students in the U.S. in 2021 (National Center for Education Statistics, 2022). In selecting participants, the research considered females based on previous studies that indicated females and males are distinct when developing social presence. Specifically, Shea et al. (2019) determined a gender difference when they examined learners’ sense of community and found that men and women may approach how they develop connections differently in the online learning domain. Wempe (2022) also determined gender differences in her correlational cross-sectional study examining the social presence and media richness in the online learning environment. The researcher determined that females developed social presence differently than males, and facial cues and hearing voices were more important to them than they were to men (Wempe, 2022).

Because of the potential differences in how genders perceive social presence, this study focused on recruiting female participants.

In addition, candidates met three other study criteria: Gen Zers who were between 18 and 28 years of age, enrolled in an undergraduate online college course in the last 24 months with synchronous and asynchronous components, and had previously completed a face-to-face college course. Participants agreed to discuss their technology experiences and social presence preferences and consented to the researcher recording and reporting on their experiences. The identification of participants was determined using criterion-based sampling through the network selection process to ensure candidates met the study conditions. The participants' validation of study criteria was confirmed using the questionnaire in Appendix B.

Sample Selection and Recruitment

The researcher used convenience sampling, selecting the first participant who met the previously described criteria based on “convenience and availability” (Creswell & Creswell, 2018). DeMarrais (2014) asserts that researchers select the first participant based on personal contacts who meet the study selection criteria. In this study, the researcher used personal acquaintances to help recruit the initial participant, who was enrolled in a Midwest undergraduate program. The follow-on participants were determined using the “chain-referral” (Beauchemin & Gonzalez-Ferrer, 2011, p. 105) technique, also referred to as network selection or snowballing. The initial participant recommended further potential acquaintances who also met the research parameters for the study.

Creswell and Creswell (2018) assert that research sample sizes depend upon the type of study. However, in the case of basic qualitative study designs, saturation is recommended for determining the appropriate sample size (Charmaz & Belgrave, 2012; DiCicco-Bloom & Crabtree,

2006; Merriam & Tisdell, 2016; Saldaña, 2016). Saturation occurs when participant responses during the interviews begin to repeat themselves and is also identified during the coding process, where information from the data yields similar patterns, and no new themes emerge (Merriam & Tisdell, 2016; Saldaña, 2016). The researcher ultimately engaged 13 participants for the study, but one withdrew from the study after the initial interview for medical reasons. The remaining 12 participants contributed throughout the entire study. The researcher stopped interviewing the 12th participant because the responses became repetitive, and as proposed by Merriam and Tisdell (2016), the pre-coding process highlighted similar patterns.

Incentive for Participation

Compensation for research participants is standard practice, and Govender et al. (2019) advocate that it can help scholars elicit support for their studies. Incentives helped the researcher recruit a unique population, achieve a population size necessary for the study, and acknowledge each participant's time and effort (Bentley & Thacker, 2004; Govender et al., 2019). Based on the time commitment, this study offered a \$30 Starbucks or Amazon gift card as compensation for each participant who completed the study.

Pilot Study

Pilot studies help validate methodological designs and provide an opportunity for researchers to examine the effectiveness of each aspect of the study (Yin, 2018). Specifically, this research conducted a pilot study to validate the basic qualitative design process. Additionally, as Seidman (2019) reinforces, the pilot allowed the researcher to authenticate the interview questions, practice the interviewing process, ensure the concept map exercise achieved the study goals, and confirm that the interviews answered the research questions.

The researcher selected the pilot participant who met the demographics required by the study using personal contacts. The steps depicted in the interview protocol (Appendix C) guided the conduct of the initial interview, concept map exercise, and follow-up interview. After the pilot, the researcher examined the lessons learned and revised small elements of the study's administrative procedures.

The pilot confirmed the basic qualitative design, as well as the strength of the research questions and concept mapping exchanges, and no changes were made. However, the researcher implemented slight changes to the administrative actions in the study based on the pilot. First, the pilot participant was not able to sign the informed consent form using the DocuSign software the researcher planned. As a result, the researcher changed how informed consent was documented by asking participants to sign the consent form on paper and then sending a picture to the researcher using their smartphone. The pilot also highlighted the challenge participants had in sending a digital copy of the concept map to the researcher. Similar to the consent form, participants were allowed to send pictures from their smartphones if they were unable to upload a copy and send it to the researcher via email. Finally, at the conclusion of the pilot, when the researcher offered the participant a Starbucks gift card, the participant stated she did not drink coffee. Subsequently, the researcher offered her and other participants Amazon in lieu of Starbucks gift cards.

Protection of Human Subjects

Ethical considerations are crucial when conducting human research studies. Researchers must protect the well-being and identification of participants and ensure that data remains safe and secure. Moustakas (1994) writes that qualitative researchers are “guided by the ethical principles of research with human participants” (p. 109), and this study's design intentionally addressed

concerns of ethical principles. Specifically, the research adhered to ethical considerations by ensuring the following steps:

1. The research proposal received approval from the university research Institutional Review Board (IRB) (Appendix D).
2. The researcher received informed consent (Appendix E) from each research participant before the initial interviews.
3. The researcher provided amplifying information to each participant concerning the study's purpose, requirements, and expectations prior to initiating the first interview.
4. Participants were informed of their ability to withdraw from the study at any time and reassured of their protected identity through the researcher's use of pseudonyms.

Data Storage

As emphasized by Princeton University (n.d.), higher education strives to protect the identity of participants and the integrity of the data collected during studies. This researcher protected each participant's identity through pseudonyms and separated names from the informed consent forms. In addition, the researcher took the following steps to ensure that data collected during the research was protected and maintained under academic and IRB community standards:

1. Stored all physical documents and detachable media in a secure, locked desk drawer in the researcher's office.
2. Maintained and protected passwords on devices and programs that stored data.
3. Only the researcher's personal computer was used for research, which maintained a secure firewall, virus protection, and encryption to protect research data from theft.
4. Activated the lock-out function on computer screensavers and only used secure methods to transfer files from the researcher and the university.

5. Followed the university IRB data destruction guidelines.

Data Collection

Data collection for this research used a step-wise process, including an initial interview, concept mapping exercise, and follow-up interview for each participant. Merriam and Tisdell (2016) assert that data collection is focused on asking questions, watching participants express their ideas, and reviewing information as the data is collected. Three different interactions with the participants allowed the researcher to develop a rapport and gain a deeper understanding of the participants' use of technology and the development of online social presence.

Setting and Design

Because the study purpose and design explored online social presence, online interviewing via the Zoom video platform was the primary means to communicate with participants. Online technologies expanded the participant pool and helped reach populations otherwise unavailable (Merriam & Tisdell, 2016). The researcher verified the participants' ability to use the Zoom video platform through the pre-interview questions described in Appendix B.

The study lasted 20 weeks, as described in Appendix F, with each participant engaging for approximately three weeks, supporting the initial interview, concept map exercise, and follow-up interview requirements. The first interview utilized the interview questions outlined in Appendix C and focused on participant experiences using technology and their social presence preferences. Following the interview, the researcher explained the concept map exercise depicted in Appendix G, which occurred one to two weeks after the initial interview, based on the participants' availability. The researcher and participant met via Zoom to compare and contrast concept maps and discuss the content to help in member-checking the information from the initial interview. Finally, a follow-up interview allowed the researcher to ask probing and clarifying questions that

arose from the initial interview and concept map exercises. The follow-up interview primarily occurred during the third week of participation but no later than 20 days after the initial interview.

Semi-Structured Open-Ended Interviews

To study technology's influence and sense of connectedness in an online forum, semi-structured and in-depth, open-ended interviewing techniques helped to understand the participants' individual experiences and allowed them to provide detailed explanations (Bhattacharya, 2017; Charmaz & Belgrave, 2012; Turner, 2010). For example, by interviewing Gen Z students and asking them to describe their use of technology growing up, the researcher was able to explore online social presence in relation to their backgrounds. Similarly, Bhattacharya (2017) notes that interviews are the most common type of inquiry when conducting qualitative research. By interviewing students enrolled in online courses, the research explored trends in Gen Z students' social presence.

The interview method used in this study also allowed the researcher to develop a rapport to uncover a deeper meaning of participant responses. DeMarrais (2014) stresses that interviews in qualitative studies enable researchers to gather richer understandings and the ability to "construct as complete a picture as possible from the words and experiences of the participating" (p. 52). For the initial and follow-up interviews, the researcher utilized developmental and probing questions to expand the dialogue while simultaneously using participants' specific language to ask questions to avoid researcher bias (Roulston, 2018; Turner, 2010). The open-ended and probing questions permitted the researcher to connect how Gen Z participants made meaning of their experiences growing up with technology and their current social presence when learning online. Initial interviews lasted approximately 60 minutes. Before, during, and after the interview session, the

researcher reflected on interview observations, participant reactions, and other incidental observations that influenced the research through analytic memoing (Saldaña, 2016).

Concept Map Exercise

The researcher used concept maps to synthesize the information obtained during the initial interview concerning participants' technology experiences and their feelings of social presence in the online classroom. The maps also helped member-check the initial interview data and ensure that the researcher did not present "anything that is not accurate" (Seidman, 2019, p. 104). Concept mapping is tied closely to constructivism (Yelich Biniiecki & Conceicao, 2016) and naturally links to the study's theoretical framework, assisting the researcher and participants in sharing the meaning and understanding of the interview information. Novak (2010) asserts that concept maps help learners construct their knowledge and, in the case of this study, helped participants organize concepts and ideas identified during the initial interviews.

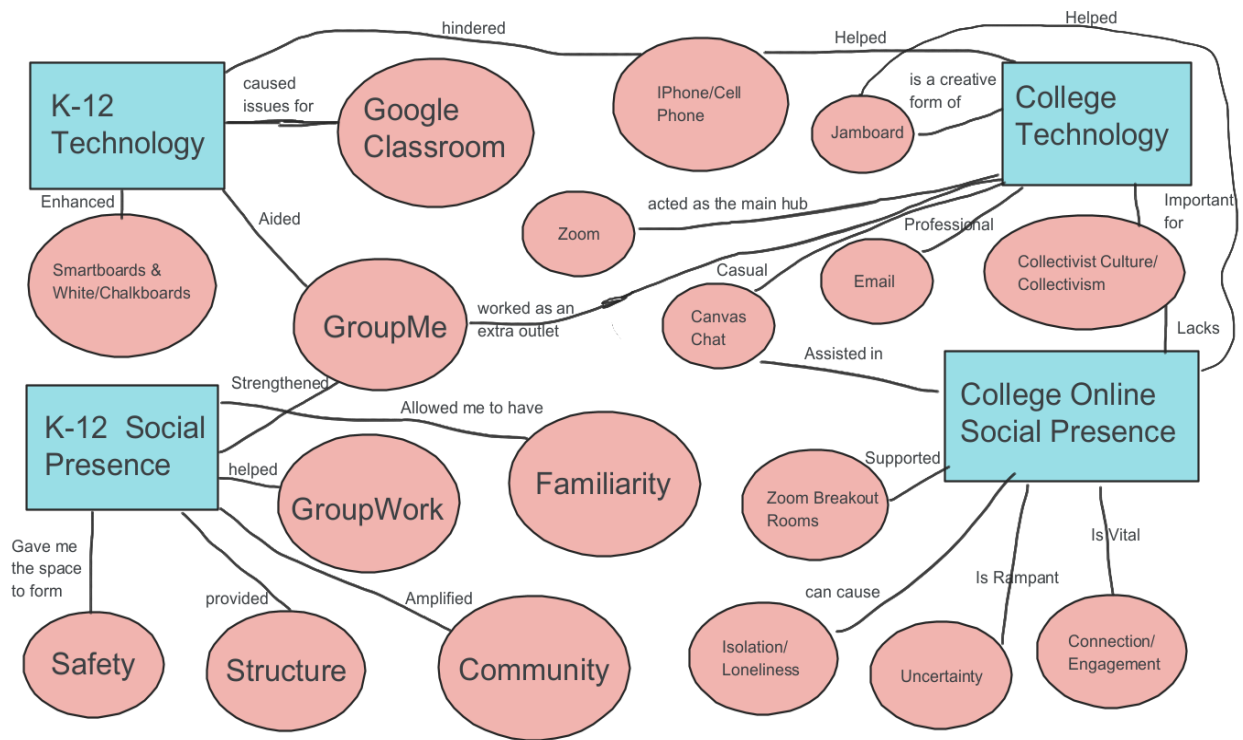
The researcher described the concept map process using slides in Appendix G after the initial interview and explained how to develop a concept map using the information shared during the interview. As recommended by Novak (2010), the study used a process that helped participants "create concept maps that can serve as a 'backbone' for a learner's" (p. 26) ability to reflect on their social presence preferences. Using the expert skeleton concept map process developed by Novak (2010), the researcher facilitated the understanding of the mapping process by providing a skeleton map based on the participants' feedback in the interview.

Additionally, the researcher developed a parking lot of concepts (Novak, 2010) from the participants' words used during the interview and demonstrated how to construct a concept map. Once participants felt confident in their abilities to develop their map, the researcher gave them one week to construct one of their own. The participants returned their concept maps, and the

researcher scheduled another Zoom session. During the follow-up sessions, the participants shared their concept maps and explained the development and details contained in the map. The concept maps provided a pictorial representation of participants' perceptions of social presence in the formal online learning environment and the influence of technology in developing the presence. The figure below is an example of Abbey's concept map and how she developed a visual representation from her interview.

Figure 3

Example Participant Concept Map



The researcher asked questions to clarify each participant's concept map. Then, the researcher asked questions to help member-check participant experiences and garner a complete understanding of technology and social presence, as recommended by Seidman (2019). The researcher made notes of any discrepancies based on the participants' feedback for use in the follow-up interview. The concept map assisted the researcher in omitting bias (Bhattacharya,

2017), assisted in triangulation, and used multiple data collection forms to increase trustworthiness (Creswell & Creswell, 2018). Finally, the researcher developed a written summary of the concept maps, as recommended by Saldaña (2016), to aid in the coding process by providing “words to articulate” (p. 57) and the analysis of the visual depictions.

Follow-Up Interviews

After the concept map session, the researcher compared all the sources of information for each participant and developed a list of questions based on inconsistencies, lack of clarity, or areas that required additional elaboration (Bhattacharya, 2017). The researcher scheduled another meeting with each participant. The final interview provided the researcher with amplifying information from the previous interactions and “corroborated information from other sources” (Yin, 2018, p. 115) based on previous research or other areas needing further inquiry. The initial and follow-up interview transcripts were provided to each participant for accuracy and member-checking purposes.

Data Alignment

Qualitative studies require researchers to design their methodology and data approaches to ensure cohesion and linkage between theory, design, and research and interview questions. According to Bhattacharya (2017), when researchers fail to link their interview questions back to the research questions, purpose, and theoretical frameworks, the scope of the study may become too broad. Even more problematic, data misalignment may lead to interview questions not fully addressing the overall research purpose and intent (Bhattacharya, 2017). When researchers develop interview questions using conceptual and theoretical frameworks directly linked to the research questions, they are more likely to achieve the results defined in the purpose statement of the study

(Merriam & Tisdell, 2016). Appendix H depicts the data alignment with the conceptual framework, research questions, and collection methods used for this study.

Data Management

Merriam and Tisdell (2016) propose three phases in the data management process, including preparation, identification, and manipulation of data, which assist researchers in framing and conducting their studies. Before the technology boom in the late 1990s, researchers' data management used manual methods to code data, including manually transcribing interviews, coding using paper copies of transcripts and highlighters, and storing documents in hard copy formats for analysis (Creswell & Creswell, 2018). However, based on technological advancements in research software, scholars today have many options for collecting, storing, and analyzing data for their studies.

Specifically, computer-assisted technology allows researchers to automate the “tedious aspect of qualitative analysis,” which frees time “to creatively observe the possible links and connections among the different aspects of the data” (Merriam & Tisdell, 2016, p. 223). Today, computer-assisted qualitative data analysis software (CAQDAS) is used by qualitative practitioners as a standard, allowing researchers to categorize and code data more thoroughly (Jackson & Bazeley, 2019). Most research agrees that CAQDAS does not do the researcher's work for them but instead supports a more efficient, secure, analytical, and accurate data management process (Jackson & Bazeley, 2019; Merriam & Tisdell, 2016; Saldaña, 2016).

NVivo

Though many CAQDAS technologies enable qualitative research, this study used the NVivo 14 software to support data management. In particular, NVivo assisted in managing data and ideas, querying and visualizing data, and supported the qualitative reporting from the data

(Jackson & Bazeley, 2019). Initial interviews, concept map exercises, and follow-up interviews uploaded into NVivo enabled the researcher to conduct pre-coding activities and validate the research tools.

Jackson and Bazeley (2019) also suggest that NVivo can assist qualitative researchers despite their chosen coding process, as it is adaptable to most coding techniques. In addition to helping researchers in “coding, writing, linking, adding demographics, searching for patterns” (Jackson & Bazeley, 2019, p. 4), NVivo displays the analysis from the coding process and assists in answering research questions with visual aids. The detailed coding process for this research is described later in the chapter.

Data Inventory

Managing data is critical in qualitative research, and predicting the volume of information from each data source is essential for time and expectation management. The three types of data mentioned earlier yielded various amounts of information, and Table 2 provides a summary of data collected during the study. The initial interview resulted in an average of 12 pages per participant for a total of 148 pages. The concept map yielded 12 pages, and the follow-up interview resulted in an average of five pages per participant, totaling 218 pages of data for analysis.

Table 2

Data and Analytic Management

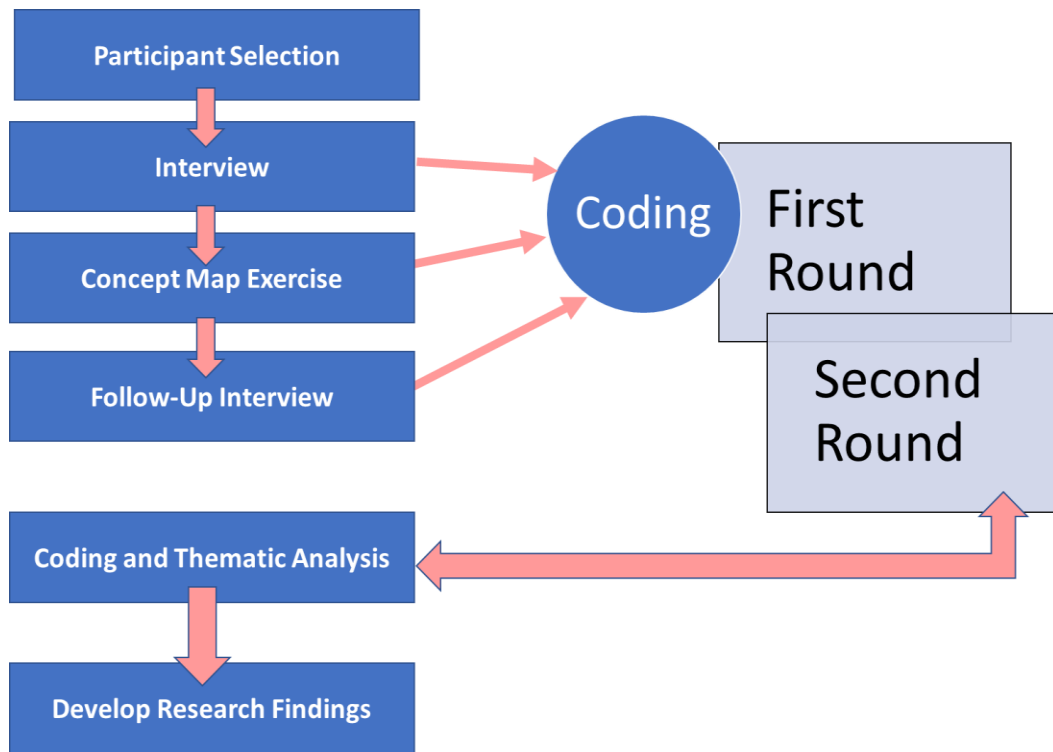
Data Source	Frequency	Approximate Pages per Event	Total Pages
Initial Interview	12	12	148
Concept Map	12	1	12
Follow Up Interview	12	5	58
Total			218

Data Analysis

According to Bhattacharya (2017), data analysis is where the researcher connects their conceptual and theoretical frameworks to achieve the research purpose and answer research questions. Data analysis is conducted throughout the research process and includes activities like analytic memoing and coding to make meaning of participant feedback (Merriam & Tisdell, 2016). Analytic memoing and coding are described later in this chapter. Creswell and Creswell (2018) contend that regardless of the type of qualitative study, the data analysis process is similar and should use sequential steps, including organizing data, reviewing data, coding, generating themes, and interpreting the themes' meaning to answer the research questions. Merriam and Tisdell's (2016) data analysis focuses on developing codes, turning codes into categories, and using the categories to determine the themes to help answer the research questions. Saldaña (2016) further describes the coding process and contends that codes and themes are developed through data analysis in a "cyclical" (p. 9) manner and ultimately help make meaning of the data to answer research questions. This study primarily used Merriam and Tisdell (2016) and Saldaña's (2016) data analysis process, shown in Figure 4.

Figure 4

Data Collection and Analysis Process



Research data for this study was generated from initial interviews, concept mapping, and follow-up interviews. Hayes (2014) proposes that interviews are the most comprehensive and critical documents in data analysis. This research used two interviews for each participant, generating various descriptions from Gen Z online learners. Additionally, the concept maps provided a visual perspective and allowed member-checking between participants and the researcher. A summary of the concept maps written by the researcher and complemented the graphic documents.

All interviews were transcribed using Zoom and Microsoft transcription technology. Additionally, the researcher reviewed and edited the transcripts using the recorded Zoom videos to ensure accuracy and context. The concept maps from the participant and researcher, along with the researcher summaries, did not need transcription and acted as independent documents for the

study. The researcher sent copies of the interview transcripts and concept map summaries to each participant to member-check and validate the exactness of responses. All the documents were uploaded into NVivo and incorporated into the various cycles of coding described below.

Cycles of Coding

Coding enables researchers to make meaning of their data, and Saldaña (2016) emphasizes that it can be “a word or short phrase that symbolically assigns a summative, salient, essence-capturing” (p. 4) characteristic. Qualitative researchers can use inductive and deductive approaches to coding. Inductive analysis at the beginning of the coding process encourages researchers to determine codes based purely on the data rather than applying codes based on pre-existing research or ideas as used in deductive coding (Bhattacharya, 2017; Merriam & Tisdell, 2016; Saldaña, 2016). Because of the limited qualitative research on Gen Z’s online social presence and the basic qualitative design, this research used the inductive analysis strategy.

The analysis of data included a combination of practices described by Saldaña (2016) and Merriam and Tisdell (2016), all the while incorporating NVivo software, as recommended by Jackson and Bazeley (2019). The three phases of data analysis included data preparation, the first cycle of coding, and the second cycle of coding, which established “how the researcher is making connections between codes, categories, and themes” (Bhattacharya, 2017, p. 152) to answer the research questions. The phases of data analysis combined data from the interviews and concept map exercises to understand the technology experiences of Gen Z learners and their influence on social presence.

Data Preparation Phase

Data preparation is where the researcher organizes information to prepare vast amounts of material for the coding process (Merriam & Tisdell, 2016). Data preparation included transcribing

the initial and follow-on interviews and uploading all the data, including the concept maps, into the NVivo software. During the transcription process, the researcher formatted the text and divided the data into topics or, as the conversations changed in nature, to aid in understanding the meaning of the text (Saldaña, 2016). Additionally, during data preparation, pre-coding assisted the researcher in developing possible links among the data (Merriam & Tisdell, 2016). As suggested by Saldaña (2016), the researcher developed phrases or ideas in the form of analytic memoing stemming from the initial analysis of reading through the data, which assisted in processing the data in the first round of coding.

First Coding Cycle

The initial coding phase is called first cycle coding by Saldaña (2016) and data identification by Merriam and Tisdell (2016). However, despite the different names, both focus on developing preliminary codes from the data. During the first round of coding, the researcher used the previously mentioned inductive coding process and what Saldaña (2016) referred to as initial coding and developed short descriptors to annotate and compare similarities and differences within the data. Merriam and Tisdell use a different phrase for the same concept, called open coding. Nevertheless, it remains consistent with the inductive analysis approach as the researcher considered the text with no preconceived notions and allowed the data and conceptual framework to drive the code development (Merriam & Tisdell, 2016). Similarly, Jackson and Bazeley (2019) suggest researchers use codes, referred to as nodes in NVivo, to tag data for further exploration.

During the first coding cycle, the researcher developed 207 codes from the interview transcripts. Figure 5 shows an excerpt of the codes developed using the NVivo software. Participant concept maps helped the researcher link the codes and interview passages in preparation for the second coding cycle. The “researcher’s careful scrutiny of and reflection”

(Saldaña, 2016, p. 57) of the concept map images helped validate code titles. Also, during this cycle of coding, the researcher achieved data saturation as the participants' responses began to show repetitiveness (Merriam & Tisdell, 2016) after the 12th participant.

Figure 5

Excerpt of Initial Codes in NVivo

Name	Files	References
Academic success	6	8
Adaptation	3	3
Adulthood	24	922
AI	1	1
Appreciation	9	11
Asynchronous communication	3	3
Challenges	3	6
Change	8	17
Clarification	6	6
Commitment	8	13
Communication barriers	7	12
Communication to transition	3	3
Competition	7	10
Connection	21	141
Convenience	10	20
COVID	11	27
COVID limited interaction	5	10
Desire for connection	8	15
Desire for synchronous engagements	11	25
Difficulty adjusting	2	2

After the first coding cycle is complete, research recommends that a transition occurs before starting the second coding round (Saldaña, 2016). During the transition period, the researcher used techniques Saldaña (2016) refers to as code mapping by reorganizing and consolidating codes to make sense of the data, consolidating potentially disconnected codes into categories, and developing initial themes of the information. Additionally, as Saldaña (2016) recommends, the researcher aligned research questions and the first round of coding with the study

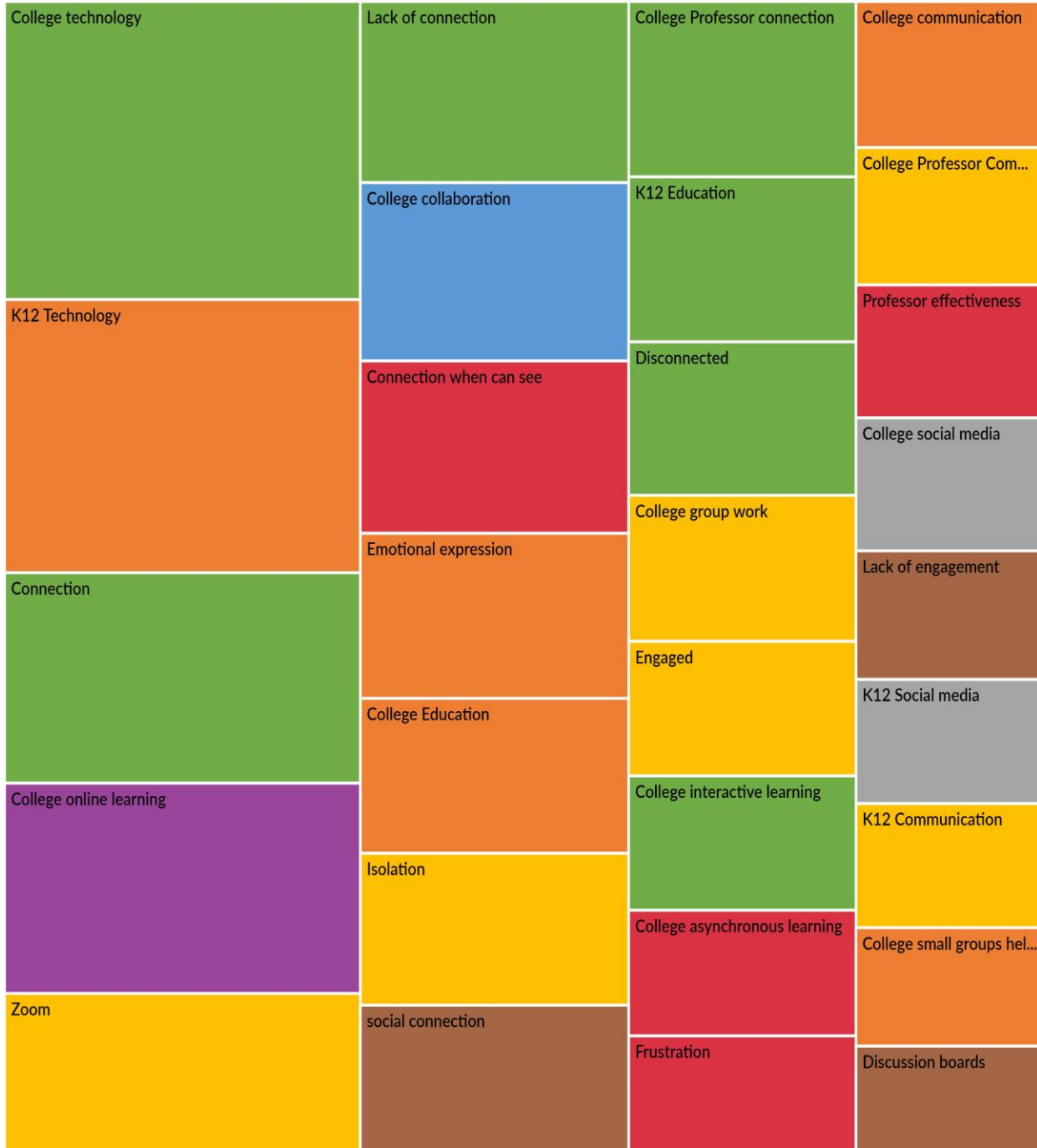
epistemologies to tie research questions with interview results. In the transition period, the researcher further organized the 207 codes into 113 by collapsing 30 codes and developing 64 child codes to align the data more succinctly.

Additionally, after the first round of coding, the researcher used peer debriefing to confirm the dependability of the first set of codes. According to Ary et al. (2019), peer coding is the process where qualitative researchers add credibility to their coding process, and “colleagues...are provided with the raw data along with the researcher’s interpretations” to ensure the codes are “reasonable given the evidence” (p. 443) from the transcripts. The researcher provided a peer with a Ph.D. in Adult Learning and Leadership with the first round of codes for Abbey’s transcripts. The colleague reinforced the researcher’s initial codes and stated, “You have identified excellent descriptors for codes that seem to resonate with the content of the material throughout the interview process” (T. Shoffner, personal communication, October 31, 2023).

During the transition from the first to the second coding cycle, the researcher also utilized the NVivo capabilities to highlight trends and word use throughout the data. For example, NVivo word frequency and tree maps assisted the researcher in lumping data, which, as described by Saldaña (2016), helps visualize the “essence of categorizing” (p. 24) the experiences of Gen Z learners. The results from the NVivo hierarchy chart shown in Figure 6 assisted the researcher in developing initial hierarchies aiding in the organization of data, providing meaning to the nodes (codes), and beginning to identify relationships within the nodes (Jackson & Bazeley, 2019; Merriam& Tisdell, 2016).

Figure 6

Initial Code Hierarchy Chart



Second Coding Cycle

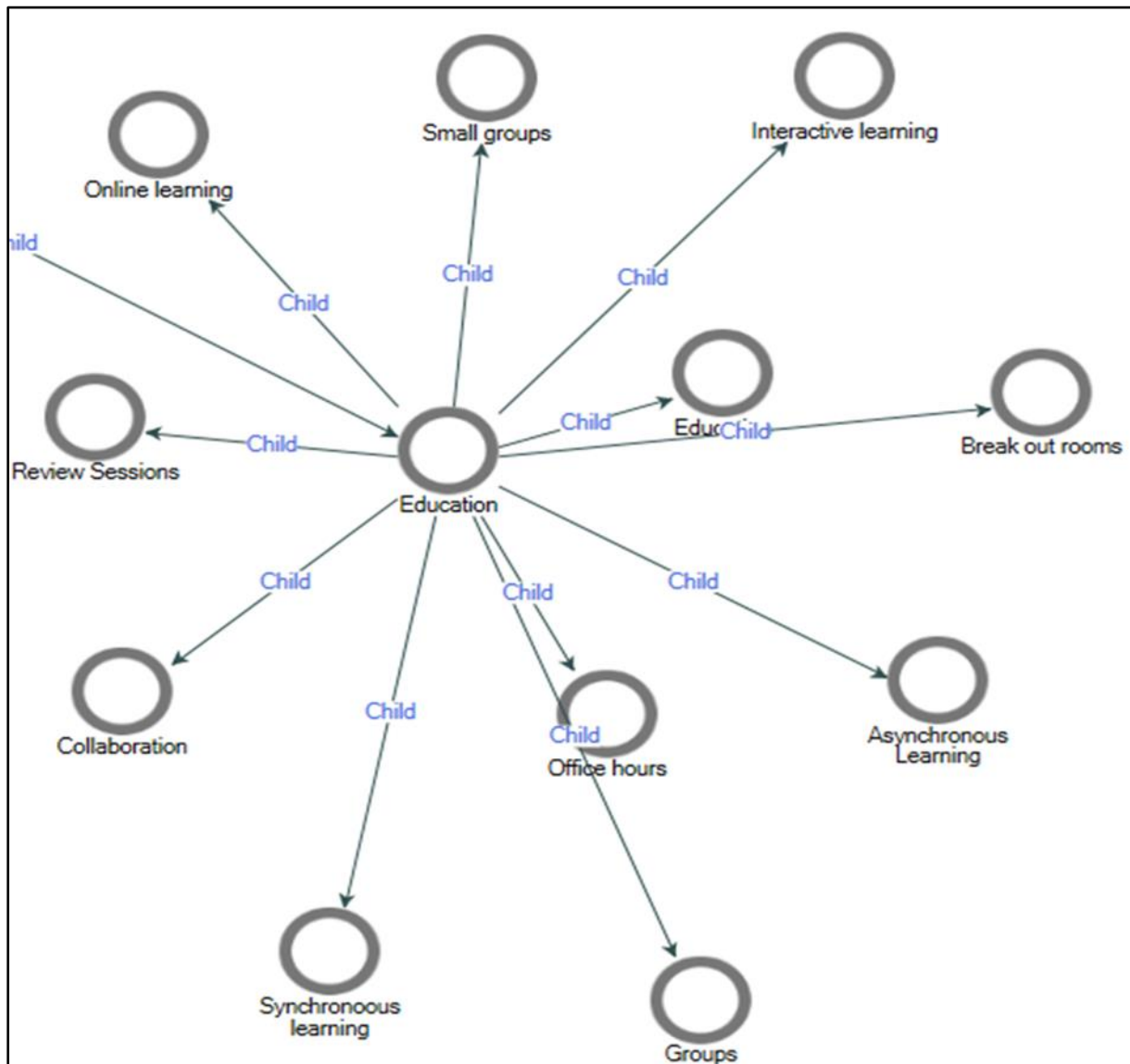
The second coding cycle strives to become more theoretical, analyzes the various themes and categories from the first coding cycle, and attempts to answer the research questions (Merriam

& Tisdell, 2016). The researcher used focused coding, as Saldaña (2016) suggests, where data was grouped into categories or hierarchies to develop themes. During the second cycle, the 113 codes from the transition period were further consolidated into 40 primary codes. The researcher used the 40 codes and created hierarchies and themes to answer the two research questions (Jackson & Bazeley, 2019; Merriam & Tisdell, 2016).

NVivo continued to assist during the second cycle of coding by allowing the researcher to develop subordinate nodes to synthesize the data more clearly and build associations (Jackson & Bazeley, 2019). Additionally, the software helped create customized reports and charts for study findings using the matrix and crosstab queries, allowing the researcher to explain and graphically depict results from the data as appropriate (Jackson & Bazeley, 2019). Figure 7 shows the NVivo project map the researcher used to help develop themes from the 40 primary codes identified in the second cycle of coding.

Figure 7

NVivo Map from the Second Cycle of Coding



As Merriam and Tisdell (2016) advise, the researcher reduced the 40 coding categories into seven themes and 10 sub-themes to draw inferences during this coding cycle. The researcher used the conceptual framework described in Chapter 2, primarily using categories and indicators in the development of themes and sub-themes. The indicators helped the researcher divide the 40 codes into the three conceptual framework categories, further solidifying participants' sense of social presence. From the themes, the researcher reverted to the research questions and developed a

“trinity” recommended by Saldaña (2016, p. 275) to bin the principal codes in a triangle, which helped develop study findings.

Analytic Memoing

Analytic memoing, sometimes also referred to as journaling, was used throughout data analysis and specifically during the coding process to help make meaning of the participant experiences. Memoing was completed after each contact with research participants, throughout the interview transcription process, and during both cycles of coding, where the researcher reflected on data and the relationship to the conceptual framework (Saldana, 2016). Merriam and Tisdell (2016) recommend memoing to help keep “a running record” of the researcher’s “interaction with the data” (p. 253), which ultimately helped facilitate the development of the study themes. The connections between the previously mentioned 40 coding categories and subsequent themes and sub-themes were developed in part using the researcher’s analytic memos. The themes, however, reached their full maturity when the researcher connected the data as described below.

Connecting the Data

Data representation manifested itself through “descriptions and themes” and was depicted in the form of “detailed descriptions” (Creswell & Creswell, 2018, p. 203) of participant experiences. In addition, for the research to present the participant technology and social presence experiences wholly and accurately, and as contended by Merriam and Tisdell (2016), the researcher presented narrative extracts from the interviews to make inferences from the data. Specifically, using the themes derived during the coding process, the researcher linked the “conceptual elements” (Merriam & Tisdell, 2016, p. 216) to answer the two research questions. Finally, to ensure the data was transparent and untainted by NVivo charts, symbols, or other visual

representations, this study presents data in narrative summaries using direct quotations and shared experiences amongst the participants.

Trustworthiness

The study's creditability and trustworthiness were gauged using eight criteria that Tracy (2010) recommends for increasing research quality. Specifically, Tracy (2010) contends that by adhering to the following eight principles, researchers will yield trustworthy results: worthy topic, use of rigor, the researcher is sincere, research is credible, resonance stems from research, study results in significant contributions, research is ethical, and meaningful coherence stems from research.

The social presence of Gen Z learners is a worthy topic because of the generation's prominent role in the online classroom. Little research explores the current social presence of generations and none of Gen Z students. Because of the correlation between social presence and online retention and learning effectiveness, the topic is worthy and of interest to academia along with other communities that interact with Gen Zers online.

The use of theoretical and conceptual frameworks discussed in Chapters 2 and 3 demonstrates the rigor of the research. Specifically, the intertwining of generational, CoI, and social presence theories showed that the researcher obtained "a head full of theories," as described by Tracy (2010, p. 841), to address the topic complexities. The rigor of the research is distinct through interview protocols, data saturation, and numerous levels of coding previously mentioned.

Tracy's (2010) notion of sincerity in research is demonstrated through self-reflexivity and transparency, and it reveals the researcher's true nature and openness during the study. Chapter 1 underpins how the researcher was open and honest by describing subjectivities and bias, which provided the lens for how the study was approached. Additionally, transparency was prevalent

throughout the documentation of research findings, describing all the decisions and activities used during the research process.

Tracy (2010) suggests that study credibility is achieved through thick descriptions, triangulation, and member-checking, all of which were incorporated into this research design. As discussed during the coding and data analysis process, the researcher's strategy used detailed descriptions from the interviews to confirm trustworthiness. Triangulation occurred when the researcher used interviews and concept maps to "build coherent justification for themes" and data analysis (Creswell & Creswell, 2018, p. 200). Finally, member-checking added to the study's credibility, which occurred during the concept mapping exercise and when the researcher provided interview transcripts to participants to verify accuracy.

Resonance is a researcher's ability to "promote empathy, identification, and reverberations" of study findings (Tracy, 2010, p. 844). The study used data transcripts to convey clear and comprehensive meanings of participant experiences and their sense of belonging in the online classroom. The study's findings describe Gen Z experiences holistically and provide value to other fields outside academia, including business and social communities.

The study significantly contributes to the field of education because it extends the body of knowledge for Gen Z experiences using technology and the influence of those experiences in developing a social presence in the formal online classroom. Because little research explores generations and their social presence, this study's results strive to "move people to further explore" (Tracy, 2010, p. 846) how Gen Z learners differ from previous generations and what academia must consider when teaching the cohort.

This research was guided by ethical foundations throughout all phases of the study, as described earlier in this chapter. Tracy (2010) asserts that by submitting research proposals

through an Institutional Review Board, as in this study, researchers follow procedural guidelines that adhere to ethical principles. To acknowledge potential situational ethics, the researcher reflected after each interaction with participants, focusing on the research protocols and ensuring no harm came to participants. Finally, the researcher watched all recorded Zoom sessions after each interview, looked at potential relational ethics, and ensured dignity and respect were maintained throughout the engagements (Tracy, 2010).

Meaningful coherence is when studies achieve their purpose, use theory to ground their research findings, and weave literature through all aspects of the study (Tracy, 2010). This research accomplished coherence and rigor by entwining “research design, data collection, and analysis” (Tracy, 2010, p. 848). The research purpose was developed based on gaps in current literature and the research questions using social presence theory as a framework to fill those gaps. The study achieved its purpose based on the meaningful coherence of the study design, the conceptual framework, and the trustworthiness of the research.

Summary

This chapter described how the researcher explored the social presence of online Gen Z learners and their experiences with technology. Through the basic qualitative design methodology and primary data collection methods using interviews and concept mapping, the research developed seven themes and 10 sub-themes. The themes and sub-themes derived from the conceptual framework helped share the experiences concerning this generation’s sense of belonging when participating in formal online classes. The inductive data analysis process demonstrated the study’s scholarly approach to answering the research questions. The study’s trustworthiness was solidified using Tracy’s (2010) eight characteristics required in effective qualitative research, demonstrating the research’s value.

Chapter 4 - Findings

Introduction

This chapter shares findings from the basic qualitative research using participants' words and descriptions of social presence during the interview and concept map conversations. The purpose of the study was to explore how female Gen Z students make meaning of their experiences growing up with technology and their current social presence preferences in formal online courses. The findings are framed using the conceptual framework categories outlined in Chapter 2, including affective and interactive responses and a sense of community. NVivo coding software helped determine research findings and answer the two primary and five sub-research questions addressing Gen Z's online experiences with technology and their social presence.

After depicting participant demographics, the chapter will explain the themes developed from data analysis using the conceptual framework. Seven themes emerged from the analysis process, of which five directly helped answer the research questions. Among the five applicable themes, 10 sub-themes helped further describe the Gen Z social presence preferences. All seven themes and sub-themes are reviewed in this chapter, and a holistic perspective of participant experiences is provided using interviews and concept map extracts.

Participant Overview

Based on data saturation goals outlined in the previous chapter, the number of participants for the study included 12 female participants. All participants attended an accredited college degree program and were between the ages of 18 and 23, with two under 21 and 10 being 21 or older. Six participants attended Midwest colleges, five in the Northeast, and one in the Southeast United States. One participant was a freshman in college, two were sophomores, four were juniors, and five were seniors. Each participant was enrolled in an online college course within the last 24

months and was able to share their experiences with technology and online social presence. Table 3 outlines participant pseudonyms and the demographics of each.

Table 3

Participant Demographics

Participant Pseudonym	Age	School Location	Year in College
Abbey	21	Northeast	Junior
Alicia	20	Southeast	Sophomore
Ella	22	Midwest	Junior
Emilia	23	Northeast	Sophomore
Jackie	21	Midwest	Junior
Maya	21	Midwest	Senior
Penelope	21	Midwest	Senior
Rachelle	23	Northeast	Senior
Sadie	22	Midwest	Senior
Scarlet	18	Northeast	Freshman
Skye	23	Northeast	Junior
Sterling	21	Midwest	Senior

Participants completed an initial interview, concept map exercise, and follow-up interview for a combination of 24 separate interviews and 12 concept maps. Data analysis of the interview transcripts used the conceptual framework to guide the coding process and the development of themes. Specifically, the 20 indicators nested within the three framework categories, as described in Chapter 2, helped link participant experiences to a specific category in the conceptual framework, suggesting a social presence.

Themes

Seven themes emerged from the data analysis described in Chapter 3 and include: technology helped participants develop a social presence at a young age, technology continues to enhance participant social presence, online synchronous engagement facilitates social presence, feedback is vital for online social presence, small groups increase participant sense of belonging, participants prefer in-person versus online learning, and COVID-19 impacted how and when

participants integrated technology and online learning. Ten sub-themes expand each theme's depth in further describing the participants' social presence. However, two of the seven themes identified during data analysis were not directly tied to the research questions but emerged nonetheless during the coding process. They are worthy of discussion because of the relationships between Gen Z participants' technology experiences and social presence. The two themes include preferences for in-person college courses over online options and COVID-19's quarantine mandate that moved learning online, which impacted how the participants' integrated technology into their learning environments.

Technology Helped Gen Z Participants Develop a Social Presence at a Young Age

The first theme that emerged from data analysis is that technology helped the participants develop a virtual social presence in their formative years. Handheld technology, social media applications, and familiarity with technology in their middle to late teen years are three sub-themes that portray the importance of technology early in participants' lives in developing a virtual social presence. Participants reflected on the introduction of technology prior to high school during their interviews, reinforcing the importance of technology and social presence during their youth.

All three conceptual framework categories were prevalent in the development of this theme. Specifically, the sense of community and affective response category indicators appeared from the data in developing the sub-theme of handheld phones and the constant and long-distance communications they allowed the participants to have. In the second sub-theme, social presence indicators from all three conceptual framework categories were shown during the coding process. The final sub-theme was developed using indicators from the sense of community and interactive

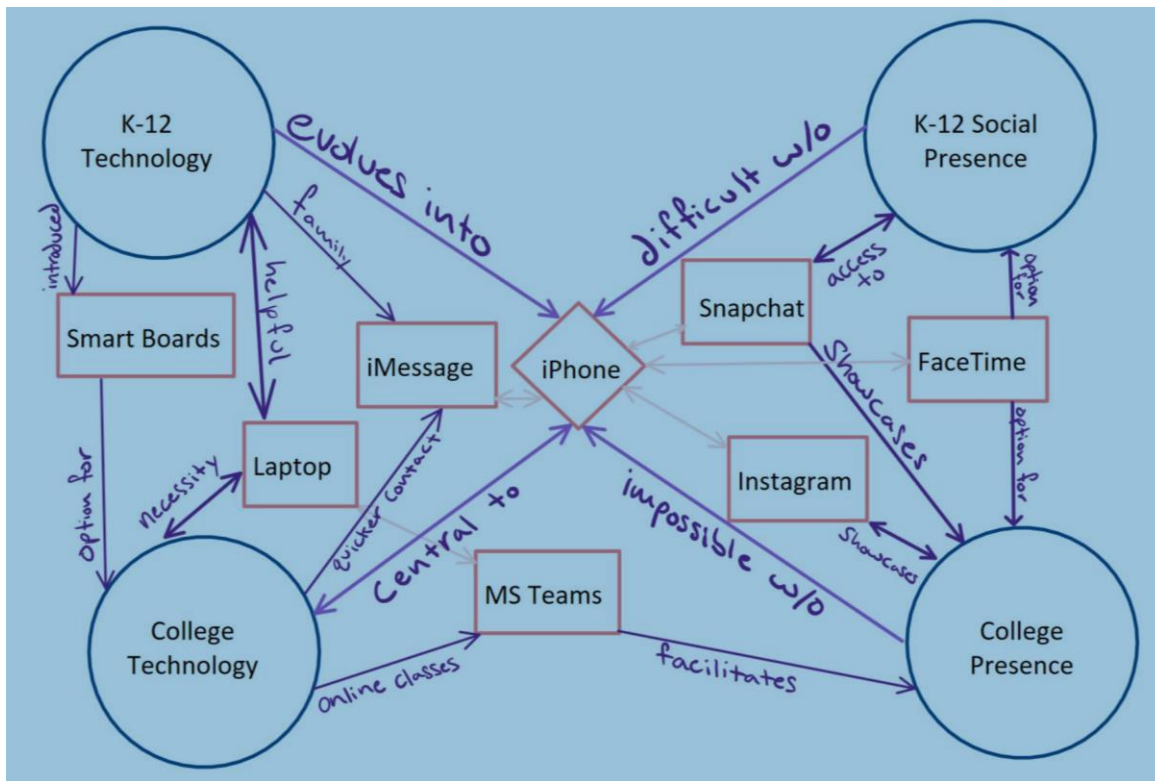
responses of the conceptual framework. Examples of the conceptual framework indicators are described below using extracts from the participant interviews.

Hand-Held Phones Allowed for Constant and Long-Distance Communications

The first sub-theme reinforces the importance of technology at a young age and describes how all 12 participants had hand-held phones sometime between elementary and high school. This technology allowed for constant and long-distance communications at a young age, fostering a virtual sense of connection for the participants. The participants' interview transcripts highlighted indicators of social sharing in the sense of community category and closeness, openness, and emotional expression in the affective response group within the conceptual framework. Participants highlighted the importance of hand-held phones in their youth in building and maintaining relationships with family and friends. Nine of the 12 participant concept maps depicted a hand-help phone nested under K-12 technology or social presence, showing the importance of the technology in their early years. Texting, calling, and using FaceTime technology on mobile phones helped participants keep connections in order to build a sense of presence even when they were not physically located with their family and friends. Alicia's concept map in Figure 8 depicts an iPhone, texting [iMessage], FaceTime, and other social media applications in connection to her social presence.

Figure 8

Alicia's Concept Map



Skye was the oldest participant in the study, and her parents gave her a “flip phone, the little Nokia when [she] was in high school...I didn’t mind it; I just thought, as long as I can, like communicate with my friends.” She went on to share that despite the low-tech option given to her, it still helped her “feel connected in that I was like, well, I don’t have an iPhone like they do, but thank God, I can still text them and keep in contact with them.” The conceptual framework indicators of social sharing and closeness depict Skye’s social presence. Jackie emphasized her use of a hand-held phone and social presence through the conceptual framework indicator of closeness when she stated that during middle school, her iPhone helped her “connect to my peers and my teachers so I could FaceTime or call or text my parents and friends” in order to communicate and foster relationships.

Similarly, Rachel got her first hand-held phone in sixth grade. It is evident she maintained her sense of connection via the social sharing indicator when she communicated, “There was no social media or anything at that time. It was just texting or calling...that’s how I mainly talked to my friends throughout all of middle school” and told them “what was happening.” Alicia acknowledged, “I think I got my...smartphone when I was like 10 or 11. And that definitely helps stay connected with family because my mom could, like, know where I’m at...I would be like in on family updates and stuff like that.” Indicators of social sharing, openness, and closeness within the conceptual framework highlight Alicia’s social presence. Ella recalled the introduction of hand-held phones in her life not only on her concept map but also when she commented in her initial interview that she received her hand-held “phone when I was in third grade...I would text other people in my class a lot.” The examples help frame the impact hand-help phones had on the participants’ lives as well as their ability to use them to develop connections with family and friends beginning at an early age.

Social Media Facilitated Relationships with Family and Friends

The hand-held phone also acted as a platform to host social media technology, which helped further relationships with family and friends for all the participants. This sub-theme found social presence indicators of social sharing in the sense of community, closeness, openness, and personal beliefs and attitudes from affective responses and approval in interactive responses within the conceptual framework. Passages listed below from the participant interviews highlight some of the social presence indicators.

Using social media applications, including Snapchat, Instagram, and Facebook, participants highlighted at least one example during their interviews or concept map exercise where they used the technology to develop and maintain their social presence beginning as early as third grade. Ten

participant concept maps have at least one social media platform annotated under the K-12 technology and social presence contributors. Ella started using Facebook when she was 10 years old and showed the connection to social presence through indicators of social sharing and closeness when she commented, “And I had Facebook when I was 10...and then my friends would comment on the post and stuff like that. So that’s how we would keep in touch.” Penelope’s sense of belonging through the social sharing and openness indicators was also evident when she asserted, “When I started to FaceTime...talk to my grandparents and my aunts and uncles, which is oh, it’s good to check up on them.” She was able to stay connected despite their physical separation. Scarlet highlighted social media and its relationship to her sense of belonging and the social sharing and approval indicators when she used Facebook, Snapchat, and Instagram to

See what people are doing. I know a lot of people’s Instagram are like curated to look perfect. But it is nice because you can like see where they’re at or see who they’re hanging out with, you know, check in on them through there too.

Connections with family and friends were the foundations of why the participants used social media, resulting in a technology-generated social presence. Sterling shared, “As I got older, social media was huge for me staying in touch with extended family. Instagram was probably the biggest one for me.” When she used social media beginning in seventh grade, she got a “glimpse into what...[my]cousins are doing,” and it fostered relationships and allowed her to “stay in touch.” The indicators of social sharing and closeness helped detect Sterling’s feeling of connection. Social media also helped Maya with her sense of belonging, and she believes that using “Facebook and Instagram” on her iPad helped her stay connected with friends.

Technology in Middle/High School Helped Create Familiarity and Fusion in Developing a Social Presence

The final sub-theme describes how technology experiences in middle and high school helped create familiarity and develop an online social presence for participants. Social presence in middle and high school was identified during the coding process using course reflection and group reference indicators in sense of community and asking questions and acknowledgment in interactive response elements within the conceptual framework. All 12 participants highlighted and shared stories where familiarity with technology in secondary school intuitively helped them develop a sense of belonging with their classmates and teachers. The introduction of technology in the school setting forced the participants to learn how to integrate technology into both their social and academic lives to further their relationships.

The introduction of school technology for Abbey began in junior high, and she recalled how her teachers began using technology in the classroom for students to ask questions and acknowledge each other when she asserted,

And then...we use[d]...those eggs...it's like this device that connects to the smartboard and, like you, press your answer...and you know you put your name in. You're registered to the board, and then you do an exercise where the whole class... ask questions and take a quiz together.

The egg introduced her to new technology, which allowed her to foster connections with her classmates and teachers when she used it to answer questions. The indicators of group reference, asking questions, and acknowledgment in the conceptual framework demonstrate Abbey's social presence. Maya also remembered how her high school used technology to deliver instruction, and the familiarity allowed her to develop a social presence by interacting with

teachers online. The conceptual framework indicator of acknowledgment helped show her social presence when she commented, “My high school actually had iPads that we used...everything was done through Canvas, so all of our assignments were online” and that she had to communicate with her teachers “either through Canvas or Skyward” when she was not in the classroom.

School technology was so integrated into the participants’ lives that five specifically shared how their schools supplied electronic devices that enhanced their understanding of technology while simultaneously developing their social presence in academic environments. Ella, Emilia, Maya, Penelope, and Sadie shared stories of how their school provided them with technology to assist in developing and maintaining connections with their teachers and classmates. Maya recalled how her school-issued iPad which replaced “paper and pencils” and “everything was done through Canvas.” Penelope showed how the familiarity with technology helped her sense of belonging when she shared how her “school registered Chromebook, which were kind of awesome and exciting as a sixth grader,” allowed her to “communicate with teachers” while at home, feeling more connected to her class. The indicator of acknowledgment in Penelope’s statement depicts her feeling of connection. Home and school experiences allowed the participants to develop a comfort level with technology and a later competence to begin learning how to leverage it in developing a social presence.

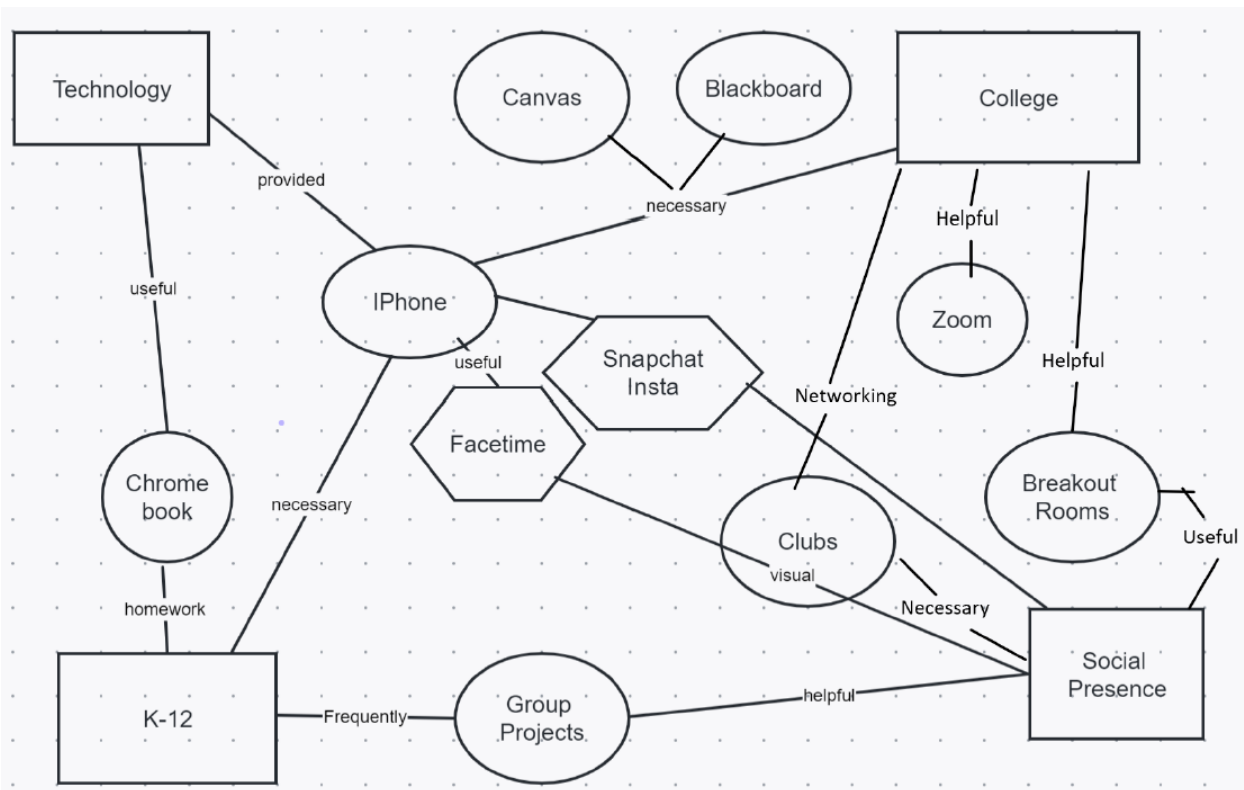
Technology Enhances Gen Z Participants’ Social Presence Today

The second theme derived from data analysis is that technology continues to be embedded in the participants’ lives and enhances their social presence. The participants outlined numerous examples of how technology is currently rooted in their everyday lives, especially in their college courses. Two conceptual framework categories were prevalent in the development of this theme, including the sense of community and affective responses. Indicators of course reflection and

group reference from the sense of community and asking questions and acknowledgment in interactive responses emerged from the data—some of the indicators described below help highlight participants’ feelings of social presence.

All 12 participants mentioned how technology influenced their college online social presence during their initial and follow-up interviews. The use of online platforms further explains how thoughtful technology integration influenced their social presence. During the interviews, 11 of the 12 participants described how technology alone is not the solution for achieving social presence; instead, it is the type of technology and how it is incorporated into the classroom. Technology, including Microsoft Teams, Zoom, Canvas, and Google, along with the intentional use of technology, helped participants develop and maintain a social presence in their online college courses. All participants listed at least one online platform connected to their social presence on their concept maps. In the interviews, the participants further described how online platforms were only helpful in developing a sense of belonging if they were integrated appropriately into their courses. Sadie’s concept map in Figure 9 demonstrates how technology, including the iPhone, Canvas, Blackboard, and Zoom, enhances her social presence today in formal online courses.

Figure 9
Sadie's Concept Map



Sadie commented that her personal computer, in conjunction with the various technologies used by her professors, helped her feel a social presence. The professor’s purposeful integration of technology helped her feel a sense of belonging even when she was not physically in class. The group reference and acknowledgment indicators helped demonstrate Sadie’s social presence when she asserted that technology like “Zoom, being able to...see all the names pop up and know who all is there with you,” allowed her to connect with her classmates. Sterling championed the opinion that her laptop computer and Zoom technology also helped her feel a social presence in courses, but only when applied effectively by the professor. She felt a sense of belonging with “Zoom just because it puts faces to names. And it’s not just black screens. But if...it’s just a black screen, it kind of doesn’t even feel like there’s like people in the Zoom.”

Maya described how her iPhone helped her feel connected to her classmates when she was able to use the GroupMe application. Using the group reference indicator in the conceptual framework, she recalled, “We had a GroupMe that we formed like outside of class...so you have a TA that is like the head of your group, and they...help guide you through it. So she actually set up like the GroupMe.” Collaborative technology was facilitated effectively by her college professor’s teaching assistant, which allowed her to feel a social presence outside of the online classroom.

Rachel reinforced the value of online platforms using her personal computer and how her professor developed a method of using Zoom where she was able to feel a social presence. Social presence indicators of group reference and acknowledgment helped identify her sense of belonging when she commented,

I feel like Zoom definitely helped because without it ...you wouldn’t have been able to see your classmates at all or like interact with them face-to-face. So, I feel like that was helpful to like try to simulate a classroom experience rather than just being like, okay, send out the work. Here’s the work: do it, or like watch this PowerPoint on your own. I think Zoom helps so that you still felt like you were in that learning environment or classroom environment, rather than...like the asynchronous classes.

Nine additional participants also described online platforms as a critical way to develop a social presence online in educational settings. They highlighted that if applied successfully, technology eased their assimilation into the online classroom and helped their sense of belonging. Alicia emphasized asking questions and group reference indicators when she said,

Online classes where we did have Team meetings, I definitely felt more present. I felt like there was a space where I could ask the professor questions and hear what other students were thinking and asking questions about that maybe I didn’t think about.

However, Abbey and Jackie shared stories where technology interfered with learning primarily based on how their professors ineffectively used it in the online domain. Abbey stated, “Why can’t [professors] see that it’s such a hindrance on...learning and...people in my college classes will spend the entire class...like shopping or playing a game, or...doing whatever...and it’s like I get that, but...how is that technology helping you?”

Jackie also provided an example of technology being a distraction in the classroom and potentially hindering her social presence. She shared that if technology is not integrated thoughtfully, it is counterproductive. She asserted, “I think sometimes professors who want you to try so many new different types of technology can be bad,” and that students can spend too much time learning technology, which detracts from social presence. However, Jackie did counter her statement in the follow-up interview and remarked, “And then on Zoom; I would say when teachers...actually like calling on you...it’s a participative classroom...everyone can participate when they ask questions, you’re allowed to answer them, and you’re not just on mute” which made her feel socially connected. Indicators of course reflection and acknowledgment from the conceptual framework show Jackie’s social presence while online. Both examples demonstrate the effectiveness of technology in enhancing social presence, but only when used deliberately. “It does definitely give you some familiarity with the teacher...helps with a social presence, just even interacting...it makes it a great deal of a difference,” is how Ella reflected on how technology continues to allow her to build bonds in the online classroom.

Online Synchronous Engagements Facilitate Social Presence

The third theme found during data analysis is that synchronous online engagements helped participants feel a social presence. Two sub-themes helped portray how and why the participants felt more present when they were able to interact in real-time with their professors and classmates.

The professor's control during synchronous meetings and the ability to see others and use non-verbal cues are sub-themes that show how online synchronous engagements helped the participants' sense of belonging.

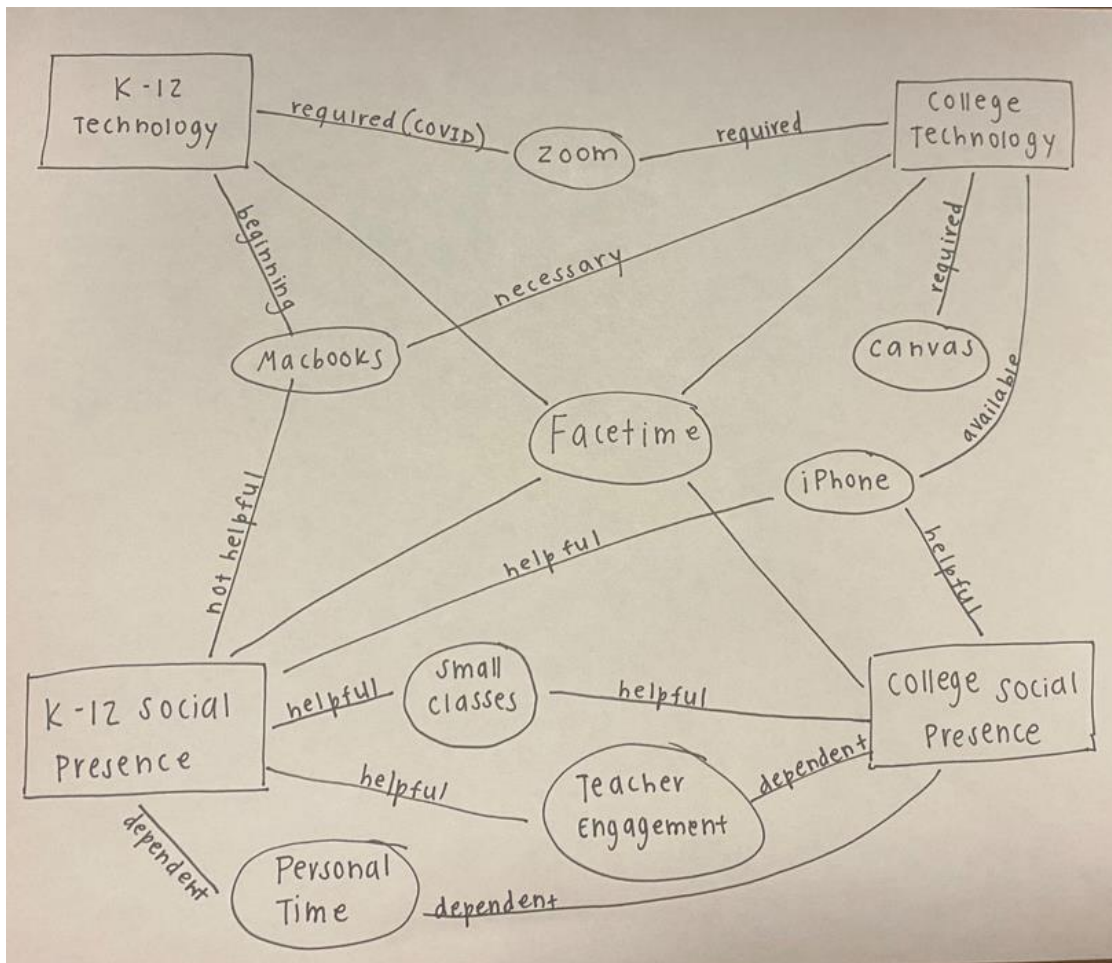
Like the first theme, all three conceptual framework categories were prevalent in its development. The first sub-theme used interactive response indicators, and the second sub-theme used indicators from the affective response and sense of community to help identify social presence during data analysis. Specific indicators and examples from the participant responses are described below.

Professor is the Centerpiece when Using Synchronous Methods

The first sub-theme embraces the professor's instrumental role when implementing synchronous methods in the online classroom. Specifically, how professors integrated themselves into synchronous sessions influenced the participants' ability to feel a social presence. All but two participants recounted examples of how they felt a social presence when their professors were actively involved in synchronous sessions and thoughtful in the facilitation of the class. Participants shared stories of how their professors interacted within synchronous meetings and, through their actions, deepened their sense of connection. However, when examining the concept maps, Sterling was the only participant to specifically annotate the role professors played in the execution of synchronous sessions and social presence when she depicted "teacher engagement," as shown in Figure 10.

Figure 10

Sterling's Concept Map



Sterling and Penelope felt synchronous office hours hosted by their professors were a method that helped them develop their social presence. Sterling shared that during her professor's real-time office hours, she felt a "kind of connection" with her teacher. Penelope had similar experiences and described when her professor held office hours, which made her feel present because "they are available to you during their allotted office hour times, just to ask questions, refresh on what you learned that day." She felt "like office hours, for sure...is the best way to feel comfortable with your instructors."

Emilia shared a time when her professor effectively set up a Zoom session where she felt connected because the students were able to see a “split screen with ...Google Doc and...you type out any question...that people had and then add in the answers so that we could review later” which made the class interactive. Jackie had a similar circumstance where she felt a robust social presence because her professor used Zoom and personal interactions in synchronous sessions. She recalled when her professor made “sure that everyone has a name feed” and “she tries to learn everyone’s name and...I do feel like more comfortable with her because she tries to get personal and like you’re a lot more likely to have a social presence because you are engaged, you can see her, and she cares.” All four participants supplied interactive response indicators of asking questions and acknowledgment from the conceptual framework within their statements.

Reinforcing the importance of the professor’s role in interacting during synchronous online sessions, five of the 12 participants also shared negative experiences with professors who did not apply effective synchronous engagement strategies, which diminished social presence. Abbey expressed her frustration when her professor ineffectively facilitated a Zoom session. When he asked a question to the class, there was “Silence! And then [he] would...ask for questions after the lecture, but, like most people, wouldn’t” say anything, and she “felt so uncomfortable” because he failed to get the students engaged. Penelope recalled a time when she had no connection to her online class because her professor muted everyone and failed to require them to show their faces, and she “would like sleep in...and like I would open up Zoom, keep my camera off and just sleep through the lecture,” and she “felt very disconnected from” the class.

Ability to See Others and Non-Verbal Cues Helps Social Presence

The next sub-theme supporting the value of online synchronous engagements includes real-time interactions that allow students to see each other and use non-verbal cues to develop a

connection. Seeing others in the online classroom and the use of facial expressions, chat boxes, and emojis helped the participants develop relationships during their synchronous meetings.

Though none of the participants listed seeing others or non-verbal cues on their concept maps, 11 highlighted the importance of seeing others and using non-verbal cues in their interviews to gain a more profound bond in the online classroom. Affective response indicators, including openness and emotional expression and sense of community indicators of social sharing and embracing the group within the conceptual framework, helped recognize the participants' social presence in this sub-theme.

Ella commented that when she was in a breakout room, the non-verbal cues from her peers' facial expressions helped her feel connected. She said, "There's something about being able to see...their facial expressions. You just get so much information. I think that's the best way for me to perceive others." Scarlet also felt connected in her synchronous sessions and had "more of a classroom feel when you're seeing other people's faces around you." She was able to read the non-verbal cues that may have been missed otherwise. The indicator of emotional expression helped identify both participants' sense of connection.

Sterling felt that her sense of belonging in breakout rooms improved when she saw others "in class; that kind of makes me feel more connected." Sadie also recalled using breakout rooms and how being face-to-face helped with her social presence when she explained how,

A teacher...put people in breakout rooms for like the first five minutes. And like...talk about the homework assignment, talked about what's going on with the class. I think it's nice to...personally connect on a little bit deeper level with somebody. Usually, like half the time in the breakout rooms, honestly, we're not [always] talking about the class. We're

talking about either a different class or what somebody was doing that week or how they've been.

The indicators of openness, social sharing, and embracing the group highlight how her ability to see others and communicate in synchronous sessions provided her with a sense of connection with her classmates.

Rachel also felt connected using synchronous Zoom sessions because you can “see your classmates...and like interact with them,” which she thought “was helpful to like try to simulate a classroom experience.” Alicia’s professor used Microsoft Teams’ synchronous technology in her psychological statistics course. She felt “the professor is very tuned in like he’s very present,” and when she was able to see her professor and classmates, her sense of belonging increased. When Rachel and Alicia were able to see and engage within their online courses, the indicator of embracing the group helped detect their social presence. The only participant who did not mention the value of seeing others during the interviews was Emilia.

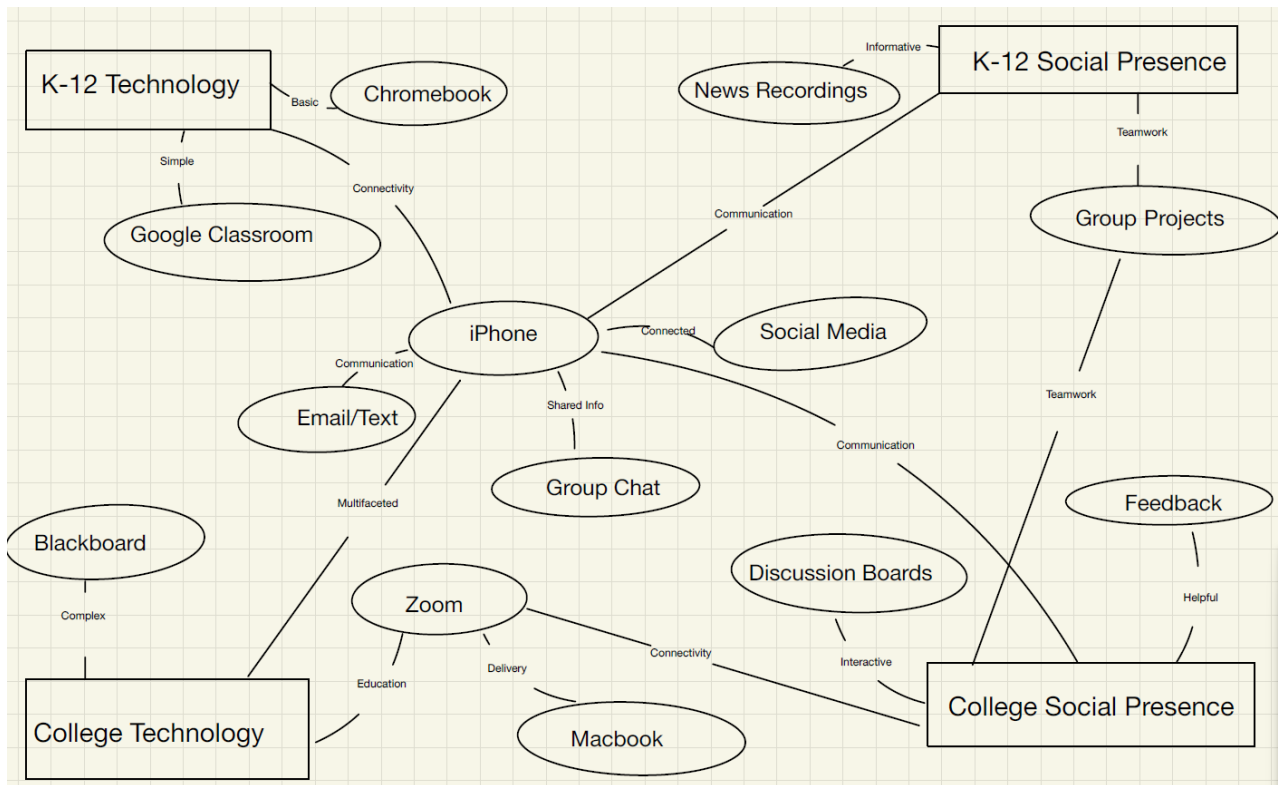
Two participants felt that the non-verbal cues using the chat box during synchronous sessions were the most impactful in developing a sense of belonging. Abbey felt socially connected when her professor used the chat box during Zoom sessions and “we always got a bunch of responses in the chat, and like it definitely made you feel...like everyone was, you know, engaged” and in the “beginning [the chat] worked to get everyone comfortable and just more engaged in the material.” Rachelle also commented that “students would like put their questions in the chat box” during her online synchronous sessions, which allowed her to feel more connected with her classmates because they shared the same thoughts and concerns. Indicators of emotional expression, social sharing, and embracing the group show Abbey and Rachelle’s sense of belonging in their courses.

Four participants asserted that reaction buttons within synchronous platforms allowed them to share ideas without interfering with the tempo of the real-time instruction. Maya felt that non-verbal cues using emojis helped her connect with others during synchronous classes. Her professor “would ask questions and be like, does everybody understand...and we could just use the reaction button to...give me a thumbs up or thumbs down...and that was a really...good way to like get people” to interact with each other and feel socially present. Skye believed reaction buttons gave her “the option of being both a passive listener and an active contributor.” She had the option “of like reacting to something somebody says with little buttons at the bottom” of the screen, and the professor was able to “stop with [what] they were doing” at the appropriate time, which helped her not disrupt the class and “feel socially connected.” The indicators of openness, emotional expression, and embracing the group demonstrate how reaction buttons helped participants feel connected.

Feedback is Necessary for Online Social Presence

The fourth theme discovered during data analysis describes how feedback during online sessions is critical for Gen Z participants to feel socially present. All 12 participants supplied examples of where they wanted and received feedback, which helped increase their social presence when taking online courses. Two sub-themes helped clarify components of feedback in the development of social presence. They included receiving professor and peer feedback and engaging in interactive sessions, which provided learners the opportunity to gain social presence by giving and receiving responses. Ella, Emilia, and Scarlet depicted feedback on their concept maps, and Emilia’s map, shown in Figure 11, demonstrates how feedback was “helpful” in developing her college social presence.

Figure 11
Emilia's Concept Map



Interactive and affective responses and the sense of community elements of the conceptual framework helped find instances of social presence when the participants described receiving feedback. Some of the indicators from the three conceptual framework categories used to identify how feedback is necessary for the development of social presence are identified in the participant descriptions below.

Professor and Peer Feedback is Critical for Social Presence

The sub-theme of professor and student feedback was exemplified by the participants in their descriptions of review sessions, professor office hours, question and answer activities, and discussion board exercises. Eleven of the 12 participants gave examples of how professor and student feedback during these venues increased their social presence. Indicators of social presence connected to teacher and student feedback included acknowledgment and asking questions from

interactive responses in the conceptual framework shown in the excerpts below. The participants did not discriminate on the preference of feedback in synchronous or asynchronous settings; instead, they focused on the depth of the feedback they gave and received.

Alicia commented that when receiving feedback from her professor during review sessions, she felt a social presence when:

I was in one of those like live review sessions on Microsoft Teams. And...I set up a question that I wanted to ask. And being able to see like the professor understand like what I was saying and he said something along the lines of like, 'oh, like that's really good. You have a very good...conceptual understanding of this.' And...you could tell he was glad that...his students were getting it. And that he was very open to...answering the question. She added in her follow-up interview that feedback from other students during discussion board activities also made her feel socially present because "it's coming in from like multiple different students. Being able to get feedback from other students and, like, read what they were thinking about it helped me feel more connected."

Similarly, Scarlet described receiving feedback from professors during office hours, which increased her connections, remarking, "During the office hours, I think that's the best time to feel supported by them. I feel the most supported by teachers, and they'll like check over your work before you submit it." Skye mentioned how both professor and student feedback made her feel socially connected to the class by asserting, "feedback definitely helps, you know, [it] makes me feel connected and a social presence. For instance, in our classes, feedback is awesome because from the teacher's and sometimes the students' suggestions, you can make it better and better."

Rachelle shared a time after she submitted an essay assignment when her professor met with her "After every paper, he made you meet with him online individually on Zoom. And [the

feedback] was good because then you could actually form a connection with your professor and actually like go into depth” and learn from mistakes. The professor’s feedback not only helped Rachelle improve her performance in class but also helped her social presence by understanding the genuine concern he had for her academic success. Indicators of acknowledgment and asking questions are prevalent throughout all the participants’ comments and demonstrate the connection between professor and student feedback and social presence.

Ella described one experience where a lack of feedback from her professor decreased her social presence. She felt disconnected from her professor and the other students in the class because he supplied no feedback to his students, and even though she emailed him, “he never responded to me.” Because of his lack of feedback, she did not know “one person in the class” and felt isolated throughout the course. Sadie is the only participant who did not discuss developing a social presence because of receiving feedback from professors and peers.

Interacting with Others Helps Develop a Social Presence

The next sub-theme is based on the assertion that feedback using interactive dialogue helps develop a sense of belonging. Informal feedback during interactive engagements provided primarily during office hours, breakout rooms, discussion board activities, and when others shared personal experiences helped the participants feel connected in the online classroom. Feedback was not always directly related to the course material; instead, intangible feedback was sometimes more personal and allowed the participants to realize the personalities and expectations of their professors and classmates. Indicators of emotional expression and self-disclosure in the affective responses, as well as social sharing and embracing the group from the sense of community elements in the conceptual framework, aided in the identification of social presence in the

participant responses. All 12 participants supplied at least one example of how online interactions and the receipt of informal feedback helped them feel more present in the virtual classroom.

Rachelle believed that her social presence increased, as identified using the social sharing indicator when her professor shared personal information with the class and gave feedback using his personal experiences. She shared, “I had this one professor; it was an exercise science class, and he had also...worked at a hospital...with patients. And so, he would tell a lot of...personal stories and...connect his other work to the classroom.” Jackie revealed that when she interacted with others and received informal feedback during office hours, her social presence increased. She demonstrated her social presence through embracing the group indicator when stating, “I feel most connected in an online course [during] office hours. You really get a good feeling about the class, about the people in it, like you can actually ask all your questions.”

In an interactive discussion board exercise, Emilia received feedback from her peers. She maintained she felt more socially present and “like it helped to interact with other people and then to kind of get feedback on what you’re doing because it usually related to another assignment later on during the week, which was helpful.” Rachel also felt a sense of connection through discussion boards, and the feedback her peers provided was “not very taxing at all and it like forces you to like read your peer’s responses and...that made a connection. And so that [is] something really simple where you didn’t actually have to meet with people, but you...interacted.” Scarlet explained that group interaction during discussion board activities helped her social presence and “having to respond to discussion posts has made me feel more committed” to the online group. Embracing the group indicator within the sense of community element of the conceptual framework helped detect Emilia, Rachelle, and Scarlet’s feeling of social presence because of their interactions with each other in the receipt of feedback.

Penelope claimed that when she was in a breakout room, and her classmates were sharing personal stories and supplying feedback on the topic of religion,

I felt very included in that class. It was nice to hear like my like my peers...[say] you're being a little crazy right now. Like, I don't think we should mandate a religion for all of our politicians like; that's quite literally insane. So that was good to have...my fellow students be like, hey...what's going on with you right now?

Skye also expressed that when her classmates interacted and shared personal experiences, the feedback helped increase her social presence. She reflected that "students will talk about their experiences in life in particular related to that subject...I feel more connected. I appreciate that they were willing to share that. And I thought it was neat to, you know, learn that about them."

Indicators of emotional expression, self-disclosure, social sharing, and embracing the group helped identify how Penelope and Skye felt connected through interacting with others. The examples demonstrate how informal feedback through online interactions helped the participants develop a connection with their classmates.

Small Groups Increase Online Social Presence

The next theme derived from the coding process is that when participants join small groups during their online courses, they feel a significant presence. The three sub-themes that describe the value of small group interactions include active engagements providing a level of familiarity with others, small groups supplying a safe environment in which to interact, and the depth of interactions increasing when participants were put in small groups, strengthening their connections. Though only six participants annotated small groups on their concept maps, each participant in the study gave many examples of how small groups made them feel socially connected to the online classroom during the interviews.

Like the previous two themes, all three conceptual framework categories were prevalent in identifying the importance of small groups and participants' social presence. The first sub-theme used affective and interactive response indicators to identify participants' social presence. The second sub-theme used indicators from affective responses, and the third sub-theme indicators stemmed from the sense of community elements in the conceptual framework to help show social presence when participants were in small groups. Specific indicators of participants' social presence in small groups are described below.

Active Engagements Provide Familiarity

The first sub-theme describes the value of small groups and suggests that through active engagement during these interactions, the participants were able to become more familiar with their classmates and make stronger connections. Participants felt more comfortable sharing their feelings and ideas during small group sessions. Indicators from the conceptual framework that suggest social presence increased during small group interactions include closeness and openness from the affective responses and asking questions from the interactive responses. Dynamic engagements, primarily during question-and-answer sessions, breakout rooms, and work groups, are the modalities by which the participants described their ability to become familiar with their classmates and increase their social presence in small groups. All 12 participants described specific examples of where active small-group engagements helped them develop connections.

Small groups helped Skye develop a social presence when she acknowledged,

In the breakout rooms, I feel more comfortable saying how they like I actually feel versus when it's the whole class...it's a big difference. It feels a lot more relatable, or those students feel a lot more relatable. And they're, it's much easier...to express like frustrations into certain projects. I would feel like guilty saying that in front of the whole class.

The small group setting in the breakout room allowed Skye to become familiar with her classmates, and she was able to build trust and confidence to share ideas and feelings. Her social presence became evident using the openness and closeness conceptual framework indicators. Ella echoed Skye's appreciation of small group breakout rooms in the development of her social presence. She said, "They're really good, like when it was just the 6 of us, and...it's a lot less awkward, and you'll actually talk about the Spanish or the readings" and develop a relationship with classmates.

Penelope also specified that she developed social presence when in "study groups, cause I felt like it was so normal...help[ed] me feel a sense of community like with my classmates." Maya became more familiar with her classmates in "breakout rooms, like doing smaller groups. I feel like that gave me a better like perception of like who's like in the class." Indicators of closeness helped recognize Ella, Penelope, and Maya's sense of belonging, demonstrating how interactive small group settings allowed them to engage more deeply and develop bonds with their classmates.

Small Groups Provide a Safe Environment

The next sub-theme supporting the value of small groups is the premise that they provide a safe environment for the participants to interact. Four participants discussed how smaller groups made them feel like they were in a safe environment, and thus, they were more open and unrestrained with their interactions, leading to a stronger sense of presence. Small groups reduced the anxiety of being in a large online classroom, and participants felt more confident interacting with their professors and classmates. Indicators of openness and emotional expression from affective responses in the conceptual framework helped identify the social presence in the participant reactions.

Maya communicated a time when her professor's interaction and the small group setting helped her feel safe, which allowed her to engage more openly with her classmates:

So I think it's a lot better because you can like actually have an interaction rather than being in...a class of like 200 people. If you separate them in...breakout rooms of...10 people...you can actually have a group discussion. So, I feel like that is where I feel like most...socially connected. And then, especially with the professor coming in to like the smaller breakout rooms rather than just...the whole. Cause I might not wanna speak out when there's...200 participants...I'm definitely probably not going to speak out, but if I'm in a breakout room, then more than likely...gonna speak out.

Abbey recalled her fear of speaking in a large online classroom and stated, "There's definitely anxiety that comes with answering...like...with a bunch of people like I would feel afraid...to speak up even though it was like 20 people." However, similar to Maya, she felt safety in a "breakout room just helps so much" versus her "communication Research Literacy class [of] 400 people."

Interacting in online large group sessions can cause apprehension among students. Skye commented that in "a smaller group...it's easier to be open to them and not feel like you're holding everybody up trying to explain something." She goes on to say, "I find it easier to talk to a group of people when it's smaller, and it's easier to embarrass yourself. I feel...more anxiety about saying the wrong answer in front of everyone instead of...a group of 2 or 3." Alicia also explained a time when she felt more comfortable interacting with her peers using a small discussion board activity. She remembered, "like with the leadership course that we had to do discussion posts," and she was able "to read other people's like projects or presentations," and she could "see how other people like took on a project...to see like how they thought about it." Because she felt safe in the

small group, Alicia interacted with her classmates, which “felt like an in-person environment [and] definitely...I felt more connected.” The four participants highlighted openness and emotional expression indicators within the conceptual framework. They demonstrated how small group interactions made them feel safe and more confident to share, which increased their connections in the online classroom.

Depth of Interactions Increase in Small Groups

The final sub-theme strengthening the value of small groups in developing social presence is that the depth of interactions increased when participants were in small groups. Small groups supplied participants with the ability to dive into the subject matter and even enhanced the development of relationships based on the size and comfort level they provided. Embracing the group indicator in the sense of community element of the conceptual framework helped identify the link between meaningful interactions in small groups and social presence. Six of the 12 participants recounted experiences where interactions intensified when they were in small group settings, which improved their connection with their classmates.

Abbey recounted her increased engagement in small groups after her professor “would do like a mini-lecture where he would go over the PowerPoint share screen, and then we would do like a little mini assignment during the class.” Afterward, her classmates “would go onto the break rooms and he basically would pair us up with one another, and we would peer review each other’s small assignment.” In the small group, Abbey was able to engage with her classmates to talk in-depth about the assignment and develop a closer relationship with her partner.

Jackie remembered a time during office hours when she was able to ask detailed questions and was provided specific feedback as she was preparing for an exam with four of her classmates. She commented,

You can listen to the questions that your peers also have. And so again, let's say Brian has a question about problem five, and I haven't done problem five yet. But problem five already looks confusing to me. So he's asking like, 'Hey? Like, how do you do number five?' So she's gonna go over it with Brian, and I can just go into that meeting room, or I can just like add under that conversation and be like, 'Oh, I also haven't done number five yet. Can we do it together?' And since you can work on that question with multiple people, you can get your work done faster, and then everyone can understand it. And you actually, like, get a talk with other people that's taking the course.

Her example demonstrates the effectiveness of the small group during office hours and the ability to interact closely with Brian and her professor in order to understand the course material better and increase her social presence.

Rachel related the effectiveness of her small group and how they worked closely together throughout the course. She commented, "there was so much going on in that class, but basically, you got really close with your group because, like, you were with them for the whole semester, and you had to...learn how each other worked on things." Similarly, Maya commented that her social presence increased by "just being in...the smaller group...it boosted like me feeling as though like I'm actually being listened to rather than...speaking out to like a bunch of black screens." Both participants revealed the depth of interactions and connections they achieved in small groups.

Sadie also provided an example of how small groups helped increase her level of interaction and social presence. She said,

So just to relate it back to like the group projects, it's just a smaller group, and it's always easier to connect with a smaller amount of people, whether that's one or three. In this

small group, they talk a lot more...about things with somebody that normally, if you're in a bigger group, would not have spoken. So especially in engineering, because people are able to participate more in that conversation and talk about how now they're more accepted and now you feel more accepted and everybody just on the same page.

In her example, Sadie discussed how the small group allowed her to interact with her peers on complicated subjects that she would not usually review in a large group setting. Sterling adds to Sadie's sentiment that small groups help facilitate more meaningful interactions and comments, "if you do like a breakout group," students are able to develop meaningful relationships by coming "back [together] with like stuff to talk about." These six examples show how small groups supplied the ability for participants to interact more profoundly in their online courses, fostering their social presence, using the indicator of embracing the group in the sense of community in the conceptual framework.

Only one participant felt that small groups did not increase the depth of interactions with her peers. Ella thought that small groups using breakout rooms were not always productive when she commented, "I've had some professors where they'll break us off into groups, and then you have like an awkward breakout room." The small group did not help her build connections or depth to the conversations because she said that "cameras were off," she did not know who was in the room with her, and there was "an awkward" silence until they rejoined the large group. She was unable to develop connections because of the anonymity of the students, and she was not able to see her classmates' faces.

Other Themes

Two more themes became evident during the coding process but were not explicitly related to the research questions. Instead, based on the unique experiences of the generation, participants

highlighted two themes that showed their interpersonal preferences and the unique circumstances COVID-19 created as it swept across the globe. Despite Gen Z's familiarity with technology, the participants still highlighted how they prefer in-person over online classes. Additionally, based on the timing of COVID-19, the participants had unique circumstances concerning how and when they were forced to engage in the online learning modality and the influence of technology in the transition.

Gen Z Participants Prefer In-Person Versus Online College Courses

During data analysis, the theme that Gen Zers prefer in-person classes over online courses became evident, as eight of the 12 participants discussed their desire for in-person courses in place of online classes. However, perhaps because of the design of the concept map exercise, none of the participants depicted their preferences for in-person college courses on their concept maps. Despite the familiarity the generation has with technology and the ease with which they navigate the online classroom, most of the participants highlighted their preference for in-person courses.

Abbey shared that even though she can develop a social presence online, "I can see that the teacher is so much happier with in-person spaces. I can feel like the bond between me and the teacher continually seeing each other in person versus me having Zoom meetings" and she "just feels like the interactions that I have with teachers in the Zoom meetings have just been kind of sterile and not really personable." Jackie reinforced the preferences for in-person classes when she explained,

I mean, I definitely feel more connected in person. So, my management class, I'm in right now. It's a big 350-person lecture hall, and if we were on Zoom like, and it was a 300 person...[and] that class would be muted because you can't have everyone talking over the professor when she's trying to talk and give a lecture. But...in person, like, I'm not muted;

I can talk to whoever I want, so if the guy sits right next to I can, like, she says something. I can just lean over and say something like, ‘Oh, what did you get for number one? Or, oh, did you get that note?’ So it helps that way.

Many of the participants described a comfort level of interacting face-to-face and believed that their connections were more genuine when they were physically in the same room as others. Ella shared that she “definitely feels a lot more connected in my in-person classes.” She went on to explain the personal relationships she can develop in person and shared, “If someone says something...or the professor says something funny...you can like make eye contact with someone, and you can both have a little giggle that is like worth so much in a learning environment.”

Ease in developing relationships is why Maya prefers in-person classes, and she stated, “Me like I’m definitely like a people’s person, so like I would love for it to like be in person, just because it’s more like I guess personable.” Rachele also commented that in-person classes make it easier to develop social bonds and asserted, “I think when you’re actually sitting in a room with people like you just naturally feel more connected, whereas when you’re facing a screen like it doesn’t feel like you’re talking to real people sometimes.”

Finally, Sterling suggested that the artificiality of the online forum can never replace the genuine bonds one can develop in person. She shared that,

I’m definitely just an in-person person. If I have an option to take a class in person, I’m gonna do that as opposed to the online one. Because I just feel like the majority of classes, especially in these classes, where the class sizes are so big you [fail to have] any kind of group participation, any kind of morale you would get in the classroom just doesn’t really transfer to Zoom. I mean face-to-face; I just think it’s nice because you’re physically in the room with us. People are looking at them...not that you have to talk to the people that

you're sitting by...[and] it's a little bit easier to like to stay after class and talk to a teacher, or, you know, kind of talk to people as you're walking out versus you know, at the end of the Zoom.

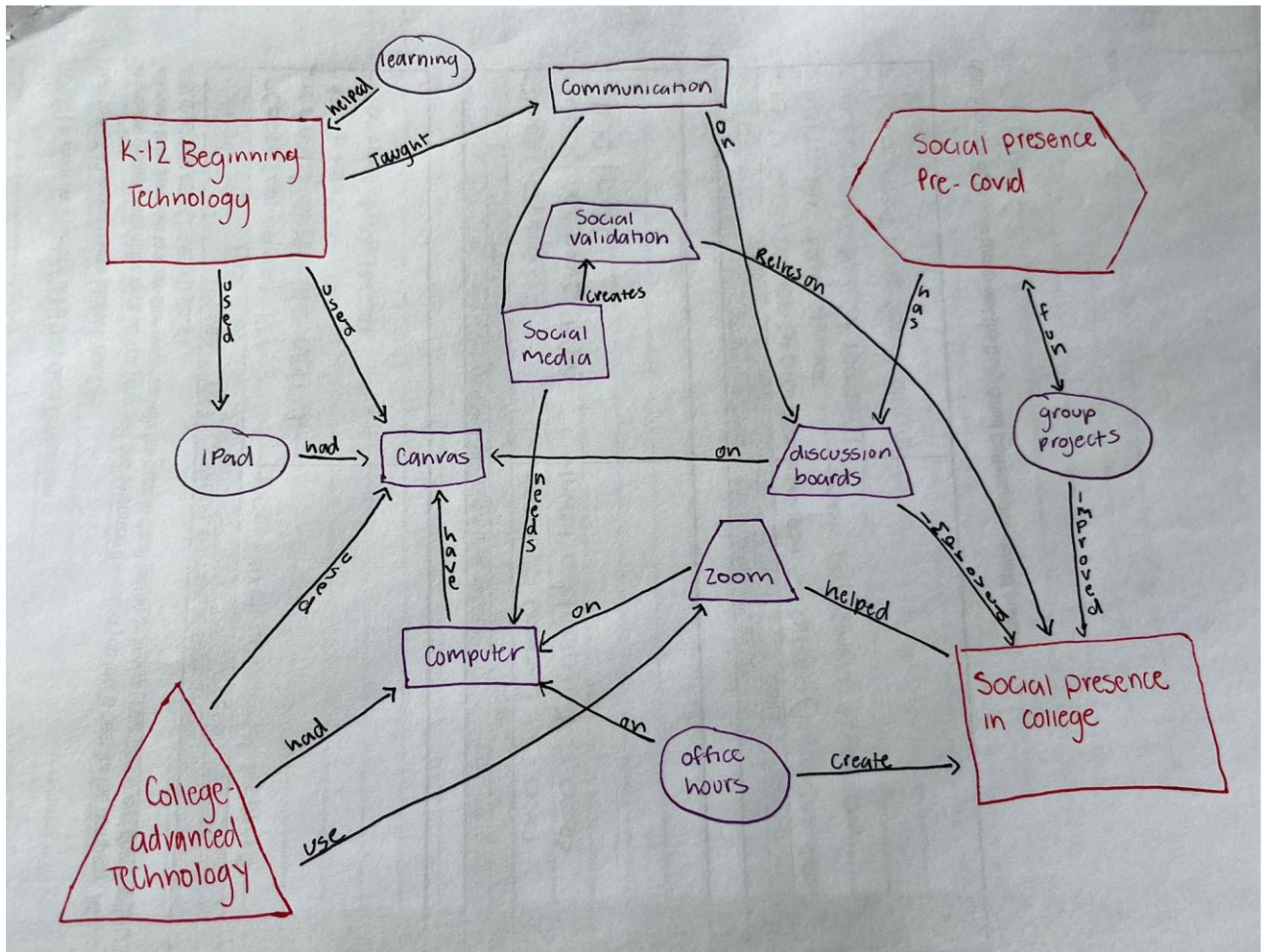
The eight participants who commented on preferring in-person classes over online courses all suggested that face-to-face courses lend themselves to social connections that are easier to develop and are more genuine.

COVID-19 Impacted How and When Gen Z Participants Integrated Technology and Online Learning

The second theme, not directly correlated to the research questions, focuses on how COVID-19 impacted how and when the participants integrated technology into online learning. Eleven of the 12 participants specifically highlighted how COVID-19 impacted their learning and the transition to online. Despite the familiarity all the participants had with technology before the pandemic, most described the uncertainty they felt when forced to move their education online and the challenges with technology that inhibited their learning. Only Jackie mentioned COVID-19 on her concept map, and Figure 12 considers how she felt a social presence “pre-COVID.”

Figure 12

Jackie's Concept Map



During the interviews, the participants recalled the speed at which COVID-19 quarantine requirements were implemented and the uncertainty of beginning their online coursework. Rachelle shared her feelings of isolation when she transitioned to online learning and proclaimed, “When COVID hit, all of my classes got moved online...I had some classes...that were completely asynchronous, so like, I ended up not really talking to anyone in those classes.” Similarly, Alicia described the chaos and feeling of detachment when she went to online learning because of the COVID-19 quarantine:

We use Blackboard, and...some teachers would just email out assignments. We switched to like digital textbooks and then some teachers just went like ghost and you can't get a hold of them and they would just like send you an assignment and like leave you in the cold to like figure it out. There is no classroom meeting to explain it or to answer questions or anything like. It was like they went ghost and you had to like teach yourself. So that was frustrating.

However, Maya provided an alternate experience to Alicia's when describing how her high school moved online during COVID-19 and how her teachers positively integrated technology and learning. She shared, "They did really good...on getting us to like interact with people. They had the rule that like you had to have your camera on unless there was like some reason as to why you don't have your camera on." Jackie also explained how her high school successfully dealt with the quarantine requirements when they "shut down for one week...to figure out a business plan, and after that we, you know, got a lot of emails and a lot of Canvas notifications of how we were gonna run like how the school day." That is when her school began to integrate technology into the online classroom, and many of her teachers "decided to go through Zoom" to continue teaching.

After COVID-19 and online learning normalized, many of the participants began to appreciate the ability to use technology to stay connected to their teachers and classmates. Penelope said, "It was nice to see, like my professor in lecture...even those over Zoom because I was quarantined in my dorm room for practically 24/7" and that her ability to "have that little bit of human interaction" kept her integrated into the classroom. She also commented that her instructors tried "to do their best to support their students while quarantining themselves so that they would like email [and say] hope everyone's doing okay." What is clear from the participants is the fact that COVID-19 forced all of them to move to an online learning environment with little

to no notice. Most comments made during the interviews suggested that the turmoil at the beginning of the quarantine was no fault of the school administration or teachers. Instead, COVID-19 supplied an opportunity for educational institutions to integrate technology that the participants became comfortable using and resumed their education, albeit in the online modality. Scarlet captured the resiliency of the participants and their ability to develop a social presence when she declared, “Zoom... during those times when everyone was at home for weeks and weeks on end...helped give more of that normalcy like we had in the classroom where we could talk to each other in person.”

Research Questions

This research used two questions to guide the study. The first question focused on Gen Zers’ technology experiences and their influence in developing a social presence. Two sub-questions helped further dissect the periods of the participants’ technological experiences and the link to social presence. The second research question centered around the feeling of social presence in the formal online classroom today and is supported by three sub-questions. The sub-questions detail how and when the Gen Ze participants felt an online social presence as well as perceptions while in the online learning environment.

The seven themes, sub-themes, and correlating conceptual framework links previously mentioned are listed in Table 4. However, only five of these themes link to the two research questions: technology helped Gen Z participants develop a social presence at a young age, technology enhances participant social presence today, online synchronous engagements facilitate social presence, feedback is necessary to develop online social presence, and small groups increase Gen Z participants’ online social presence: ten sub-themes underneath the five themes further detail Gen Z participants and their social presence in online learning. The two themes not used to

answer the research questions are highlighted at the bottom of Table 4 and include how Gen Z participants prefer in-person over online classes and COVID-19’s impact on Gen Z participants’ integration of technology into online learning. These themes do not have sub-themes or a direct linkage to the conceptual framework. Instead, the themes appeared as the participants described their experiences with technology and online learning.

Table 4

Themes and Sub-Themes

Coding Theme	Sub-Theme	Conceptual Framework Categories	Category Indicators
Technology helped develop a social presence at a young age	Hand-held phones allowed for constant and long-distance communications	Sense of Community	Social Sharing
		Affective Responses	Closeness, Openness, Emotional Expression
	Social media facilitated relationships with family and friends	Sense of Community	Social Sharing
		Affective Responses	Closeness, Openness, Personal Beliefs & Attitudes
		Interactive Responses	Approval
	Technology in middle/high school helped create familiarity and fusion in developing a social presence	Sense of Community	Course Reflection, Group Reference
Interactive Responses		Asking Questions, Acknowledgement	
Technology enhances social presence today	None	Sense of Community	Course Reflection, Group Reference
		Interactive Responses	Asking Questions, Acknowledgement
Online synchronous engagements facilitate social presence	Professor is the centerpiece when using synchronous methods	Interactive Responses	Asking Questions, Acknowledgement
	Ability to see others and non-verbal cues help social presence	Affective Responses	Openness, Emotional Expression
		Sense of Community	Social Sharing, Embracing the Group

Coding Theme	Sub-Theme	Conceptual Framework Categories	Category Indicators
Feedback is necessary for online social presence	Professor and peer feedback is critical	Interactive Responses	Asking Questions, Acknowledgement
	Interacting with others helps develop a social presence	Affective Responses	Emotional Expression, Self-Disclosure
		Sense of Community	Social Sharing, Embracing the Group
Small groups increase online social presence	Active engagement provides familiarity	Affective Responses	Openness, Closeness
		Interactive Responses	Asking Questions
	Small groups provide a safe environment	Affective Responses	Openness, Emotional Expression
	Depth of interactions increases in small groups	Sense of Community	Embracing the Group
Gen Z participants prefer in-person versus online college courses	None	Not Applicable	
COVID-19 impacted how and when Gen Z participants integrated technology and online learning	None	Not Applicable	

Table 5 strictly focuses on the five themes and sub-themes linked to each of the research questions and sub-questions. Two themes and three sub-themes were used to answer the first research question centered around participants' experiences using technology. Three different themes and seven sub-themes helped answer the second research question and its three sub-questions, and they are specific to how the participants feel about social presence today in the online classroom.

Table 5*Research Question Thematic Answers*

Research Questions	Sub-Questions	Coding Theme	Sub-Theme
How do Gen Z students make meaning of their technology experiences in developing a social presence in an online learning environment?	How do Gen Z participants describe their experiences with technologies in developing social presence during their primary through high school years?	Technology helped develop a social presence at a young age	Hand-held phones allowed for constant and long-distance communications Social media facilitated relationships with family and friends Technology in middle/high school helped create familiarity and fusion in developing a social presence
	How do Gen Z participants describe their experiences with technologies they use today in developing a social presence in online learning environments?	Technology enhances social presence today	None
How do Gen Z students perceive social presence in an online learning environment?	How do Gen Z participants perceive others in an online learning environment?	Through online synchronous engagements	Professors are the centerpiece when using synchronous methods
		When receiving feedback	Professor and peer feedback is critical
		When in small groups	Active engagement provides familiarity
	How do Gen Z participants express emotions in an online learning environment?	During online synchronous engagements	When seeing others and using non-verbal cues
		When receiving and giving feedback	When interacting with others
		In small groups	When in a safe environment

Research Questions	Sub-Questions	Coding Theme	Sub-Theme
How do Gen Z students perceive social presence in an online learning environment?	How do Gen Z participants perceive belonging in an online learning environment?	Through online synchronous engagements	Seeing others and non-verbal cues helps a sense of belonging
		When in small groups	Depth of interactions increases

Research Question 1: How do Gen Z Students Make Meaning of Their Technology Experiences in Developing a Social Presence in an Online Learning Environment?

As mentioned previously, two themes and three sub-themes helped answer this research question. The themes of *technology helped the participants develop a social presence at a young age*, and *technology enhances participants’ social presence today*, explained the participants’ meaning-making of early and consistent exposure to technology and their ability to develop an online social presence. However, to explore this question in more detail, the sub-questions below are helpful in dissecting the participant technology experiences in their youth and those of today.

Sub-Question A: How do Gen Z Participants Describe Their Experiences with Technologies in Developing Social Presence During Their Primary Through High School Years?

The theme that helped answer this sub-question indicates that *technology helped the participants develop a social presence at a young age*. The first sub-theme shows how *hand-held phones allowed for constant and long-distance communications* and strengthened the participants’ family and friend connections through the ability to text and call others beginning as early as third grade. As described in the explanation of themes earlier in the chapter, the indicators in the conceptual framework categories of sense of community and affective responses were prevalent

throughout the participant transcripts and concept maps. Specifically, the sense of community indicator includes social sharing, and the affective response indicators of closeness, openness, and emotional expression emerged from the data.

Sadie's social presence was identified through the indicator of closeness and social sharing when she highlighted how she used her phone and was "able to text people...and was able to talk when we were far apart," helping her share events in her life with friends and family who were "in a different state." Alicia exhibited the closeness indicator when she recalled how she was exposed to technology early, and at "first [had] like a smartphone when I was like 10 or 11, and that definitely helps like stay connected." Sadie and Alicia used hand-held phones to support connections and began developing a social presence through technology in elementary and middle school.

The next sub-theme stresses how *social media technology also helped facilitate relationships and social presence with family and friends* during the participants' primary and high school years. Specifically, social media applications, including Snapchat, Instagram, TikTok, Facebook, and FaceTime, provided forums for the participants to share their lives and communicate with others consistently and efficiently during these early years. Participant experiences highlighted their social presence under the lens of all three conceptual framework categories (sense of community, affective responses, interactive responses). Specifically, the indicators of social sharing in the sense of community, closeness, openness, and personal beliefs and attitudes in the affective responses and approval in the interactive responses helped understand when the participants felt socially present using social media.

When asked how social media helped Alicia maintain connections, the closeness indicator showed her social presence when she said, "Snapchat or Instagram in eighth grade...definitely

increase connections to peers.” Ella’s connections using social media were found through the social sharing and closeness indicators when she communicated, “And I had Facebook when I was 10...and then my friends would comment on the post and stuff like that. So that’s how we would keep in touch.” The approval indicator was prevalent in Scarlet’s sense of belonging when she commented that social media is “curated to look perfect. But it is nice because you can like see where they’re at or see who they’re hanging out with, you know, check in on them through there too.” Technology through social media applications helped participants enhance relationships at a young age and allowed them to expand connections virtually.

The final sub-theme for Sub-Question A is that *experiences in middle and high school created familiarity with technology* and helped participants develop a social presence in an academic environment. Through the introduction of technology at home and in school in their formative years, the participants learned how to develop a social presence using progressive and systematic approaches in their social and academic lives. The conceptual framework indicators of course reflection and group reference from the sense of community, as well as asking questions and acknowledgment in the interactive responses, illustrated social presence in the participant responses.

Ella recalled how the integration of technology in her junior year of high school made her feel connected in AP Calculus. Her “teacher would post lectures, and then link a video, YouTube videos...[and] I think I learned that pretty well” and that she was able to learn the course lesson material on her terms. The course reflection indicator in the conceptual framework links social presence and Ella’s use of technology in high school. Similarly, through the group reference, asking questions, and acknowledgment indicators, Scarlet shared how technology during her senior year in high school helped her develop a sense of presence when explaining that during “Zoom

calls...we had to have our camera on; we had to answer questions...everyone had to participate, and we still got to hear and see each other...we did still do group projects, and we used Google Sheets for that and had multiple collaborators on them.” Both Ella and Scarlet described how the technology was familiar to them and how it helped them develop a virtual social presence in high school.

Sub-Question B: How do Gen Z Participants Describe Their Experiences with Technologies They Use Today in Developing a Social Presence in Online Learning Environments?

The theme that supported the answer to Sub-Question B is that *technologies enhance social presence for participants today*. The theme asserts that by effectively applying online platforms, instructors were critical in developing participants’ social presence. Professors who successfully integrated technology methodically into their classrooms aided participants in leveraging technology to improve their social presence. Participant social presence experiences are associated with two elements of the conceptual framework and their nested indicators. They include course reflection and group reference from the sense of community and asking questions and acknowledgment from interactive responses.

Hand-held phones and the use of group chats, as well as integrated platforms, including Microsoft Teams, Zoom, Canvas, and Google, improved the development and maintenance of social presence for the participants in their formal online classes. Using the group reference, asking questions, and acknowledgment indicators, Jackie shared how her college professor effectively leveraged Canvas, and she was able to “see all your announcements and see...homework assignments and ask questions to the professor,” and she would use Zoom to “communicate with my classmates, even if they were not in the same location...like that is big for social presence.”

Alicia's social presence is noticeable through the group reference and asking question indicators when she said that in Microsoft Teams, "I definitely felt more present. I felt like there was a space where I could ask the professor questions and hear what other students were thinking and asking questions about that maybe I didn't think about." Jackie and Alicia's sense of belonging was enhanced by effectively applying platforms in their online college courses.

Research Question 2: How do Gen Z Students Perceive Social Presence in an Online Learning Environment?

The second research question examines the participants' feelings of social presence today in their online college courses. Three sub-questions further detail how participants perceive others, express emotions, and develop a sense of belonging in the online learning environment. Three themes and seven sub-themes helped answer this research question. The themes of *online synchronous engagements facilitate social presence, feedback is critical in developing social presence, and small groups increase online social presence*, explain the participants' perception of belonging during their online courses. The seven sub-themes accentuate the primary themes and nest with all three conceptual framework categories, including the sense of community and affective and interactive responses.

Sub-Question A: How do Gen Z Participants Perceive Others in an Online Learning Environment?

Three themes helped answer this sub-question, which examines how the participants perceived others in their online classes. The first theme demonstrates how the participants perceived others in the online classroom through *online synchronous engagements* utilized during the conduct of their courses. The sub-theme explains how *professors are the centerpiece when using synchronous methods* and are crucial in participants feeling socially present. Participant

social presence was found using the indicators of acknowledgment and asking questions in interactive responses within the conceptual framework.

Professors who thoughtfully prescribed and integrated synchronous engagements led participants to develop a social presence in the online classroom. Participants described instructors who held synchronous office hours and classes, which led to their sense of belonging. Jackie's social presence is captured through the acknowledgment indicator when she shared during Zoom sessions with her professor, "She tries to learn everyone's name...tries to get personal and like after...class like she'll always be like, 'Oh, how are you doing today...did you enjoy class today?'" The asking questions indicator from the conceptual framework helped recognize Penelope's sense of belonging when she used her professor's office hours to "ask questions, refresh on what you learned that day. So, I feel like office hours...is the best way to feel comfortable with your instructors." Participants felt connected to their courses when their professors used synchronous interactions to connect with their students.

The next theme illustrates how participants perceive others through *feedback, which is crucial for online social presence*. The sub-theme underpins how *professor and peer feedback* primarily received during review sessions, office hours, question-and-answer forums, and discussion board activities increased the perception of others online. The conceptual framework indicators connected to professor and peer feedback include acknowledgment and asking questions from interactive responses. The acknowledgment and asking questions indicators are demonstrated in Alicia's experience when she shared that feedback from the "professor [that] is in-depth...you can tell that they care about like how the students are learning" and was "really beneficial because you feel like you can have like a conversation with them, and you can ask the questions about the concepts."

The final theme to help answer Sub-Question A reveals how *small group interactions* allowed participants to perceive others in the online learning environment. The sub-theme describes how small groups help *active engagement and familiarity*, allowing participants to get to know each other primarily through question-and-answer sessions, breakout rooms, and group work. Indicators from the conceptual framework that appeared in the participant responses pertaining to small group interactions included closeness and openness from the affective responses and asking questions from the interactive responses. The closeness and openness indicators were prominent in Skye's feeling of social presence when she described how small breakout rooms "feel more comfortable saying how they like actually feel versus when it's the whole class." She continued to communicate that a breakout room "feels a lot more relatable...and...it's much easier...to express like frustrations into certain projects." Alicia's experience participating in small groups during her professor's office hours showed her social presence through the asking questions indicator. She felt connected when she was able to ask questions in the small group and "set up...a question that I wanted to ask. And like you could tell...he was glad that...his students were getting it. And that he was very open to...answering the question." Participants perceived others when they were divided into smaller groups and allowed to engage with their peers and instructors actively.

Sub-Question B: How do Gen Z Participants Express Emotions in an Online Learning Environment?

The same three themes used to answer Sub-Question A were also used to answer Sub-Question B and described how the participants expressed emotions online and improved their social presence. The first theme describes how online *synchronous engagements* helped participants express emotion during online classes. The sub-theme explains how participants

developed connections in the classroom by *seeing others and using non-verbal cues*, including facial expressions, chat boxes, and emojis. Participants emphasized the indicators of openness and emotional expression from affective responses in the conceptual framework. “Heart, clapping, laughing” and other emojis helped Sterling express her emotions during Zoom sessions, where she felt “more inclined to reach out” and develop connections. Sterling was able to perceive others using emojis found through the emotional expression indicator. Rachelle’s sense of belonging was unmistakable in the openness indicator. She said that when she saw her classmates and professors on Zoom, it “definitely helped because, without it, you wouldn’t...have been able to see your classmates at all or like interact” and get to know them. Sterling and Rachel expressed their emotions and perceived others’ when they were able to see each other and use non-verbal cues.

The next theme describes how Gen Z participants use *feedback sessions* to express emotions in online learning environments. The sub-theme explains how participants were able to portray feelings and emotions to enhance their social presence by *interacting with others* via breakout rooms and through sharing personal experiences. The conceptual framework indicators of emotional expression and self-disclosure from affective responses suggest a social presence in the participant responses. Alicia’s social presence was evident using the self-disclosure indicator when she recalled getting feedback on a discussion board assignment from her classmate, who shared a personal story. She said the self-disclosure from her peer is “definitely an opportunity to see what other people are doing,” and she could see their emotions; it “feels nice to have like not only the professor but like other students” give you feedback and share their stories. The social sharing indicator also helped see Rachelle’s sense of belonging when she recalled how her professor “worked at a hospital...with patients. And so, he would tell a lot of...personal stories and...connect his other work to the classroom” when providing feedback on their group

presentations. The indicator of emotional expression is highlighted in Abbey's story as she recalled feeling the excitement in her online course when her professor shared personal experiences during a breakout room. She said that her professor "showed us a picture on Zoom...of her son's Halloween costume" and that "everyone was super excited, and it just like sparked this whole discussion." Receiving feedback about her professor's personal life helped Abbey gain a sense of belonging during a study session. Interacting with others during feedback sessions allowed the participants to perceive and express emotions in the online learning environment.

The final theme that helps answer Sub-Question B describes how the participants express emotions in the online learning environment when interacting in *small groups*. The sub-theme explains how small groups supplied a *safe environment* and thus allowed the participants to share their emotions, which increased their sense of belonging. Small group interactions during ice breakers and in breakout rooms provided an environment where the participants had a safe space to express their emotions without fear of rebuke or ridicule. Indicators of openness and emotional expression from affective responses in the conceptual framework helped realize participants' social presence in small groups where there was a safe space. The openness indicator helps explore Skye's social presence when she shared that a breakout room "makes me more like willing to talk, willing to be open, you know, try to share something interesting to make the class engaging. So, I'd say I'd say it does make me feel more connected." Abbey shared a time when she felt comfortable showing emotion in her breakout group when her classmates were not contributing, and she said, "I'll share my frustration. I'll be like, guys, we only have one minute left." She went on to say, "I don't express my emotions a lot when I'm in a classroom," but when she does, small groups help her develop a social presence. The emotional expression indicator in Abbey's example shows how the small group was a safe environment and enhanced her sense of

belonging. Small groups helped Skye and Abbey feel safe and more carefree when sharing their emotions in online learning environments.

Sub-Question C: How do Gen Z Participants Perceive Belonging in an Online Learning Environment?

Two themes facilitated answering the last sub-question, which strives to understand Gen Z participants' feelings of belonging in an online learning environment. The first theme prescribes that *online synchronous engagements helped the participants feel a sense of belonging*. The sub-theme details that *seeing others and using non-verbal cues* in real-time sessions enhanced participants' sense of belonging. Indicators of social sharing and embracing the group from the conceptual framework helped clarify participants' social presence. The indicator of social sharing in Ella's story was clear when she said in her Zoom sessions, they would do breakout rooms with cameras on, and "we would go through our homework," and it was an opportunity to "discuss a topic where we have to share new ideas." Embracing the group indicator helped see Sterling's sense of belonging when she shared that during her synchronous classes, she was able to see others, and it was "kind of nice to, you know, when you hear people talk and see them in class, that kind of makes me feel more connected." Ella and Sterling's examples show how seeing others during synchronous activities helped their feeling of belonging in their online courses.

The final theme to address Gen Z participants' perceptions of belonging in an online environment describes how the participants believed that *small groups* increased online social presence. The sub-theme demonstrates how small groups provided participants with a *deeper level of interaction*, which occurred primarily during office hours and in breakout rooms. The indicator of embracing the group from the sense of community in the conceptual framework supported the sense of presence felt by the participants. Rachelle's social presence is

demonstrated using the embracing the group indicator when she recounted how her feeling of belonging increased in smaller groups: “I was being forced to meet at the same time and like actually seeing people’s faces and then like when we did the breakout rooms you...talk to people...it felt like you were with the group.” Similarly, embracing the group indicator helped highlight Scarlet’s belonging when she attended her professor’s office hours. She shared that collaboration increased during “times that I’ve joined office hours, and there have been other students on there that are asking similar questions. So that’s nice to know that you’re not the only one that’s struggling with the same type of problem.” Both participants expressed how small groups increased their level of interaction, thereby improving their sense of belonging in the online learning environment.

Summary

This study was designed to determine how Gen Z students make meaning of their technology experiences in developing a social presence and their perceptions of social presence in a formal online learning environment. Seven themes appeared from the data analysis, of which five helped answer the two research questions and include: technology helped participants develop a social presence at a young age, technology continues to enhance their social presence, online synchronous engagement facilitates social presence, feedback is vital for online social presence, and small groups increase participants’ sense of belonging. The five themes and supporting sub-themes helped describe participants’ experiences when answering the two research questions and five sub-questions. Two themes, though not related to the research questions, still provide insight into the participants’ experiences with technology and social presence. The two themes found but not used in answering the research questions include: Gen Zers prefer in-person versus online

college courses and COVID-19's impact on how and when Gen Zers integrated technology and online learning.

Two themes helped answer the first research question and accompanying sub-questions, which explore how Gen Z students make meaning of their technology experiences while they were young and still today. The first theme suggests that the technology introduced to the participants at an early age helped them develop a social presence, sometimes unbeknownst to them. The second theme outlines how technology continues to enhance the participant's sense of belonging today.

The second research question and supporting sub-questions were answered using three additional themes and their nested seven sub-themes to describe how the participants perceived social presence in an online learning environment. The first theme describes how synchronous engagements helped the participants feel socially present in their online courses. The second theme shows how feedback was necessary for the participants to feel connected online. The final theme describes how Gen Z participants perceive social presence online in an educational setting through interactions in small groups.

Based on the unique characteristics of Gen Z students, two more themes were identified during data analysis but were not tied to the research questions. The first is that participants prefer in-person college courses over online options. The second theme, which is not related to the research questions, revealed that COVID-19 and the quarantine mandate that moved learning online affected how the participants integrated technology and their learning.

Chapter 5 - Discussion and Conclusions

Introduction

This study explored Gen Z participants' social presence in the formal online learning environment through the lens of the social presence theory (SPT). SPT asserts that online social presence is vital to foster because with it comes learner satisfaction and improved performance in the classroom (Lowenthal & Dunlap, 2020; Picciano, 2002; Richardson & Swan, 2003). However, research also suggests that Generation Z may develop a social presence uniquely based on the early introduction of technology in their lives (Rickes, 2016; Seemiller & Grace, 2019). Through the intersection of learning about technology experiences while growing up and feelings about Gen Z's social presence, academia can better understand how this influential cohort learns and perceives others in today's online classroom.

This research used the basic qualitative framework, including interviews and concept maps, to help 12 participants share their experiences with technology and a sense of belonging online. The social presence experiences described by the participants were identified using the three categories and supporting indicators in the conceptual framework. By examining the participants' experiences, this study developed seven themes and 10 sub-themes to describe Gen Zer's experiences with technology and their social presence preferences in the online learning environment.

Discussion of Findings

This research discovered two themes related to Gen Z and their use of technology and three additional themes associated with participant social presence in their online college courses. Two themes not explicitly linked to the research questions also helped explore the participant's preference for in-person over online classes and the impact of COVID-19 and their transition to

online learning. This section will discuss each theme and the related literary evidence supporting the findings.

Technology Helped Gen Z Students Develop a Social Presence at a Young Age

The first theme illustrates how Generation Z participants' exposure to technology at an early age influenced their development of relationships and social presence. Participants shared their practices using hand-held devices and social media and the integration of technology in their schools. According to Seemiller and Grace (2019), Gen Zers have "never known the world without the Internet" (p. 40), influencing how they develop relationships both in person and virtually. Technology at home and school affected the development of participants' social presence, as evidenced when Sadie shared that when her friends "were far apart if they were in a different state or they were 10 minutes away," she stayed connected through her hand-held phone. Gen Zers use their cell phones to communicate with others, and technology and social media applications "play a large role" in "developing and maintaining relationships" (Seemiller & Grace, 2019, p. 113). The two youngest participants in the study, Alicia and Scarlet, received their phones at the ages of 10 and 12, respectively, demonstrating their familiarity and comfort with using technology to foster relationships early in their lives.

The use of social media in their formative years allowed the participants to stay connected with their family and friends even when geographically separated. Seemiller and Grace (2019) assert that social media, texting, and messaging applications helped Gen Zers communicate in personal and educational environments. Most participants shared stories of how they kept connections throughout their early years using social media with applications like Snapchat, Facebook, TikTok, and Instagram. According to Seemiller and Grace's (2019) research, 70% of Gen Zers use Facebook and are friends with their parents and extended family; social media is the

catalyst in the development and maintenance of social connections. In this research, Rachelle affirmed this by stating she “used apps like Instagram and Snapchat to connect with her friends...and even though you weren’t together, you kind of still felt connected.” Familiarity with technology helped Gen Zers informally build social connections and simultaneously enabled them to expand the use of technology in academic settings to build relationships with their teachers and peers (Bullen et al., 2011).

Participants described how their middle and high school schools purchased and then integrated technology into the classrooms, which provided them the opportunity to learn how to develop a social presence in the academic setting. Gunawardena and Zittle (1997) advocate that familiarity with technology helps develop and can even increase social presence. Participants used technology in their primary education, which not only created expertise but also allowed them to fuse it with academic requirements and begin to foster a social presence at a very young age. Ella shared how “once you got to middle school, you had a Chromebook,” and she used that technology to learn, communicate, and develop a rapport with her teachers, creating an association between technology and her development of social presence. Seemiller and Grace’s (2019) research showed that technology had a profound effect on how Gen Z communicated, built relationships, learned, and engaged in educational settings.

Technology Enhances Gen Z Students’ Social Presence Today

Technology was critical not only to Gen Z participants in their early years but is still today, especially in the online classroom. Seemiller and Grace (2019) suggest that the technology used while growing up and early exposure to different applications in primary schools have fostered Gen Z’s desire to use technology in their college courses. “As such, teaching in higher education should respond” to Gen Z learning differences to accommodate the “more technology-driven”

(Lai & Hong, 2015, p. 726) preferences in the development of classroom structures. Because Gen Zers are familiar with developing a social presence using technology, applying efforts to incorporate technology they are familiar with will build their connections in the online classroom today. Teachers must meet students' needs at the right place and time to foster a social presence (Garrison et al., 1999).

Participants agreed that technology alone does not increase social presence; instead, it is how and when technology is integrated into virtual forums. Abbey shared that if professors do not integrate technology effectively, students will “spend the entire class like shopping or playing a game.” However, if applied thoughtfully, technology enhances social presence. For example, Penelope shared how the Canvas “email function” allowed her to “send messages” to her professor and ask questions when she needed clarification. Also, the discussion board application in Canvas allowed her to communicate with her peers and see their work, and she liked “to see what people are saying” and respond to their posts. She contends that the technology helped her build a sense of connection with her professor and classmates. Research shows that online course design and the way instructors integrate technology into their courses can improve learners' social presence (Tu, 2000). Specifically, Tu (2000) contends that based on elements of social learning theory, three dimensions of course design influence the development of social presence, including social context, online communication, and interactivity. As prescribed by the study participants, online communications can be enhanced using technology at the right place in time during online classroom instruction.

Online Synchronous Engagements Facilitate Social Presence

Another theme from this research infers that synchronous engagements in the online classroom helps facilitate a social presence. Participants shared how their online professor's

approach to integrating real-time activities was key, as well as the ability to see others and their non-verbal cues as a means to enhance their social presence. In Yu and Canton's (2020) study, they asserted that Gen Zers "demanded more real-time interactions with teachers and peers" (p. 8), and their most significant challenge in taking online courses was the lack of synchronous interactions in the virtual classroom. This research found that participants felt socially present when they were able to see and hear their professors and classmates in real-time sessions. Skye shared that she believes that synchronous sessions "helps with interconnectedness."

Yu and Canton (2020) specify that online communication like Zoom can help Gen Zers participate in real-time engagements, further demonstrating the link between technology and social presence. Participants described how online platforms like Zoom helped them feel connected in their online courses. Instructor interactions and engagement techniques can also enhance social presence if done with technology that replicates in-person experiences (Johnson et al., 2000). For example, Rachelle shared how Zoom technology "simulated a classroom experience" and increased her social presence even though she was meeting virtually. Using synchronous technology and thoughtfully integrating it into "online course design is critical in helping students feel a social presence" (Shea et al., 2019, p. 71).

However, just hosting synchronous sessions is not enough; professors must thoughtfully integrate themselves into the live classroom environment. Rourke et al. (1999) imply that a teacher's presence is enhanced using synchronous engagements and influences a learner's social presence. As highlighted by Ella, a teacher must thoughtfully develop and interact in real-time sessions to help Gen Zers feel connected. She shared that "when a professor is really excited and engaged about the material they're talking about, especially in a Zoom, it makes it a lot more interesting" and makes it easier to feel connected to the class. Professor interactions in

synchronous sessions are more critical to Gen Zers than peer interactions when building online connections (Swan & Shih, 2019). Teacher's presence, as described by Anderson et al. (2001), is critical in the development of a student's sense of belonging in synchronous activities through their design, organization, facilitation of discourse, and direct instruction. In this research, Jackie shared that her professor's presence in synchronous sessions was helpful, as "she will call you by your name" and "she tries to get personal," which facilitated a robust sense of belonging in her online class. Gen Zers want their teachers engaged and excited when teaching courses (Seemiller & Grace, 2019).

In addition to a teacher's presence, seeing others and nonverbal cues also helps Gen Zers feel present in real-time sessions. Rourke et al. (1999) claim a link between a teacher's presence and affective responses, including non-verbal cues and facial expressions, in the development of a social presence. In Wiener and Mehrabian's (1969) concept of immediacy, they contend that nonverbal cues such as facial expressions, body movements, and eye contact increase the sense of connection. Immediacy, otherwise referred to as the perceived distance in an online classroom, can be reduced through not only physical proximity but also through nonverbal cues like facial expressions (Gunawardena & Zittle, 1997). Short et al. (1976) also reinforced the importance of nonverbal cues when they found that "facial gestures and body movements helped develop a social presence" (p. 72).

Ella shared that "just being able to see how somebody talks and...their facial expressions" helped her during Zoom sessions "perceive others." Synchronous learning sessions in online classrooms are similar to face-to-face interactions and allow learners like Ella to feel like they are able to connect with others (Adelson & Keen, 2023). A study by Oztok and Brett (2011) concluded

that social presence was developed based on verbal and non-verbal communication found in synchronous engagements.

Feedback is Necessary for an Online Social Presence

In the next theme, this study found that feedback is important to Gen Z participants when developing their sense of belonging in the online classroom. Professor and peer feedback was equally crucial to the participants in both synchronous and asynchronous forums when developing their social presence in the online classroom. Borup et al. (2015) determined in their research that both text and video feedback were effective in providing students with quality assessments in their coursework and developing connections online.

Synchronous Feedback

Participants in the study shared how real-time interactions and feedback with their professors and peers allowed them to feel socially present in their online courses. When interacting with each other, participants felt the feedback in synchronous settings helped their sense of belonging. Rachele's experience with her professor when he "met with...[her] online individually on Zoom" and supplied her feedback on her essay helped her "form a connection." Aragon (2003) suggests that individualized and specific feedback by the professor, rather than general feedback to the group, helps learners develop a social presence in the online classroom. Abbey felt direct feedback from her professor "made me feel so much more connected" and "it wasn't just me reading it....it was her saying it to me." Online learners want feedback on all aspects of the coursework, including homework, tests, and participation efforts within the class (Aragon, 2003), and synchronous sessions supply learners with the opportunity to feel more connected.

Informal feedback from peers during real-time sessions also allowed study participants to develop deeper connections. Maya felt that feedback during synchronous sessions when she "made

lessons and we presented them” to her classmates, which helped her develop a closer relationship. She liked the interaction “because constructive criticism” helped her improve her assignment. Rourke et al. (1999) go on to assert that learners feel a social presence when they feel part of a community in the online classroom by acknowledging and providing feedback to others.

Asynchronous Feedback

Asynchronous feedback was equally important to the study participants. Scarlet felt that she was able to give and receive valuable feedback from her peers when “having to respond to discussion posts,” which “made me feel more committed” and connected to the group. Akyol and Garrison (2019) supported Scarlet’s sentiment when they found in their research that learners’ social presence increased when students were engaged in group activities and were able to share feedback, as Scarlet did during her group discussion board assignment. Borup et al.’s (2015) study goes further and implies that asynchronous feedback in activities like discussion boards may even be more efficient as “text feedback is more concise and to the point” (p. 175) than video feedback.

Despite the modality, research consistently implies that collaborative sessions in both synchronous and asynchronous environments help Gen Zers share feedback, which enhances their social presence (Yu & Canton, 2020). Professor and peer feedback were both significant to the participants in real-time and asynchronously, and when they received advice from others, their social presence increased. Professor feedback is key when providing support to learners and can help students better understand course requirements and accentuate their sense of belonging in the group (Garrison, 2019; Shea et al., 2019). Peer feedback, however, as highlighted by Skye, “helps with interconnectedness...and you know your groupmates work,” which created strong bonds and a more profound social presence. Garrison et al.’s (1999) research supported Skye’s statement

when they found that student-to-student feedback and encouragement led to deeper relationships and a sense of connection than feedback from teacher to student.

Small Groups Increase Online Social Presence

Participants in the study shared their experiences when engaging in small groups and their beliefs that it enhanced their social presence. This research found that smaller groups precipitated active engagements and familiarity among the participants, supplied a safe space to share ideas, and helped increase the depth of sharing, all the while increasing their sense of belonging.

Lowenthal and Dunlap (2020) also found that students felt a more substantial social presence in small groups over larger online classroom interactions.

Research has found that students who reported a high social presence also referred to small group activities as a catalyst for their sense of belonging (Swan & Shih, 2019). Ella shared that when she was in small breakout rooms, she was able to develop a more personal relationship “when it was just the six of us” and that she felt connected because it was more intimate, which helped her feel connected. Bruce and Block (2013) assert that students who actively engage in small group activities have improved learning and social presence because of their meaningful participation and interactions. Social presence manifests itself with active engagement amongst participants and in an environment that enables learners to feel like they are part of a community (Kehrwald, 2010). Picciano (2002) even suggests that the higher the frequency at which learners interact with each other online, the higher their perceived social presence.

Participants described online classrooms that often included hundreds of students, and the virtual environment was intimidating. Abbey shared that she “was especially scared in...[her] communication Research Literacy class because it was like...400 people...and it’s really hard to just, you know, unmute yourself and talk like...it feels stupid.” Jaber and Kennedy (2017) indicate

that online learners must feel safe sharing ideas and self-expression in order to develop a sense of connection with their classmates. They further assert that small groups are a means for learners to share information without fear of judgment, which increases their sense of safety and presence (Jaber & Kennedy, 2017). Maya shared that small groups were “better because you can like actually have an interaction...that is probably like where I feel...most socially connected.” In the Yu and Canton (2020) study, they also found the value of small groups, and after students were introduced and became familiar with their classmates, they preferred to “gradually move on to group projects later in the semester” (p. 7).

Small groups also allowed participants to have deeper and more meaningful interactions, which helped their sense of belonging. Sadie shared that in her small groups, “especially in engineering,” she was “able to participate more in the conversation and talk” about complicated subjects, which made her feel more connected to her classmates. Jaber and Kennedy (2017) found that “group work has a vital role to play in helping online students achieve deeper learning outcomes” (p. 226), and achieving those outcomes with their peers enhances social presence. However, despite research from many studies suggesting Gen Zers developed a social presence in small group settings, Lai and Hong (2015) still found that Gen Zers “did not show a preference for group work” (p. 734), but their participants still enjoyed discussing ideas with friends.

Gen Z Participants Prefer In-Person Classes to Online College Courses

This research found that two-thirds of the participants highlighted their preference for in-person classes over those offered online. The findings of Johnson et al. (2000) support this theme, as their study also found that students prefer in-person over online classes. Though this theme is not directly related to the research questions, the notion that Gen Zers felt that it was easier to develop relationships in person than during online courses is worthy of mention. Participants

believed online learning had an artificiality that made it more challenging to build connections with their classmates and professors. Ella shared that she “definitely feel[s] a lot more connected in my in-person classes.” Literature supports the preference for in-person classes, as Bullen et al. (2011) found that digital generations prefer face-to-face communication. Similarly, Seemiller and Grace (2019) found that 83% of Gen Zers prefer face-to-face communications, lending credibility to the study’s participants’ preference for in-person learning environments.

In-person classroom experiences enhanced participant learning and their ability to build relationships. Abbey shared that during her face-to-face language class, she felt a “bond between me and the teacher [by] continually seeing each other in person versus me having Zoom meetings...and I created an amazing relationship with my German professor.” Adelson and Keen (2023) reinforce Abbey’s perspective, and they found in their recent study that foreign language students prefer face-to-face courses over ones offered online. They concluded that students had higher levels of interaction and motivation during in-person classes. Swan (2003) asserts that face-to-face courses may be preferred over online because teachers can reduce the perceived distance in the classroom while in person, which enhances the learning environment. However, in Yu and Canton’s (2020) study, while 24% of their Gen Z participants preferred face-to-face learning, 44% preferred a hybrid of face-to-face and online learning. Perhaps because of the unique learning opportunities COVID-19 afforded students, face-to-face and online learning environments are coming to a crossroads.

COVID-19 Impacted How and When Gen Z Participants Integrated Technology and Online Learning

The final theme identified in the study describes how COVID-19 impacted the participants’ lives. Because of the mandated quarantine during the pandemic, participants were forced to move

their learning online while enrolled in both high school and college courses. COVID-19 forced academic institutions to make momentous changes to how students learned, including significant adjustments to the educational process (Zhou et al., 2020). Even though the participants were digitally savvy, when their classes moved online, they faced uncertainty and anxiety in transitioning to the learning modality. Rachele recalled that “when COVID hit, all my classes got moved online,” and her classes were completely asynchronous” and she “ended up not really talking to anyone in class.” Adelson and Keen (2023) contend that during the transition from in-person to online learning in the spring semester of 2020, most of their study participants found it challenging to migrate. They go on to say that the difficulties were primarily due to a “lack of personal motivation, technology-related factors, and course workload” (Adelson & Keen, 2023, p. 11).

Sterling shared that technology-related factors were the cause for her difficult transition during COVID and said, “Then we started on Zoom...and no one really knew how to work it.” As suggested by Adelson and Keen (2023), the technology issue was not due to Sterling’s inability to use technology; instead, it was more likely a lack of training with the Zoom platform and its capacity to facilitate the online class. During COVID-19, educators used a variety of technology tools to facilitate their classes, including synchronous Zoom sessions, learning platforms like Canvas, and mobile applications, including Google Classroom (Malysheva et al., 2022). Because of the speed at which the pandemic spread across the globe and the subsequent quarantine, teachers had little time to identify and train on technologies to facilitate online learning (Trust & Whalen, 2021).

Technology challenges during COVID-19 were not the only disruption for students; the transition to online classes in the middle of a school semester also caused uncertainty (Zhai & Du,

2020). Jackie described how her school “shut down for one week, and just made a plan, basically of like how we’re gonna continue” to finish the last semester of her senior year. Students like Jackie were now learning at home, lost all face-to-face interactions at school, and were forced to learn online using technology that was sometimes unfamiliar (Adelson & Keen, 2023). There is no doubt that learners struggled with COVID-19 quarantine requirements and the subsequent move to online learning, but this study and research suggest that Gen Zers struggled with the transition despite their tech-savvy backgrounds. Adelson and Keen (2023) found that learners were “generally unsatisfied with online learning during this time” (p. 2) because of the dramatic differences between learning in person and online.

Gen Z Social Presence and the Conceptual Framework

The conceptual framework described in Chapter 2 helped analyze the participants’ experiences and their perceived social presence. The three categories within the framework include the sense of community, interactive responses, and affective responses. All three categories in the framework were equally present during data analysis and helped link social presence to the participants’ experiences. The research summary of all three categories and their nested indicators based on the participants’ experiences are further described below. The analysis can help educators acknowledge the essential elements of developing an online social presence for Gen Z learners.

Sense of Community

The sense of community category in the conceptual framework helped examine social presence through the lens of group cohesion. Six indicators within the category further show when group connotations lend themselves to enhancing study participants’ sense of belonging virtually. Social sharing, greetings, course reflection, vocatives, embracing the group, and group reference indicators helped recognize and understand when the participants felt a social presence as they

shared their experiences. The most common indicators found during data analysis were social sharing, course reflection, embracing the group, and group reference. The sense of community indicators were found in all five themes and six of the 10 sub-themes. The study findings suggest that Gen Zers who can share social aspects of their lives, reflect on course requirements with their peers and instructors, and are given opportunities to develop group bonds in the online learning environment are more likely to develop a social presence.

Affective Response

The expression of emotions best captures the essence of affective responses and their associated indicators within the conceptual framework. Closeness, affiliation, openness, personal beliefs and attitudes, and emotional expressions through humor, self-disclosure, and feelings of warmth, love, sadness, and hatred are means by which to examine participants' sense of belonging as described in the affective responses. Throughout the interviews, even though participants shared that they were reluctant to express emotions during their online classes, affective responses were equally identifiable during data analysis compared to the other conceptual framework categories. In fact, affective responses prevailed in four of the five themes and in six of the 10 sub-themes used to answer the research questions. Based on the study findings, educators who facilitate opportunities where Gen Zers can share personal beliefs and attitudes, express emotions through non-verbal cues, and provide opportunities to share feelings openly are more likely to develop a sense of belonging in online interactions.

Interactive Response

Interactive response is the third category in the conceptual framework and asserts that social presence is identifiable when participants perceive others in their virtual communities. Nine indicators nested within this category helped acknowledge participants' social presence in the

online modality. However, three indicators were the most prominent and appeared from the participants' experiences, including asking questions, acknowledgment, and approval. Interactive responses helped construct the five themes and five of the 10 sub-themes. This research asserts that instructors who provide learning environments where students can ask questions and acknowledge each other are more likely to develop a virtual social presence.

Recommendations for Online Instructors

Gen Z female participants in this study had unique experiences growing up with technology and, in turn, were able to describe a social presence beginning at a young age. This research showed how these students continue to leverage technology today in order to develop their connections in the virtual classroom. Synchronous engagements, feedback, and small groups in the online classroom helped increase the participants' social presence. Practitioners can use the following recommendations based on study findings to improve their virtual classrooms. Prensky (2001) suggests that because Gen Z students are like none before, "As educators, we need to be thinking about how to teach both Legacy and Future content in the language of the Digital Natives" (p. 5). Online instructors should assess how they currently engage their Gen Z students and consider the recommendations highlighted below to enhance their future connections in the classroom.

Integrate Technology into the Online Classroom

This study found that effectively applied online platforms are critical in developing a social presence for Gen Zers. Online classrooms, by design, have technology already embedded into their infrastructure. However, it is incumbent upon educators with Gen Z students to know the generation's specific preferences and incorporate technologies appropriately. When developing a course's technological design, teachers should consider communication strategies using various

systems that resonate with Gen Zers, including Microsoft Teams, Zoom, group chat applications, Canvas, and other technologies, as previously mentioned by study participants.

Participants described their desire for more real-time interactions, including the use of multimedia resources to foster connections. Based on this study's findings, online instructors can incorporate synchronous technologies like Zoom, Microsoft Teams, or an equivalent institutional platform into their classrooms that allow students and instructors to see and hear each other in real-time. Online synchronous courses should strive to integrate technology and support a myriad of engagements, including large classroom sessions, breakout rooms, and office hours, to help Gen Z learners develop connections.

Additionally, as highlighted by the study participants, games and group competitions are real-time activities educators may consider incorporating into online classrooms. Games and competitions reinforce students' understanding of the lesson material while simultaneously providing Gen Zers with fun and competitive activities they grew up with. The internet supplies numerous online technologies that are appropriate for college courses, including Jeopardy, Kahoot, Trivia, Charades, Quizlet, Flipgrid, Mentimeter, and Flippity. Incorporating these technologies throughout the course design and into the synchronous sessions assists students in building relationships and fosters connections.

Because the study also suggests that Gen Zers prefer both synchronous and asynchronous sessions, online instructors might also consider using technologies that support asynchronous learning. Gen Zers favor activities, including online tutorials, interactive gaming, and storytelling, and they are more likely to consume information presented to them visually. As such, technologies like YouTube and TED Talks can help instructors describe and provide details about subjects while providing an asynchronous means to reinforce lesson material and enhance social presence.

Online instructors can also design assignment requirements where students present work or ideas using self-generated YouTube videos.

As study participants illustrated, additional online platforms allow learners to connect in a course and provide a variety of options that help them feel they can control the tempo and timing of their interactions. For peer-to-peer social interactions, using asynchronous chat applications like GroupMe or WhatsApp allows students to communicate without instructor oversight and at the time and location of their choosing. Research has shown that too much interference and monitoring of student-to-student communications by the instructor can diminish social presence. Finally, because Gen Zers are digital natives and may know technologies better than older generations, instructors should strive to be highly proficient in using their online technology to prevent similar frustrations as described by the study participants during COVID-19.

Develop Synchronous Activities to Enhance Social Presence

In addition to integrating technology effectively into the online classroom, this research also showed that synchronous activities helped Gen Zers develop a social presence, but only when done thoughtfully. This study found that educators should be intentional when developing how synchronous sessions are executed and drive the conduct of the learners. For example, participants described Zoom sessions where they were muted and did not need to have cameras activated, as well as their subsequent feeling of detachment. There are simple actions instructors can take to keep students engaged in synchronous activities and enhance social presence.

Online learning environments should strive to provide a safe learning environment that allows students to become familiar with each other and build connections. Developing relationships during synchronous sessions can be enhanced when video cameras are on, and participants can see each other. Non-verbal cues are a means to express emotions and

communicate during real-time sessions and can help Gen Zers feel more connected to each other. Non-verbal cues through written text and emojis can be used in chat boxes during synchronous sessions and are an added opportunity for instructors to facilitate discussion without disrupting the flow of class. However, online instructors should also monitor the chat box and respond appropriately as the class progresses. Gen Zers want to participate in their learning, and providing them the ability to engage using the chat box allows them to feel connected throughout the learning session.

As expressed by the study participants, synchronous sessions should be implemented thoughtfully, and students must know expectations. Synchronous session guidelines that are established and outlined in a class charter, learning contract, or syllabus for student recognition will help ensure compliance with learning expectations. Formal and written guidelines should include how synchronous sessions will occur, student behavior during sessions, dress code, and student responsibilities, ensuring there is a general understanding of expected behavior while online.

To further develop the sense of connection in the synchronous sessions, online instructors should strive to develop an environment that fosters openness and social sharing to enhance social presence. At the beginning of the course, an instructor can facilitate synchronous video introductions for each student, allowing the group to become familiar with each other before formal learning begins. Also, teachers may start an open dialogue with students prior to officially starting each class session and help create informal relationships by using first names, asking questions, and encouraging dialogue during open discussion opportunities. Beginning synchronous sessions 10 minutes prior to the scheduled class time allows for the instructor and students to talk informally and build social bonds while arriving at the session.

Finally, office hours provide teachers and students alike a forum to come together and develop relationships. Office hours via Zoom or other synchronous technology allow online instructors to interact with their students individually or as a group, and as communicated by the study participants, is an impactful way to facilitate Gen Z's social presence. Office hours can be an informal opportunity to see each other and discuss the curriculum, answer questions for upcoming exams, or discuss other related topics and check on student well-being. Though the discussions during office hours may be unstructured, they should be offered weekly and annotated on the course syllabus to ensure students always have an opportunity to meet synchronously.

Provide Continuous Feedback in Online Classrooms

Participants in the study also shared how feedback during online classes was critical to the development of their social presence. As some of the participants explained, online courses sometimes left them feeling alone and isolated, and feedback was a way to connect. Professor and peer feedback allowed participants in this study to understand their role in the class and provided a venue to reflect on their contribution to the group.

Teacher feedback is typically more formal and usually applies a grade to a student's work. However, instructors should strive to personalize each student's assessment and deliver feedback in real-time. Holding individual synchronous sessions after major exams and periodically during the course allows students to interact with instructors and shows the concern and commitment teachers have for their students. Feedback sessions can be short and voluntary but offered nonetheless to allow students to ask questions and receive added insights as necessary. If real-time feedback sessions are not tenable, online instructors may record themselves reviewing feedback and then provide it to each student. Verbal and non-verbal cues conveyed in video recordings allow students to have a deeper understanding of the instructor's feedback and feel more

connected. If video feedback is not workable, teachers may provide robust written or audio feedback to show the commitment and concern teachers have for their students.

Additionally, teachers should consider providing continuous informal and indirect feedback to students. Educators can supply informal feedback opportunities for students who have questions or concerns during synchronous office hours to foster learner connections in the course. Also, instructors can provide informal feedback by sharing their personal stories relating to the course material during student interactions. Sharing personal experiences shows the credibility of the instructor and enables students to realize the relevance of their teacher's experiences to the course material.

Peer feedback is also important to Gen Zers, and instructors should consider providing frequent student-to-student feedback opportunities to increase social presence. Students value peer feedback, and participants described how their social presence improved when they were allowed to respond to their peers' work. Discussion board activities are an excellent setting for students to read each other's work and provide feedback asynchronously. However, instructors should frame their discussion board requirements to optimize student opportunities to develop and explain their ideas independently and then provide feedback to their peers. Instructions for discussion board exercises should be specific and include a timeline to ensure that students post their answers and provide feedback to their peers appropriately. Discussion boards should also require each student to respond to multiple peers to provide diverse and holistic feedback. The goal of discussion board activities is to elicit independent and unique ideas; students should have to post their initial responses before they are allowed to see their peers' posts. If executed properly, discussion board activities can help students explore ideas, expand their thinking, and communicate with their peers, all the while enhancing social presence.

Use Small Groups to Enhance Online Social Presence

This study found that small groups enhanced Gen Z participants' social presence. Participants shared how small group settings affected their social presence and that smaller groups are more effective in developing connections. Small groups can include breakout rooms in synchronous sessions, assigned groups to work on projects, and other informal interactions where students can come together to enhance their understanding of the course material. Social interactions in small groups help strengthen connections because learners receive constant feedback, and there is a common goal amongst the participants.

Small groups in the form of breakout rooms facilitated the participant's desire to problem-solve and collaborate with their peers. Breakout rooms after large group sessions are helpful for learners to interact with their peers, ask questions of their professor, and synthesize their understanding of the lesson material. However, the breakout groups should be structured and require learning outcomes in the form of deliverable outputs at the end of the session to foster group collaboration and accountability. Also, instructors should engage with each of the breakout rooms to further interact and allow students to ask questions. Ensuring all students have their cameras enabled may facilitate a more personal relationship and increase connections between students. Breakout rooms should be small and include no more than 10 students in each group.

Collaborative learning activities and group projects increased learner-to-learner interaction among the participants, leading to improved social presence. However, for group projects to function appropriately, online instructors should provide small groups with specific guidelines on student expectations. As described by the study participants, each learner must be held accountable for project deliverables using metrics to ensure group requirements are equally distributed. Peer assessments are a tool that reinforces individual accountability, and instructors can use them to

determine participation and when assigning grades for small-group activities. In addition, instructors should consider providing formal class time for small groups to meet in breakout rooms to work on their projects. During breakout room sessions, instructors should engage with each group to provide oversight and guidance as requested by the students. Providing learners with the ability to work on projects in small groups allows students to interact with each other and develop bonds that improve social presence.

Finally, instructors can develop small groups to improve connections in the online classroom through study group sessions. Online instructors who develop study groups should give time for those groups to meet during class time. Study groups should be randomized and diverse to provide a holistic perspective for learners to gain insights and knowledge from others. Online instructors should also consider providing time at the end of formal sessions for study groups to review the course content, ask questions, review for exams, and engage with each other. Small-sized study groups provide learners with a more personal setting that allows students to feel comfortable and develop enhanced connections.

Recommendations for Future Research

As was the case in Akyol and Garrison's (2019) research, the findings of this research "suggest that social presence is a dynamic multidimensional construct that is in need of further study" (p. 16). The research used 12 female undergraduate participants in the United States to explore Gen Z's social presence in the formal online learning community. In addition, during data analysis, two of the seven themes were not directly related to the research questions but were noteworthy nonetheless. As a result, future research should focus on developing an expanded study size, exploring the preferences for in-person versus online courses, and developing a quantitative

approach to discover the statistical relationships between technology and the social presence of Gen Z learners.

Expand Sample Size

Participants in this study included female undergraduate students enrolled in an online college course. The Gen Z participants were enrolled in undergraduate programs within the last 24 months and resided within the U.S. Because research suggested social presence is perceived differently by gender, no males were included in the study, and 12 participants were selected based on the data saturation goals described by Creswell and Creswell (2018).

Shea et al. (2019) determined in their study that gender “played a role in predicting their overall sense of learning community” (p. 70) and that males and females may perceive social presence differently. As such, the study used female participants to identify themes for Gen Z learners’ social presence online. However, because research suggests that gender only has a slight significance in how educators foster learners’ social presence (Shea et al., 2019), research should now expand to include male participants. Shea et al. (2019) go as far as to suggest in their findings that in order for males to develop an online social presence, they “need greater support in the development of online communities” (p. 73).

Additionally, only undergraduate candidates were considered; however, almost 70% of students in graduate programs are Gen Zers (National Center for Education Statistics, 2022). Further diversity may also enhance understanding of Gen Z’s social presence if participants include learners outside of the U.S. Merriam and Tisdell (2016) suggest qualitative researchers should consider maximum variation sampling to seek “out those who represent the widest possible range” (p. 98) of Gen Z online learners.

Explore Theme Not Related to Research Questions

One of the themes highlighted in Chapter 4 described how Gen Z participants prefer in-person classes over online instruction. Though Gen Z research is increasing as the generation gets older, there is still limited qualitative research that explores the unique cohort's learning preferences. Leading Gen Z scholars Seemiller et al.'s (2021) most recent publication is three years old and largely fails to examine Gen Z students' learning modality preferences. Most of their research on college students focuses on in-person learning and fails to seek an understanding of the relationships or preferences between online and in-person learning. Thus, further exploration into preferred learning modalities can help academia meet Gen Z's collegiate needs.

Quantitative Studies

This research used Gen Z experiences and identified themes related to learners' social presence in formal online learning. However, the study was unable to determine any correlations or statistical significance between technology and social presence because of the qualitative nature of the design. As described by Creswell and Creswell (2018), quantitative research can further examine the relationships between technology and Gen Z college students' feelings of social presence in the online classroom. The themes from this study are natural starting points for quantitative researchers to develop assumptions to conduct further inquiry. Quantitative studies may also allow the academic community to make further generalizations and resource decisions on how to provide preferred learning environments for Gen Zers online.

Conclusion

An understanding of social presence is critical for academia to explore because research has demonstrated the relationship between perceived social presence, increased student satisfaction, and positive learning outcomes in online classrooms (Swan & Shih, 2019). The

purpose of this study was to explore how Generation Z students made meaning of their experiences with technology and social presence perceptions in online courses. The research used constructivism as a lens to focus on how Gen Zers make sense of their technology experiences and the development of their social presence online. This study also used a conceptual framework explicitly focused on social presence.

Findings from the research indicate that technology experiences influenced how and when Gen Zers perceive social presence. Participants described how influential technology was and continues to be in their lives. Additionally, they expressed how online classrooms that have intentional and frequent synchronous engagements helped them feel a connection to their professors and peers. Opportunities for the participants to receive continuous feedback and participate in small group engagements also helped facilitate their social presence and enhanced learning experiences.

Because of where the generation is in its cohort lifecycle, as described in Chapter 2, Gen Z's influence on today's society is immeasurable. Their role in higher education continues to be vital because they make up the majority of college-aged students. By understanding their past experiences, academia can leverage their propensities in learning to develop online classrooms that accentuate their familiarity with technology and social presence preferences. This research demonstrates that Gen Z learners who have a sense of social presence are able to engage within a community of learners, which may improve their learning and course retention. This study also provides a deeper understanding of Gen Z learners and straightforward strategies that online instructors can incorporate into their classrooms in order to enhance their Gen Z learners' social presence.

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Appendix A - Categories and Indicators

	Category	Indicator	Definition	Examples	Criteria
Garrison et al. (1999)	Expression of Emotion	Humor	Aims to decrease social distance	Convey goodwill	Not Applicable
		Self-Disclosure	Share feelings, attitudes, experiences, and interests	None identified by the researchers	
	Open Communication	Mutual Awareness	Evidence others are present, respond to others messages		
		Recognition	Process that fuels development and exchange of relationships	Compliments or encouragement	
	Group Cohesion	Encourage Collaboration		None identified by the researchers	
Rourke et al. (1999)	Affective	Expression of Emotion	Conventional or unconventional expressions of emotion	Repetitious punctuation, capitalizations, or emoticons	Not Applicable
		Use of Humor	Teasing, cajoling, irony, understatements, sarcasm	None identified by the researchers	
		Self-Disclosure	Present details of life outside of class or express vulnerability		
	Interactive	Continuing a Thread	Using the reply feature of software rather than start a new thread	None identified by the researchers	
		Quoting from Others'	Using software features to quote others or cutting and pasting selections of others' messages		
		Referring Explicitly to Others	Direct references to the contents of others		
		Asking Questions	Ask questions of others		
		Complimenting, Expressing Appreciation	Compliment others, express		
		Agreement	Express agreement with others' content or messages		
	Cohesive	Vocatives	Address or refer to others by name	None identified by the researchers	
		Refer to Group Using Pronouns	Address the group as we, us, our, group		
		Phatics & Salutations	Communication that serves a purely social function	Greetings or closures	

	Category	Indicator	Definition	Examples	Criteria
Swan (2002)	Affective	Paralanguage	Features of text outside formal syntax used to convey an emotion	Emoticons, exaggerated punctuation, or spelling	Not Applicable
		Emotion	Use of descriptive words that indicate feelings	Love, sad, hate, silly	
		Value	Expression of personal values, beliefs, and attitudes	None identified by the researcher	
		Humor	Use of humor	Teasing, cajoling, irony, sarcasm, understatement	
		Self-Disclosure	Sharing personal information, expressing vulnerability	None identified by the researcher	
	Interactive	Acknowledgment	Referring directly to the contents of others, quoting from others	None identified by the researcher	
		Agree/Disagree	Expressing agreement or disagreement with others		
		Approval	Expressing approval, offering praise, encouragement		
		Invitation	Asking questions or otherwise inviting response		
		Personal Advice	Offering specific advice to classmates		
	Cohesive	Greetings & Salutations	Greetings, closures	None identified by the researcher	
		Vocatives	Addressing classmates by name		
		Group Reference	Referring to the group as we, us, our		
		Social Sharing	Sharing information unrelated to the course		
		Course Reflection	Reflection on the course itself		

	Category	Indicator	Definition	Examples	Criteria
Hughes et al. (2007)	Affective	Expression of Emotion	Conventional or unconventional expressions of emotion	Use capitalization only if obviously needed	Refers directly to an emotion or an emotion
		Use of Humor	Joking, teasing, cajoling, irony, understatements, sarcasm	None identified by the researchers	Only code if clear indication that this is meant to be funny
		Self-Disclosure	Express vulnerability or feelings		Expression that may indicate emotional state but does not directly refer to it, uncertainty, non-comprehension
	Interactive	Referring Explicitly to Others	Reference to others	Explicit or implicit recognition that others have been a motivation	None identified by the researchers
		Asking questions	Students ask questions of each other	None identified by the researchers	
		Complimenting, Expressing Appreciation	Complimenting or showing appreciation for each other		
		Agreement	Expressing agreement with others		
	Cohesive	Phatics & Salutations	Communication that serves a purely social function	None identified by the researchers	
		Vocatives	Address or refer to others by name		
		Group Inclusivity	Address the group as a possessed or as a whole	Any reference to the group with a possessive noun	
		Embrace Group	Revealing life outside the group	Any expression that lets the group know about the circumstances of the author	

Appendix B - Pre-Interview & Demographic Questions

1. What year were you born?
2. What gender do you associate with?
3. What is the name and location of your school?
4. What year are you in your college studies (i.e., Freshman, Sophomore, Junior, Senior, or Graduate Student)?
5. When was the last time you took an online course?
6. Did your course use both synchronous and asynchronous delivery methods? Can you describe what they were (are)?
7. Do you know how to use and have the technical means to participate in Zoom video sessions?
8. Do you know how to use and have access to email for communications for this study?

Appendix C - Interview Protocol

Part 1: Introduction- Welcome the participants, make introductions, and thank them for meeting.

- Collect informed consent if not already submitted by the participant.
- Ask if there are any questions about the study or informed consent.
- Explain how the interview will be recorded and the intended conduct of the Zoom session.

Part 2: Questions- Use the following questions to guide the dialogue. Probing and follow-up questions may emerge from the conversations.

1. Would you share your experiences with the technology you used to stay connected with your family, friends, and teachers while in K-12?
2. What types of technology devices did you use at school?
3. Can you describe the methods your teachers used in K-12 that made you feel socially connected in the class?
4. What types of technology do you use in your online courses today?
5. Describe the types of technology you like and do not like to use to develop and maintain relationships.
6. Tell me about a time in the last 24 months when you used technology in an online course that made you feel socially connected to the class.
7. Can you provide examples of when you felt most connected to your classmates and teachers in the online class?
8. What activities or events in the online class make you feel like you are working as part of a group?
9. Tell me about a time when you experienced positive support from your peers or teachers in the online classroom. Tell me about a time when you felt negative support from your peers....Did those experiences make you feel less or more connected, and why?
10. Can you describe a time when you didn't perceive others or feel connected in your online class? What would have helped you achieve a better sense of connection?
11. Focusing on the online course you took in the last 24 months, describe the emotions you feel in an online course. Follow on Question: How did that impact your sense of belonging?
12. Tell me a story of when your classmates or teachers used emotional expressions, and how did that make you feel?
13. Tell me about the technology you used to express emotions in your online courses.
14. How willing are you in your online courses to share something personal?
15. Can you describe an event in your online courses that made you feel more committed to the class?
16. Tell me a story using your experiences in the last 24 months when you felt like a team member of your online class and why you felt like you belonged to the class.
17. Can you describe when you felt isolated while taking an online course? What made you feel that way? What would have helped you feel less isolated?

18. What are the differences between your face-to-face courses and online courses in how you feel connected to your peers and teachers?

Part 3: End the interview and discuss the concept map exercise.

- End recording and thank participant.
- Review the PowerPoint slides listed in Appendix E of the proposal.
- Describe the desired process for participants to complete the concept map.
- Answer any questions the participants have concerning the mapping exercise. Demonstrate a concept map development using the expert skeleton concept map and parking lot terms derived from the participant interview.
- Inform them that the interview will be transcribed, and they will have the opportunity to review it once the final interview is completed.
- Record notes and thoughts in the research journal.

Round 2 – Concept Map

Part 1: Introduction

- Review what was discussed during the first interview and the intent of the concept map exercise.
- Reminder to participants: they can withdraw from the study at any time.

Part 2: Review the participant's concept map and have them explain the development and outcomes of their map.

- The researcher will take notes and record them in field notes.
- The researcher will ask clarifying questions based on content and compare the information provided during the participant's initial interview.

Part 3: Discuss the researcher's concept map developed based on the participant's interview.

- Ask questions concerning discrepancies or similarities between the two concept maps.

Part 4: End the mapping exercise and discuss the intent for a follow-up interview.

- Thank the participant for completing the concept map.
- Answer any questions the participants may have about what has occurred thus far.
- Remind participants of the follow-up interview and the timeline in which that will occur.

Round 3 – Follow-Up Interview

Part 1: Introduction

- Reminder to participants: they can withdraw from the study at any time.
- Quotes or phrases from the initial interview and concept mapping exercises include:

[List for each participant in this area]

Part 2: Questions (To be determined based on the initial interview and concept map exercise).

[List for each participant in this area]

Part 3: End the interview and discuss concluding the participant involvement.

- End recording and thank participant.
- Answer any questions the participants have concerning the research study. Inform them that the interview will be transcribed, and they will have the opportunity to review it along with the first interview once the transcriptions are completed.
- Ensure they have the researcher's contact information if they want to discuss their participation further.
- Inform participants if they would like to receive a copy of the dissertation once it is approved and to please use the contact details to request it.
- Advise the participants of the gift card that will be sent electronically based on their support of the research study.
- Record notes and thoughts in the research journal.

Appendix D - Institutional Review Board



TO: Royce Ann Collins
Educational Leadership
Manhattan, KS 66506

Proposal Number: IRB-11614

FROM: Lisa Rubin, Chair
Committee on Research Involving Human Subjects

DATE: 03/23/2023

RE: Proposal Entitled, "An exploratory study of Generation Z students' social presence preferences in online learning."

The Committee on Research Involving Human Subjects / Institutional Review Board (IRB) for Kansas State University has reviewed the proposal identified above and has determined that it is EXEMPT from further IRB review. This exemption applies only to the proposal - as written - and currently on file with the IRB. Any change potentially affecting human subjects must be approved by the IRB prior to implementation and may disqualify the proposal from exemption.

Based upon information provided to the IRB, this activity is exempt under the criteria set forth in the Federal Policy for the Protection of Human Subjects, **45 CFR §104(d), category: Exempt Category 1.**

Certain research is exempt from the requirements of HHS/OHRP regulations. A determination that research is exempt does not imply that investigators have no ethical responsibilities to subjects in such research; it means only that the regulatory requirements related to IRB review, informed consent, and assurance of compliance do not apply to the research.

Any unanticipated problems involving risk to subjects or to others must be reported immediately to the Chair of the Committee on Research Involving Human Subjects, the University Research Compliance Office, and if the subjects are KSU students, to the Director of the Student Health Center.

Electronically signed by Lisa Rubin on 03/23/2023 4:04 PM ET

Appendix E - Informed Consent



Institutional Review Board (IRB)

Informed Consent Form

comply@k-state.edu | 785-532-3224

PROJECT TITLE:

An exploratory study of Generation Z students' social presence preferences in online learning.

PROJECT APPROVAL DATE:

3/23/2023

PROJECT EXPIRATION DATE:

N/A

LENGTH OF STUDY:

Approximately 6 months.

PRINCIPAL INVESTIGATOR:

Royce Ann Collins, Ph.D., Interim Chair, Adult Learning and Leadership, Educational Leadership Department

CO-INVESTIGATOR(S):

Dawn Hilton, Doctoral Student

CONTACT DETAILS FOR PROBLEMS/QUESTIONS:

Dr. Royce Ann Collins, (913) 307-7353

IRB CHAIR CONTACT INFORMATION:

If you have any questions regarding consent to participate in this research, feel free to contact one of the following Kansas State University Institutional Review Board Members:
Dr. Lisa Rubin, Chair, Committee on Research Involving Human Subjects, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224

PURPOSE OF THE RESEARCH:

The purpose of this research is to explore how Generation Z students perceive social presence within online courses. This study defines social presence as a learner's sense of belongingness in the online community based upon the ability to feel part of a group to project a persona. The definition of social presence drives this research examining Gen Z online learners' social presence preferences based on the influence of technology while growing up.

PROCEDURES OR METHODS TO BE USED:

Data for this research include two interviews and a concept map exercise. If you agree to participate in this research, you will be asked to participate in two interviews with the first one lasting 45-60 minutes and the follow-up interview 30-45 minutes. The concept map exercise will last approximately 30 minutes. The interviews and concept map exercise will be conducted remotely using password-protected Zoom link. The video file will be deleted, and the audio file retained for transcription purposes. You will be assigned a pseudonym and all identifying information will be removed. You will be provided the opportunity to review all interview transcripts for accuracy. Follow up interviews will be completed to clarify information and to allow you to give feedback from the initial interview and concept map exercise.

BIOLOGICAL SAMPLES COLLECTED (Describe procedure, storage, etc.):

Whole genome sequencing will not be included as part of the research

Not Applicable.

RISKS OR DISCOMFORTS ANTICIPATED:

There are no expected discomfort or risks related to this study. You may voluntarily withdraw from this research at any time.

BENEFITS ANTICIPATED:

A potential benefit to this study includes understanding Generation Z online learners and their social presence preferences. Minimal study has been conducted regarding how the introduction of technology at an early age has influenced Gen Z learners and their social presence when enrolled in online classes.

EXTENT OF CONFIDENTIALITY:

No identifying information of individual participants will be collected, nor will the individual responses be in any way linked with your identity. You will be assigned a pseudonym. No information concerning your online courses or college will be included in the research. Following the Zoom video conference interview, the video portion will be deleted. Only the audio and transcript will be retained for analysis purposes. The audio file will be downloaded to a password protected computer owned by the researcher. All electronic documents will be maintained in a password-protected electronic format for three years on a hard drive and stored in a locked cabinet. After three years, the data will be deleted from all electronic storage and all hard copies shredded.

At the conclusion of the study, research results will be available to you upon request. You may contact the doctoral student at hiltond@ksu.edu.

The information or biospecimens that will be collected as part of this research will not be shared with any other investigators.

Terms of participation: I understand this project is research, and that my participation is voluntary. I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation, penalty, or loss of benefits, or academic standing to which I may otherwise be entitled.

I verify that my signature below indicates that I have read and understand this consent form, and willingly agree to participate in this study under the terms described, and that my signature acknowledges that I have received a signed and dated copy of this consent form.

PARTICIPANT NAME:

--

PARTICIPANT SIGNATURE:

--

DATE:

--

**WITNESS TO SIGNATURE:
(PROJECT STAFF)**

--

DATE:

--

Appendix F - Study Timeline

	Week												
	1	2	3	4	5	6	7	8	9	10	11-15	16-19	20
Pilot													
Initial Interview	X												
Concept Map Exercise		X											
Follow Up Interview			X										
Participants 1 and 2													
Initial Interview				X									
Concept Map Exercise					X								
Follow Up Interview						X							
Participants 3 and 4													
Initial Interview					X								
Concept Map Exercise						X							
Follow Up Interview							X						
Participants 5 and 6													
Initial Interview						X							
Concept Map Exercise							X						
Follow Up Interview								X					
Participants 7 and 8													
Initial Interview							X						
Concept Map Exercise								X					
Follow Up Interview									X				
Participants 9, 10, and 11													
Initial Interview								X					
Concept Map Exercise									X				
Follow Up Interview										X			
Coding													
Pre-Coding	X	X	X	X	X	X	X	X	X	X			
First Cycle of Coding											X		
Second Cycle of Coding												X	
Themes/Sub-Themes													X

Appendix G - Concept Map Exercise Protocol

CONCEPT MAPS

Reference: Yelich Biniiecki & Conceicao (2015). Using concept maps to engage adult learners in critical analysis. *Adult Learning*, 27(2), 51-59.

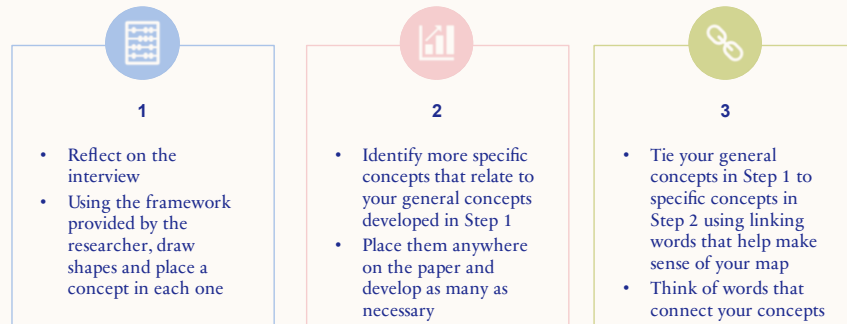
WHY AM I ASKING YOU TO DEVELOP A CONCEPT MAP?²

- Tool used for this qualitative research
- Visual representation you and the researcher will use to depict a shared understanding of your technology experiences and when you feel a social presence in online learning
- Validate the meaning of your interview

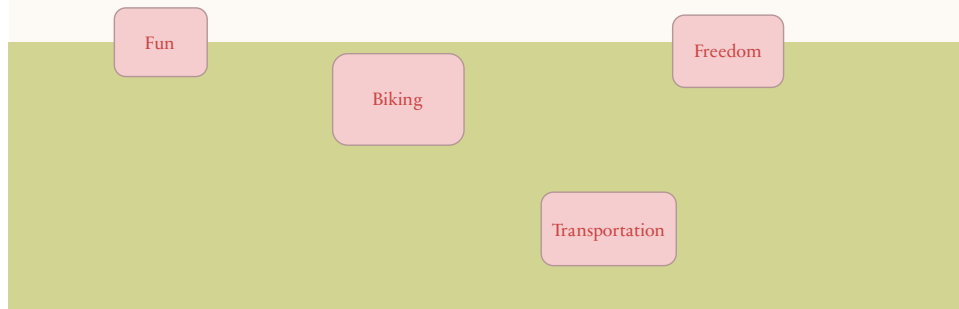
WHAT IS A CONCEPT MAP?

- Uses hierarchies through words and shapes to depict relationships
- Linking words will help describe relationships between your shapes
- Will help describe your sense of belonging in the online classroom and your technology experiences growing up

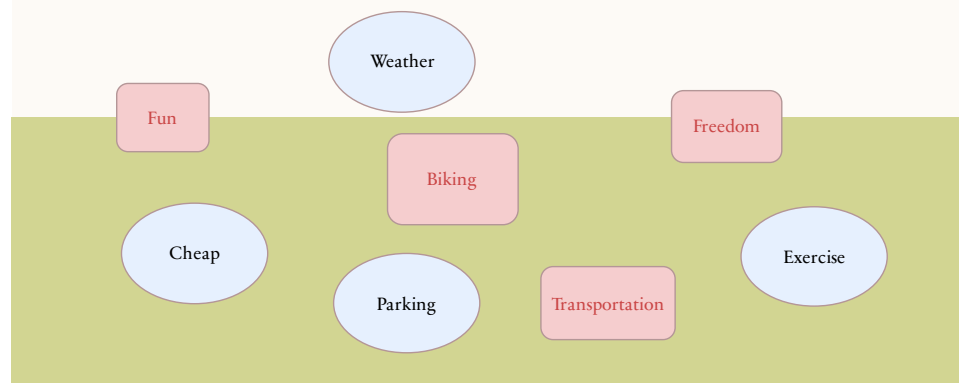
STEPS IN DEVELOPING MAP



EXAMPLE OF CONCEPT MAP AND RIDING A BIKE (STEP 1- GENERAL CONCEPTS)

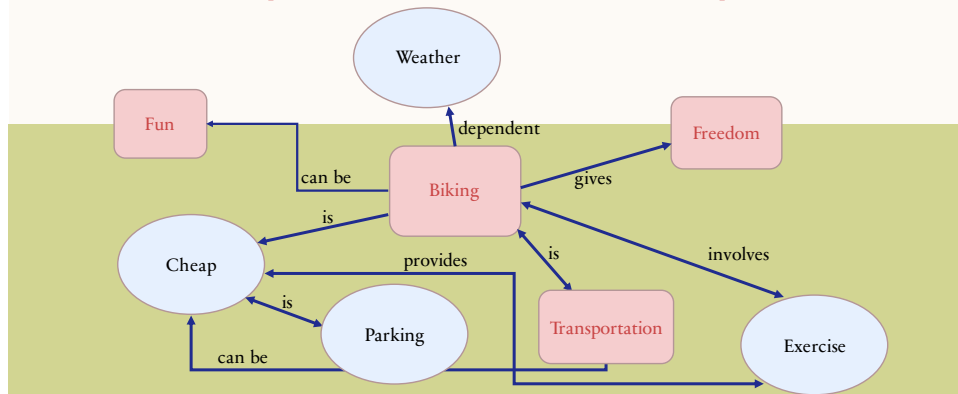


EXAMPLE OF CONCEPT MAP AND THE INTERVIEW PROCESS (STEP 2- MORE SPECIFIC CONCEPTS)



EXAMPLE OF CONCEPT MAP AND THE INTERVIEW PROCESS (STEP 3- LINKING WORDS)

8



THINGS TO HIGHLIGHT IN YOUR MAP

9

- ✓Technologies growing up
- ✓Social presence growing up

- ✓Technologies now
- ✓Social presence now

NEXT STEPS

10

- Develop a concept map based on your social presence preference in the online classroom and experiences with technology
- Complete concept map within one week
- Meet with the researcher and explain your concept map
- Compare the concept map that the researcher developed and the one you did
- Discuss the similarities and differences between the concept maps

SUMMARY

- Concept maps will help you convey how you feel socially connected in the online classroom and your experiences using technology
- Concept maps will help the researcher validate the meaning in your interview transcripts and create a shared understanding of your technology experiences and social presence preferences
- Now, please reflect on your interview and develop your own concept map of your social presence preferences and experiences using technology

11

THANK YOU

Appendix H - Data Alignment

Research Questions	Sub-Questions	Interview Question	Concept Map	Conceptual Framework
RQ 1. How do Gen Z students make meaning of their technology experiences in developing a social presence in a formal online learning environment?	How do Gen Z participants describe their experiences with technologies in developing social presence during their primary through high school years?	Would you share your experiences with the technology you used to stay connected with your family, friends, and teachers while in K-12?	Sense of Community	Sense of Community
		What types of technology devices did you use at school?		
		Can you describe the methods your teachers used in K-12 that made you feel socially connected in the class?		
	How do Gen Z participants describe their experiences with technologies they use today in developing a social presence in formal online learning environments?	What types of technology do you use in your online courses today?		
		Describe the types of technology you like and do not like to use to develop and maintain relationships.		
		Tell me about a time in the last 24 months when you used technology in an online course that made you feel socially connected to the class.		
RQ 2. How do Gen Z students perceive social presence in a formal online learning environment?	How do Gen Z participants perceive others in a formal online learning environment?	Can you provide examples of when you feel most connected to your classmates and teachers in the online class?	Interactive Responses	Interactive Responses
		What activities or events in the online class make you feel like you are working as part of a group?	Sense of Community	
		Tell me about a time when you experienced positive support from your peers or teachers in the online classroom. Tell me about a time when you felt negative support from your peers....Did those experiences make you feel less or more connected, and why?	Interactive Responses	
		Can you describe a time when you didn't perceive others or feel connected in your online class? What would have helped you achieve a better sense of connection?	Sense of Community	

Research Questions	Sub-Questions	Interview Question	Concept Map	Conceptual Framework
RQ 2. How do Gen Z students perceive social presence in a formal online learning environment?	How do Gen Z participants express emotions in a formal online learning environment?	Focusing on the online course you took in the last 24 months, describe the emotions you feel in an online course. Follow on Question: How did that impact your sense of belonging?	Affective Responses	Affective Responses
		Tell me a story of when your classmates or teachers used emotional expressions, and how did that make you feel?		
		Tell me about the technology you used to express emotions in your online courses.		
		How willing are you to share something personal in your online courses?		
	How do Gen Z participants perceive belonging in a formal online learning environment?	Can you describe an event in your online courses that made you feel more committed to the class?	Sense of Community	Sense of Community
		Tell me a story using your experiences in the last 24 months when you felt like a team member of your online class and why you felt like you belonged to the class.		
		Can you describe when you felt isolated while taking an online course? What made you feel that way? What would have helped you feel less isolated?		
		What are the differences between your face-to-face courses and online courses in how you feel connected to your peers and teachers?		