Pre-Service Teachers Using Social Media: Self-Concept in Online Spaces

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Dedication

This dissertation is dedicated to my husband for his unwavering confidence in me, my children for reminding me there is joy in learning, my family for their unquestioning support, and my friends for giving me social respite when needed.

Abstract

With the expansion of personal interactions to online spaces, specifically through social media, individual identity and self-concept development can be subjected to a variety of interactions, experiences, and comparisons. For pre-service teachers (PTs), interactions through social media can be experienced through both a personal and professional lens. The purpose of this research was to better understand the relationship between PT self-concept and social media use. A survey design method with Likert scale instruments was used to determine potential correlations between PT self-concept clarity and self-presentation across personal and professional spheres online. Univariate correlational analyses were run between the four Likert scale tools and results indicated a weak, positive relationship between self-concept clarity and self-presentation. Self-concept differentiation was addressed by analysing the open-ended questions at the end of the survey, using a thematic qualitative approach. Results of the qualitative analysis suggested that PTs exhibited a high level of self-concept differentiation as they considered the content of what they posted and presented online for both personal and professional accounts, meaning they accurately utilized the desired self-concept traits for the differing environments. The findings showed that PTs' self-presentation in online spaces often aligned with their understanding of who they are and who they want to be, and they consider a variety of scenarios when presenting themselves online, including future careers, self-image, and the professionalism of teaching. The findings also showed that PTs compare themselves to others within the program, often feeling a sensation of intimidation, competitiveness, and perfectionism. An implication for teacher education is for programs to provide additional supports for PTs who struggle to navigate the

competitiveness of a professional program, their own professional identity, and the concept of moral and ethical duties within their roles as PTs and future teachers.

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CHAPTER ONE: INTRODUCTION

Since the introduction of social media, people have been choosing to use online platforms through applications (apps) such as Instagram, Facebook, SnapChat, and TikTok, to communicate with others, conduct business, socialize, and advertise themselves or their products (Yang & Brown, 2016; Yang et al., 2018). Within these platforms, apps allow users to not only chat, text, email, and videoconference but also communicate by taking and sharing pictures and videos with communities the user chooses—both large and small (University of South Florida, 2022). People are connected worldwide through social media apps (i.e., Facebook and Instagram), actively or passively curating and sharing information, images, videos, ideas, and opinions. Social media posts can reach dozens to millions of people within seconds. Therefore, the very nature of social media communication (e.g., its speed, connectivity to large and varied communities, and ubiquitous access by social in daily life) can change how personal interactions occur with those around us—often, influencing the self-concept we project in these virtual environments. For this reason, understanding how self-concept develops in these virtual environments is of interest for those researching the influence of social media on our society.

Therefore, the research study described in this paper examined self-concept and social media. The American Psychological Association (APA, n.d.b) defines self-concept as "one's description and evaluation of oneself, including psychological and physical characteristics, qualities, skills, and roles. Self-concepts contribute to the individual's sense of identity over time" (para. 1). These evaluations of oneself, as Cooley (1922), Mead (1934), and Rosenberg (1979) argue, derive from the experiences and interactions with others. In the 21st century, many of these interactions are done online through social

networks using social media. The APA (n.d.d) defines a social network as a "relatively organized set of relationships that an individual or group has with others, including types and methods of communication, patterns of liking and disliking, and the strength of interpersonal connections" (para. 1). These networks and relationships are accessed through social media applications (apps). Social Media is therefore " a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User-Generated Content" (Kaplan & Haenlein, 2010, p. 61). Social interactions and self-concept now exist across two spaces, the online and offline worlds.

My interest in the relationship between self-concept development and social media use arose from my personal experiences on social media. Friends of mine had become fixated on the number of *likes* they would get on a picture they posted and would often be disappointed if they did not receive the amount of *likes* they expected. Friends would remove and re-post the same material to anticipate that posting at a different time would garner more attention. I watched friends who had relationships crumbling offline but online, they would post picture-perfect images to show the "strength" of their relationships. Criticizing their habits, I began to look at my own. As an educator, I would post overly optimistic, achievement-driven photos regarding supply teaching successes and humorous teaching failures. Socially, I would post about dinners, concerts, and weekends out with friends. I struggled with the two identities and knowing what was and was not appropriate to post as a graduate student, occasional teacher, and mid-20s-year-old. There was a definite disconnect between my social and professional selves, specifically within my online posts. I therefore became interested in how other teachers portrayed themselves online and offline.

Being an instructor in a Teacher Education program, I decided to examine how pre-service teachers (PTs) experienced social media. Carpenter (2015) suggested that PTs could use social media for professional networking and access educational resources during teacher preparation. However, Carpenter et al. (2020) mentioned that "social media tools can blur boundaries that often partition professional and personal life and require users to negotiate what facets of themselves they reveal online" (p. 4). The dualism that PTs and educators may face online can lead to conflicting ideas about personal identity and unrealistic expectations in both professional and personal atmospheres (Pittard, 2017). Once PTs obtain employment, school boards often have policies about what teachers are and are not allowed to post online. For example, the Hamilton Wentworth District School Board in Southern Ontario's (2021) *Social Media Guideline*s state that posts should "maintain a sense of professionalism and use good judgement at all times" (p. 4). Lower levels of professionalism and looser judgments about behaviour often seen in online personal spaces (Carpenter et al., 2020; Fox & Bird, 2017; Saini & Abraham, 2019) could conflict with the expectations of behaviours of those in the teaching professions.

Background and Rationale

Before the technological advancements of the internet led to the interconnectivity between online and offline social spaces through social media (McFadden, 2020), researchers explored self-concept development in offline interactions in areas such as academics, spirituality, athletics, personal relationships, and morality (Cooley, 1922; Marsh & O'Neill, 1984; Mead, 1934; Rosenberg, 1979). With the introduction of social media, the interactions on social media provide a space for further exploration of self-

concept through attributes of self, such as online self-presentation, self-esteem, and self-identity development (Jackson & Luchner, 2018; Khan et al., 2016; Yang & Brown, 2016). With the spaces in which humans interact expanding from in-person to online, how self-concept develops may be different or more diverse than previously experienced. For example, many daily interactions happen in a virtual setting through emails or texts, research communities, checking the weather and news, conducting business, sharing personal experiences, and sharing photos or blogging (Scolere et al., 2018). In the 1990s, measuring was accomplished with categories focused on how offline spaces developed qualities related to academics, spirituality, athleticism, literacy, mathematical computation, and relationships (Marsh, 1990; Marsh & O'Neill, 1984); however, today people are developing many of these qualities in online spaces, with the participant pool of comparison increasing from a limited group of people, such as found in one's school to the entirety of the internet (Fullwood et al., 2016; Strimbu et al., 2021). With the environment changing the way exposure to information happens, people should give more attention to the online and offline spaces where adults interact, and how these interactions affect self-concept development.

Additionally, for PTs, professional categories of interactions must be considered as it is common for PTs to be held to a specific ethical standard (Ontario College of Teachers [OCT], n.d.b), as the profession of teaching is often under society's metaphorical microscope. Specifically, the OCT (n.d.b) has four pillars of ethical standards—care, respect, trust, and integrity—where moral action and commitment to professional responsibilities are expectations of current and future educators. There is an expected level of professionalism, ethics, care, and morality in the teaching profession

(Abebe & Davis, 2004; OCT, n.d.b). PTs are often encouraged to promote their authentic, professional self by creating a positive digital footprint that reflects their professionalism (Buchanan et al., 2018; Lemon, 2014). Thatcher (2014) explained that a digital footprint is built through A person's online activity based on sites visited, purchases, interactions, and habits. Rather than hide every facet of their personal lives, teachers and PTs are encouraged to promote their positive selves online, almost as a marketing tool for future employers, principals, parents, and students (Dubowski, 2016; Reich et al., 2011). Furthermore, Buchanan et al. (2018) suggested that teachers should be able to model what good or positive digital footprints look like to their students. PTs develop different social skills to accommodate and navigate different social settings, which can include being a student, transitioning into professional practice, holding a part-time job, and socializing in a postsecondary lifestyle. From socializing, to academics, to professional practice, PTs have a lot to juggle. The ability to transition from place to place or group to group and utilize the social skills necessary for success in each space is referred to as self-concept differentiation (SCD; Donahue et al., 1993). Donahue et al. (1993) defined SCD as "the degree to which an individual's self is variable or consistent across personally important roles" (p. 834). As PTs explore various roles in online and offline settings, SCD is a central construct that needs to be examined through this research.

Alongside SCD, aspects of self-concept such as self-concept clarity (SCC) and self-presentation are vital to understanding how PTs perceive their self-concept through their use of social media. SCC is defined as "the extent to which the contents of the self-concept are clearly and confidently defined, internally consistent, and temporally stable" (Campbell et al., 2003, p. 122). According to Campbell et al. (2003), the strength of SCC

aligns positively with esteem, meaning that the better a person feels about themselves, the more clarity across environments and spaces they will have, strengthening one's overall self-concept. As esteem is the emotional tie between self-concept and one's abilities, actions, appearance, and worth (Rosenberg, 1979), how people present themselves, whether online or offline, may influence esteem and overall self-concept. How PTs present themselves online through social media will be addressed in this research to better understand a potential relationship between self-presentation, SCC, and SCD.

Research Purpose and Questions

This quantitative, survey-design study investigated PTs' perceptions of self-concept development through social media and described their engagement and interactions as professionals in their use of social media. This investigation into social media use and the effect of these experiences on the development of self-concept of teacher personae as a professional will be guided by the following overall question: How do PTs perceive their self-concept through their use of social media?

Sub-questions of the study were:

1.1 What is the relationship between PT self-concept clarity and online self-presentation?

1.2 How do PTs engage on social media as professionals?

1.3 How do PTs present themselves in online spaces compared to offline spaces?

Description of Pilot Study and Reflection

During my Directed Study course, I examined the research to locate assessment instruments that would measure aspects of self-concept development. The instruments found in this search were both valid and reliable but did not align with my research

questions about the development of self-concept online. Instead, the validated survey instruments measured offline self-concept in the traditional sense and had no inclusion of self-concept formation in online spaces. Researchers Johnson and Puplampu (2008) have suggested a technological uprising, meaning a strong increase in presence, access, and use of technological devices that have shaped personal connections to these devices that are now used in every stage of human development, from infancy to adulthood. With technological access and proximity in mind, I decided the traditional instruments to measure self-concept offline were not appropriate for this study.

I therefore created an instrument that would assist in measuring the development of online self-concept by asking comparative questions about the respondents' actions in online/offline environments concerning their truthfulness and approval-seeking behaviours in both spaces. A Likert scale from 1–5, with 1 representing strongly disagree to 5 representing strongly agree, was used to answer the questions. I called the instrument the *Online Self-Concept Questionnaire* (OSCQ) and I conducted a pilot during fall and winter 2018 to validate the research instrument, which was based on the abovementioned behaviours.

As this was the first data collection instrument I ever created, I gave respondents the option to provide input on the instrument itself. I received responses from 46 respondents over 6 months. Data from the pilot study using the OSCQ suggested that respondents would have preferred to explain themselves for some of the questions they were answering. For example, one respondent wrote, "I often wanted to agree with the statements about my online behaviours but didn't get to explain why, and therefore, I chose to pick the neutral option" (Downes, data sample, 2019). I believe this type of

study needs to include respondent opinions because the self is subjective, and often a person's experiences require explanation. Based on this feedback, I decided to include open-ended questions into the survey-based study.

I tested the internal consistency of the instrument, running Cronbach's Alpha Test (Field, 2009). The results were quite deflating as I loaded the tests based on the following factors: online/offline environments, emotional connections associated with social media, online frequency use, and truthfulness of self-presentation across online/offline spaces. The results of the testing presented unreliable factors ranging from 0.03–0.6. When using Cronbach's Alpha, the closer the coefficient is to 1.0, the greater the internal consistency of the items in the scale (Field, 2009). The lowest acceptable threshold would be considered 0.6, but it is deemed weak.

If I attempted to improve this pilot survey, it would have required a lot of time to revise and re-implement the survey, which would arguably extend the length of my dissertation work. I would argue that developing my scale was a tall task within the Ph.D., as my learning is constantly in flux. However, I do not regret the skills I have developed and the more robust understanding of statistical analysis I have gained. I hope to research more information regarding creating a tool in the future. After my Comprehensive Portfolio discussion with my committee members, I realized I had created unmeasurable constructs that derived more from personal bias than the literature. I ended up researching the literature to identify suitable constructs to measure self-concept that could also be applied in both online and offline spaces.

Therefore, the constructs used for this study were changed from truthfulness and approval seeking as investigated in the pilot, to self-concept clarity (SCC), self-

presentation (SP), and self-concept differentiation (SCD). This allowed me to use previously validated instruments, to examine self-concept constructs for this study.

Theoretical Framework

This study is framed/situated within a social constructivist perspective, which assumes that human development occurs through language, culture, and social interactions, in which learning, and knowledge acquisition are interdependent actions between the self and its surroundings (Vygotsky, 1978).

Vygotsky (1978) proposed that humans are social beings, and the self is developed through interactions with our social worlds, including our environment, cultures, traditions, and geography. In the 21st century, it is crucial to include technology and social media as new environments and spaces to navigate, where interactions are often characterized by unique cultural aspects of those doing the interacting, allowing participation in various global communities. Palincsar (1998) stated that socio-cultural perspectives (such as social constructivism) are rooted in ever-changing experiences and relationships. Although social media has become integral to communication and interaction in the 21st century, this research cannot assume that all aspects of this technology will remain the same throughout future decades. This research also uses Bronfenbrenner's (1979) ecological systems theory as a foundation for how social interactions can shape self-concept and elaborate on the expanded theory by Johnson and Puplampu (2008), which incorporates a technological component to human interaction. Through a social constructivist lens, the closest components to human development—including family, culture, environment, and traditions—can shape self-concept (Marsh, 1990; Vygotsky, 1978). From an ecological perspective, Bronfenbrenner's theory

represents the many layers and aspects of these social components and their proximity to a developing child. Briefly, the closest components to a child are likely parents and family, with more distant social components including systematic influences such as schools, churches, and nationalism (Bronfenbrenner, 1979). For this research, it is important to understand the basis for social development to understand self-concept development, and furthermore, to understand the way technological devices now play a role in development. These frameworks are explained in Chapter 2.

Significance

The participants of this study were young adults ranging from 20–35 years of age (APA, n.d.a). This generation was born into an era where daily, mobile internet access was always readily available, and the creation of networking and information sites such as Google had always existed. Specifically, late-Generation Z (born 1997–2012) and Generation Alpha (born early 2010s–mid-2020s) have only known a world with internet access to information and relationships (Nagy & Kolcsey, 2017). Therefore, self-concept development and attributes within self-concept, such as clarity, presentation, and differentiation, should begin to be assessed to include the online world. This research therefore expands the literature on PT identity by including the engagement of SCD of professional and personal dichotomies in online spaces.

Outline of the Remainder of the Document

This chapter provided the background and rationale for the research, the purpose and research questions, a brief introduction to the theoretical framework, and the study's significance. Chapter 2 will review the literature about pertinent constructs that inform the theoretical framework and conceptual framework and examine prior studies on self-

concept development and social media. These studies vary from understanding strong self-concept development, to the impacts of social media on self-concept development, to PT uses of social media in teaching, and teacher identity formation through social media. Chapter 3 will outline the study methodology, survey design, and include ethical considerations, data collection instruments, and the research timeline. Chapter 4 will present the study's results through quantitative and qualitative analysis methods that highlight the relationships between PT SCC, online self-presentation, and SCD. Finally, Chapter 5 will discuss the results and implications in relation to the current literature for theory, practice, and future research in the pursuit to better understand how PTs perceive themselves and their self-concept online as professionals.

CHAPTER TWO: LITERATURE REVIEW

This study is grounded in the theory of social constructivism and informed by the ecological systems theory. A general overview of these theories is presented in relation to social media and self-concept development. Thereafter, the literature on self-concept and its related constructs such as self-esteem, self-concept clarity (SCC), self-presentation, self-concept differentiation (SCD), social media, and pre-service teachers' (PTs') use of social media are discussed. Studies pertaining to the constructs are then examined to gain insights from prior research to inform the rationale and support discussion of findings from the current study.

Search Description

Based on the original research ideas presented in this chapter's introduction, the refinement of the research proposal led to a more narrowed search for current literature on PTs, identity, and social media use. Using the Brock University database, a search was conducted for peer-reviewed journal articles from 2015 to 2022 using key terms such as social media, self-concept, pre-service teacher, and identity. Coupled with the literature found in the Comprehensive Portfolio, which focused mainly on the foundational theories of self-concept and social media, this literature review was curated to connect foundational theories to new research about PTs' social media use and self-concept development.

Theoretical Framework

Several educational theoretical constructs lend themselves to this research. Specifically, this research flows from Vygotsky's (1978) sociocultural theory and Urie Bronfenbrenner's (1979) ecological systems theory. A general overview of social

constructivism is presented, followed by a discussion of how social constructivism relates to social media, self-concept development, and PTs. Then, Bronfenbrenner's (1979) ecological systems theory and how Johnson and Puplampu's (2008) expanded version of this theory act as a foundation for ways in which interactions via social media can shape self-concept will be explained.

Social Constructivism and Vygotsky's Socio-Cultural Theory

Psychologist Lev Vygotsky broke from the theory of cognitive constructivism after he observed that learning involved social and relational contexts of human interaction (Berkeley Graduate Division, n.d.) Vygotsky (1978) believed that human growth from infancy to adulthood was entrenched in social connections, meaning that the way we shape our views of the world around us is built from the social and cultural experiences we are exposed to. Vygotsky's socio-cultural theory is rooted in "the dominant role of social experience in human development" (1978, p. 22), expressed through language, cultural traditions, values, and expectations. Whereas human development is socially situated, it also has a vast basis in biological sciences which should be kept in mind (Vygotsky, 1978). According to Marginson and Dang (2017), a person's knowledge development is also impacted by aspects of "sociohistorical and natural (biological) evolution" (p. 118), meaning that socio-evolution through intergenerational experiences are common learning influences. Social constructivism, however, derives mainly from the notion that social interactions and relationships are the driving force behind knowledge development (Berkeley Graduate Division, n.d.) and knowledge is constructed from both social and cultural representations or perspectives (Clarke & Visser, 2019). Through language, traditions, cultural norms, and interpersonal

relationships, knowledge is built and shaped by personal experiences and affordances (Woolfolk et al., 2020).

Understanding social constructivism from a theoretical standpoint must begin with how meaning is made, interpreted, internalized, and acted upon during social interactions (Prawat, 1999). Through the terms scaffolding and learning within a zone of proximal development (ZPD), Vygotsky explained that knowledge acquisition is reliant on other, more knowledgeable mentors such as parents, peers, or educators (Woolfolk et al., 2020). Wertsch (1985) explained that Vygotsky's ZPD was a transformational process by which the learner built their potential for knowledge growth through stages of capability. Meaning that each learner, whether child or adult, has the potential for growth and this potential expands through the ZPD, whereby a more knowledgeable mentor can assist in skill development to aid in the overall growth or accomplishment of a task. Within the ZPD, learning is enhanced through scaffolding of information or scaffolding of supports for the learner to gradually assimilate and accommodate their knowledge and skill set (Woolfolk et al., 2020). Expanding on ZPD and scaffolding of learning, under social constructivism, Vygotsky explained that knowledge acquisition could be further enhanced or hindered through social contexts such as language, culture, and traditions.

Essentially, some criticisms of Vygotsky's theory stemmed from the inability to finish and fully connect to the field of psychology before his passing. Therefore, other theorists such as Dewey (1981) argued that Vygotsky's theory was incomplete and did not account for the importance of prior knowledge while learning new information and the inductive process of either building on or altering prior knowledge based on experiential learning (Prawat, 1999). Social constructivism is currently considered an

approach to knowledge acquisition, where knowledge is built through community and social contexts using a variety of methods such as collaboration, and both assimilation and accommodation of new and prior knowledge (Woolfolk et al., 2020). Dewey (1981) believed that social constructivism was transactional—a give-and-take between two entities—but cautioned that these transactions were not always equitable or favourable for all involved. The transmission of knowledge between Vygotsky's more knowledgeable subjects and the learner places a hierarchy amongst the two entities within the experience, ultimately adding to potential power dynamics or influence. Considerations for social constructivism revolve around the reciprocal nature of the transaction of knowledge, experience, and reaction. How meaning and feeling are attached to interactions can be a humanistic component to knowledge formation and may influence conceptions of self.

Social Constructivism and Self-Concept Development

Self-concept is based on internalization; the emotional connection humans associate with their interactions and experiences create the basis for an overall sense of self (Jones, 2015). Vygotsky's (1978) sociocultural theory is premised on learning and human development occurring through cultural traditions, language, and social interactions, which this researcher argues are the basis of self-concept development. From a social constructivist lens, learning is associated with the growth and expansion of knowledge through processes and internationalization of social interactions and experiences with materials, people, and the world beyond (Vygotsky, 1978). Within social constructivism, there seems to be acknowledgment of a reciprocal process for how we are impacted by society and our cultures and how we affect said society and culture.

Vygotsky (1978) argued that the self is not static but adaptive and ever-changing. Hence, the self and society are highly interconnected, continually growing and in flux. How a person internalizes and acts upon the interaction then aids in self-concept development (Rosenberg, 1989).

Stetsenko and Arievitch (1997) outline three critical assumptions of social constructivism relevant to the development of the agentic self (the future self) and human development. The first assumption is that "the individual is regarded as an active participant in conceiving and shaping its developmental course by being actively involved in a constant inter-*action* with the world" (Stetsenko & Arievitch, 1997, p. 160). Human interactions with the environment, systems, structures, and other people involve an exchange or transaction of information, energy, feeling, and time and it is this process that develops the self. Stetsenko and Arievitch (1997) argued that societal discourse and power could influence the weight, amount, and impact these interactions may have on each human. The second assumption of social constructivism related to development of the self is that the individual is exposed to a support structure that "emphasizes mutuality, cooperation, communication, and social embeddedness of the self and of the individual's development" (Stetsenko & Arievitch, 1997, p. 161); it is the shared social activity that results in cognitive and personal human development. The third assumption stems from "the role of language as a cultural mediator" (Stetsenko & Arievitch, 1997, p. 161) to connect people through interactions, both globally and generationally. Social media can enhance connections, interactions, and experiences between users worldwide. Social media has become a space where, regardless of the language, the message and context of what is posted online can be understood with minimal linguistic barriers (Bruns et al.,

2013). For example, through research on adolescent refugees, Kneer et al. (2019) found that using social media gave these adolescents a space to explore using informal language practices. The latter is consistent with Vygotsky's (1978) beliefs that self-development happened through language development; specifically, how meaning can be created and interpreted through language can be beneficial for social interactions (Prawat, 1999). Social interactions within social media are mediated by language as literal (written and spoken text) and by non-verbal images (interpreted meanings). For example, the online space for posting a picture provides both a space for written language and an interpreted meaning from the image enhancing connections, interactions, and experiences between users worldwide. With the advances in technology, such as social media, how are humans attaching meaning to their online experiences and self-development?

Social Constructivism and Social Media

Through a social constructivist lens, knowledge development and how knowledge is exchanged is not only socio-cultural, but it can also launch an emotional response to which that knowledge or meaning making is further internalized and acted upon (Palincsar, 1998). Vygotsky (1978) argued that knowledge is built and developed through cultural meaning-making, language, and the interactions between self and society (Kurt, 2020). The social media platforms and their users have developed a new culture for marketing (Fox et al., 2018), communicating (Scolere et al., 2018), and presenting (Strimbu et al., 2021) online that has created a cultural shift in our daily habits and routines. Most social media apps have age limits for registering and starting registration as young as 13 years. For this research, the term "user," unless otherwise stated, will refer to the participant population, young adults (20–35 years of age) (APA, n.d.d). How

people interact online through social media apps builds up a specific knowledge base for the user that focuses on the cultural norms of the community using the app(s) through cultural meaning-making. The user often experiences authentic emotional responses to the online content when viewing or engaging and alters their behaviours online to assimilate into the online culture (Fox et al., 2018).

From a social constructivist lens, the purpose of social media is to connect (van Dijck, 2013), ultimately creating a unique online culture. However, pragmatically speaking, how each person might choose to use their social media varies, creating sub-cultures within the overarching umbrella of social media use (Ellcessor, 2012). Clarke and Visser (2019) expand on the construction of knowledge online, stating that "individuals constructed community understandings and collective reality through exchanges" (p. 459). They were further attributing the construction of an online world and the interactions or exchanges between people in this space that create a dialogue, a perception, and a reality unlike what we experience offline. This reality can be different for each user, but the exchanges experienced, such as liking, commenting, and posting, are similar across social media platforms (Fox et al., 2018). Although social media has become integral to communication and interaction in the 21st century, this research acknowledges that all aspects of this technology will not remain the same throughout future decades.

Sociocultural Theory and Pre-Service Teachers

Vygotsky's theory of learning applies to how PTs learn to become teachers. Cultural knowledge and behavioural expectation are tied to the teaching profession that PTs are immersed in while studying in a Techer Education program. PTs are exposed to a wealth of knowledge, experience, conversations, educational philosophies, demonstrations,

professional development, and mentoring that can shape their cultural understanding of the classroom and future careers (Maxwell et al., 2018). It is through social interactions and collaborations with more knowledgeable persons such as peers, course instructors, and associate teachers that PTs develop knowledge about teaching. Another aspect of Vygotsky's (1978) sociocultural learning theory that has direct ties with how teachers learn how to teach children is the ZPD.

ZPD suggests that children have a range or distance between their ability to complete a task independently and they therefore need assistance or scaffolding from a more skilled peer or teacher to complete a higher-level task. Scaffolding is breaking down knowledge or modelling learning patterns to understand information better (Mercer, 2013). Spadafora and Downes (2020) suggested that for those working with children, scaffolding as an instructional method is pertinent to the success of the students' knowledge acquisition. Such scaffolding helps K–12 learners develop knowledge. However, besides developing curricular knowledge, PTs interact with K–12 learners throughout their educational program on a socio-cultural level, contributing to development of learners' self through teaching acts and by acting as role models (OCT, n.d.b). As role models for students, PTs are expected to portray high standards of ethics and morality both online and offline, an expectation of the teaching profession (Abebe & Davis, 2004; OCT, n.d.b). Interactions with social media may affect how PTs maintain professional teacher roles. Socio-cultural learning theory does not provide detailed explanations of how learning and self-concept development occur within the complexity of a technologically, changing society. In the following section, Bronfenbrenner's (1979) ecological systems theory is discussed and adds to the theoretical framework that informs this research.

Bronfenbrenner's Ecological Systems

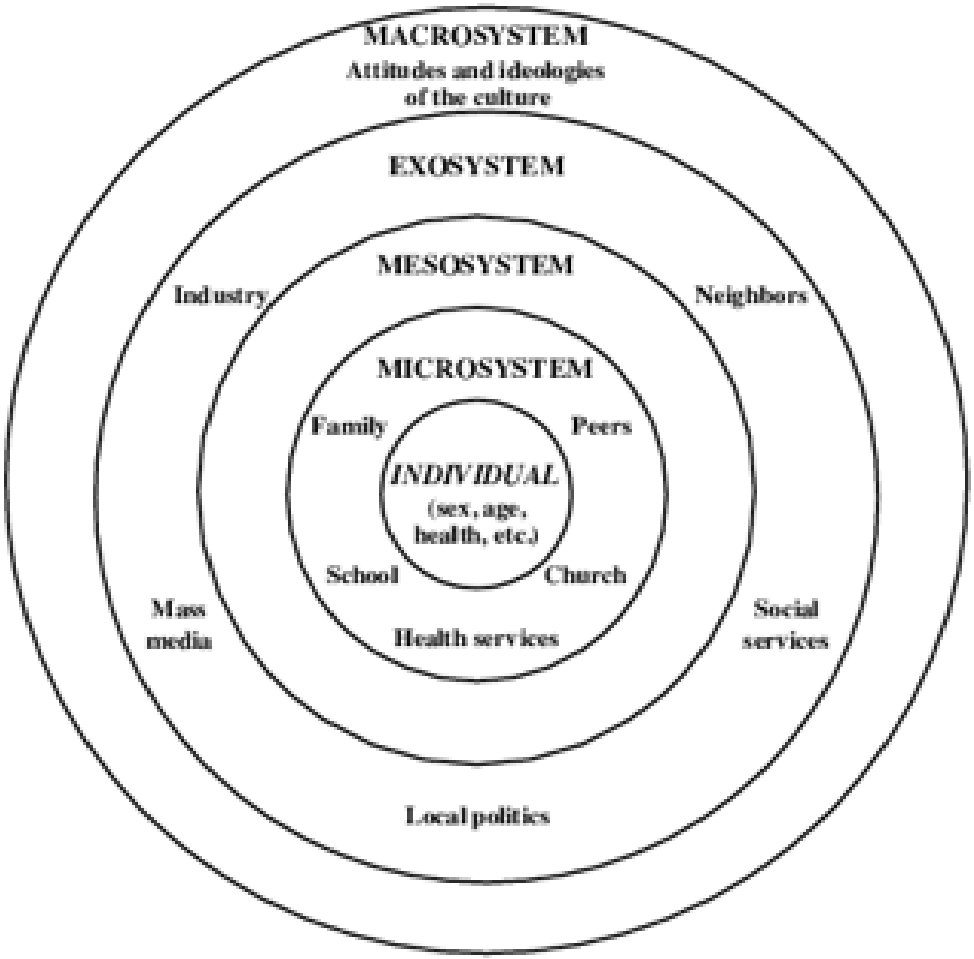
The ecological systems theory (Bronfenbrenner, 1994) presents the notion that as individuals develop, they are influenced and interact with different levels or rings of society. As illustrated in Figure 1, the closest level to the individual is the microsystem, where an individual is exposed to family, schools, and neighbourhoods. The second level is the mesosystem, which is representative of the interactions between the key stakeholders within the microsystem (i.e., teachers and parents interacting). The third level, the exosystem, encompasses indirect influences on the individual (i.e., neighbourhoods and media). Finally, the individual interacts with the macrosystem comprising of historical and cultural influences at the furthest level.

Prior to the Internet, human interaction and experience were limited to their community surroundings. Bronfenbrenner's (1979) ecological systems theory suggested that those cultural interactions in several intimate spaces were also impacted by aspects of human development such as nationalism, trauma, and cultural values. Humans learned in smaller communities or had fewer means of comparison due to a lack of knowledge acquisition. Now, with the expansion of the internet, small communities have a grander scale of comparison, expansive space to obtain knowledge, and limitless space to interact, learn, understand, and disagree with others.

As social interactions are no longer localized, Marginson and Dang (2017) suggested that self-development and learning through peer interaction are now being subjected to global comparisons but have also expanded the policy development to bring communities of the world to a more levelled playing field. In the 21st century, Johnson and Puplampu (2008) explained the need to include a techno-subsystem in Bronfenbrenner's ecological systems theory as digital devices are mobile and constantly connecting people.

Figure 1

Ecological Systems Theory



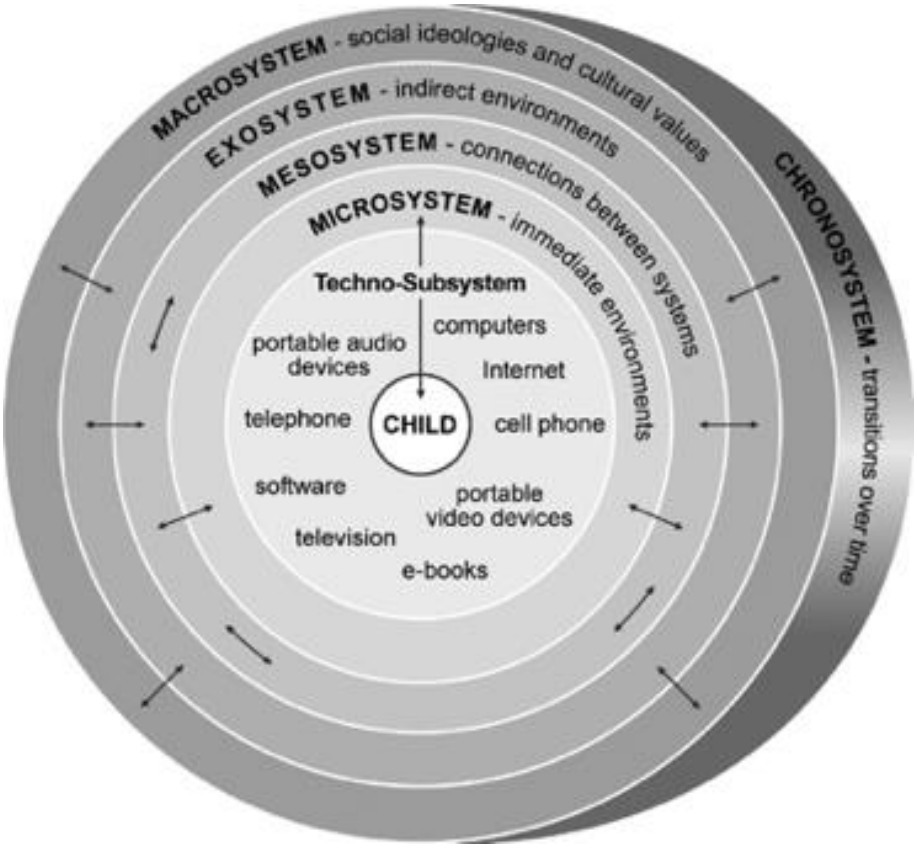
Source: Bronfenbrenner (1979).

As Bronfenbrenner's model was created before the accessibility and mobility of digital devices were prevalent, Johnson and Puplampu (2008) expanded the ecological systems theory to include the proximity of digital devices to our earliest development and closest spaces for learning. As illustrated in Figure 2, the first level is the techno-system. As televisions, cell phones, and computers are present in our daily activities, from grocery shopping to banking, connecting with others, and taking pictures, the techno-

subsystem represents the space where a child or individual can be influenced by technology. All the levels of society remain the same as Bronfenbrenner's model, except for the inclusion of the techno-subsystem. Johnson and Puplampu expanded on Bronfenbrenner's model to incorporate a bi-directional and lateral engagement between the rings of society, with the inclusion of the chronosystem, which represents the societal influence over time or transgenerational influences.

Figure 2

The Ecological Techno-Subsystem



Source: Johnson and Puplampu (2008).

As this research seeks to better understand self-concept development through PTs' online social media use, Vygotsky's (1978) sociocultural theory and Johnson and

Puplampu's (2008) model which incorporates the ecological systems theory can explain technology's influence on human lives in the 21st century. The connections we make online through social media may be either in conjunction or in competition with our offline communication, relationships, and interactions.

In sum, as we interact with society and the knowledge we are exposed to, we develop an understanding of who we are, but how does the addition of social media impact this understanding of ourselves? This study seeks to explore and explain how self-concept development, previously developed offline through human interactions and experiences, has been shaped by the integration of social media.

Literature Review

This section will provide relevant literature about self-concept, social media, and PTs' use of social media.

Self-Concept

In the field of psychology, human development is a highly complex and fluid process (Taylor & Workman, 2018), and many theories surrounding "the self" have become interconnected and reliant on one another. Studies of the self are expansive, incorporating new-found knowledge of the "the self" that are affected or can, in turn, affect self-concepts, such as esteem, identity, presentation, and even regulation (Gecas & Schwalbe, 1983). In 1902, Charles Cooley began developing his theories of "the self," constructing the term *The Looking Glass Self* (Cooley, 1922). Although he did not outright coin the term self-concept, he explained that our self-development begins with an experience or interaction. The way that experience is then interpreted and internalized creates a space where we learn to determine who we are. Cooley (1922) focused heavily

on the self and society, never outright using the term self-concept, but discussed how the self could interact and grow with societal changes. Specifically, Cooley believed the self is actively constructed through the development of imagination. Although Cooley did not fully develop his theory before his passing, he could make preliminary hypotheses about how the self was constructed.

Shaffer (2004) summarized Cooley's three components of the looking-glass self. First, the term 'actor' is used to describe the person who, in their development, is performing or acting their 'self' in society. For the sake of discussing the looking-glass self, the term "actor" will be used. Canadian sociologist Erving Goffman (1959) explained that humans perform their identities within society. Warburton (2015) described Goffman's theory of performativity as people taking on the role of an actor in different social spaces, illuminating their best selves in each social role and adjusting behaviour, appearance, and conversation within each different role to avoid social exclusion and embarrassment. However, Goffman's (1959) theory of self-performance indicated that the person or actor does not have a fixed self behind these masks or roles being played. The concept of no fixed self, according to other sociologists such as Cooley (1922), George Herbert Mead (1934), and Morris Rosenberg (1979), is not entirely accurate but holds some truth in that the self is ever-changing and in flux depending on the environment and interactions with others. Growth, essentially, is never a static or linear process.

The first component of the looking-glass self explains that every situation an actor encounters is a chance for them to reflect on the social performance they give to learn about themselves—ultimately constructing the person they believe themselves to be, based on how the actor imagines how others perceived them to be (Shaffer, 2004). In the

second component, the actor justifies or imagines what the other person thought of them, constructing the other person's idea of who the actor is (Shaffer, 2004). Finally, the last component of the looking-glass self describes the outcome of the actor's experiences after the actor processes the interaction as positive or negative and attributes an emotional response to the exchange, such as pride or embarrassment. The emotional response can then change the actor's behaviour (present or future). Ultimately, Cooley's (1922) early ideas of self-concept focused on the reaction to experiences and the perceptions the actor may build based on others' views, opinions, and interactions.

As self-studies expanded, Gecas (1982) explained that George Herbert Mead focused on how the self develops in social settings using language and cultural exchanges. Mead (1934) was known for creating the term *symbolic interactionism* to ground his understanding of self-concept. He believed that how people interact with symbols, signs, and language are culturally exclusive and socially constructed; interpreted by the person in that society, and therefore either successfully or unsuccessfully interacted with, based on the connectedness to the culture that developed the meaning behind the sign to be interacted with. Mead's theory articulated that a person's self-concept is usually high within their own or like-culture but can be low when interacting with unfamiliar languages, cultures, or knowledge. Blumer (2009) noted that symbols among cultures could be unique or very similar. For example, a stop sign, represented by a red octagon, is a symbol used worldwide, connected with the meaning "stop" and the action of halting. According to Mead's theory, the more we engage with these symbolic meanings within a culture, our self-concept becomes stronger.

Extending the works of Cooley (1922) and Mead (1934), Morris Rosenberg (1979) encapsulated the meaning of self-concept from its conceptual structures to its

practical applications. In Rosenberg's (1979) *Conceiving the Self*, he stated that the principles of self-concept are "reflected appraisals, social comparison processes, self-attribution, and psychological centrality" (p. 4), and used these principles to shape and expand on the different ways a person may develop their self-concept. Under the umbrella of self-concept, Rosenberg began to build on attributes of human development, such as self-esteem, which is highly entangled in the experiences that make self-concept. Self-esteem is defined as

> the degree to which the qualities and characteristics contained in one's self-concept are perceived to be positive. It reflects a person's physical self-image, view of his or her accomplishments and capabilities, and values and perceived success in living up to them, as well as the ways in which others view and respond to that person. (APA, n.d.c, para. 1)

Rosenberg discussed the relationship between self-esteem and self-consistency as a strong gauge of self-concept, detailing that through perceptions of the self, shaped by experiences, the consistency of self-esteem a person carries with them through those experiences can build up or break down one's self-concept. Rosenberg's (1965) Self-Esteem Scale is one of the most widely used measurement tools for self-esteem; it is a nine-item, Likert scale from strongly agree to strongly disagree, posing questions such as, "on the whole, I am satisfied with myself."

The human connection to the social sphere becomes ever-present in the works of Weisbuch et al. (2009) as these researchers elaborated on the process of building self-esteem with self-concept, explaining self-esteem as a function of the self that contributes to one's self-concept because "self-esteem is responsive to direct social feedback" (p. 143). Self-esteem is the emotional connection we build within these identities as we

participate in and react to the outside world (Gecas & Schwalbe, 1983). We then gain a high or low self-concept by evaluating ourselves during these outward interactions and emotional connections with society (Gecas, 1982; Rosenberg, 1979). Existing self-concept literature supports combining these three personal attributes, identity, esteem, and evaluation, under the term self-concept as it adds to the fullness of the global model (Gecas, 1982; Nurmi, 2013; Oyserman et al., 2012; Rosenberg, 1979).

Moving into the 20th century, theorists continued to explore the many aspects of the self. Some researchers referred to self-esteem and self-concept as one in the early- to mid-20th century, such as in *The Looking Glass Self* (Cooley, 1922). However, Gecas and Schwalbe (1983) disputed some of Cooley's theories in their subsequent work, "Beyond the Looking-Glass Self"; they argued that Cooley's perspective did not account for the individual's actions in developing "their self," especially efficacious action, autonomy, or reciprocity. Gecas and Schwalbe (1983) discussed how important self-esteem is to self-concept, determining that while engaging in an interaction, the cultural context and social comparison factors play a large role in how we analyze and evaluate ourselves and that "individuals are more likely to judge themselves in comparison to others like them who are performing in similar contexts of action" (p. 83).

Definitions of self-concept are often generalized to encompass the many aspects or layers of the self or focus on one part of self-concept, such as interaction, emotion, or appearance. For example, Epstein (1973) defined self-concept as "a theory that a person holds about himself as an experiencing, functioning being in interaction with the world" (p. 3). Ludwig (1970) believed that self-concept was a part of one's personality and could/should be measured with accurate scales. Alternatively, Turner (1979) argued that

self-concept was a recognition of physical attributes and feelings associated with outward appearance and image. Turner looked at the human mind's self-evaluative measures while forming a self-concept. Referring to Cooley's (1922) second stage of the looking-glass self, Turner's self-concept theory explicitly connects to the self-evaluative process imagined by the actor. Rosenberg (1989) took the idea of being, of objectivity, and used Mead's (1934) societal symbolism to expand the notion of self-concept, bridging the specific aspects and overarching understanding to describe self-concept as "the totality of the individual's thoughts and feelings with reference to [the] self as an object" (Rosenberg, 1986, as cited in Rosenberg, 1989, p. 34). The fullness of human self-concept presented in Rosenberg's definition highlights the individual thought and feeling with the notion of place in society.

Other theorists, such as Shavelson and Bolus (1982), questioned which aspect of self-concept was most important and if each person's self-concept is developed with the same qualities of importance. Shavelson and Bolus are known for pinpointing the relationship between self-concept development and environment. The environment can be a causal variable in positive self-concept development as surroundings, whether rural or urban, and contributors such as geographical safety or access to services can shape the interactions had with others (Gecas, 1982; Nurmi, 2013). Gecas (1982) and Marsh (1990) believed that spirituality and morality played vital roles in self-concept development. However, spirituality is different worldwide, and the type of religion practised is highly geographical. At this point, this literature review has explored the growth of the definition of self-concept. The definition of self-concept has moved from perceiving how others view a person, internalizing this perception and adjusting the behaviour to the

social context, to a person's comparison of themselves (in multiple capacities) to others, ultimately determining how they "stack up" to others.

In the late 20th century and early 21st century, researchers began focusing on the evaluative aspects of self-concept by developing measurement tools such as surveys. Coopersmith (1967) suggested that self-concept was connected to a person's overall sense of worthiness, and from that understanding of Coopersmith's definition, Harter (1999, 2012) then created a self-reporting self-concept questionnaire, using nine different domains: scholastic, social, athletic, physical, job competence, romantic appeal, behavioural conduct, close friendships, and global self-worth. The models developed in the late 20th century differed in several ways. For example, Shavelson and Bolus (1982) and later Marsh (1990) used a hierarchical self-concept model to distinguish a person's beliefs about themself as most important compared to their domain-specific aspects of themself such as the domains mentioned above used by Harter (1999). Harter (2012) uses both domain-specific and global self-worth measures. For example, scholastic and job competence are domain-specific components connected to a direct location or environment. Global self-worth measures "how much one likes oneself as a person, overall" (Harter, 2012, p. 2) and is scored separately from the domain-specific questions. Domain-specific and global self-worth is used to provide the researcher with a well-roundedness of the participant, allowing the participant to connect to specific places while being asked to give a general feeling of who they are overall. As measurement tools improved and the self-concept definition became more defined, several researchers emphasized the need for tracking self-concept over time (Kernis & Goldman, 2002) as these traits could be measured across similar populations (Khan et al., 2016).

The self-concept definition has changed over the last century to include aspects of self, such as esteem, environment, identity, and personal traits. For this research, the definition of self-concept is "one's description and evaluation of oneself, including psychological and physical characteristics, qualities, skills, roles, and so forth. Self-concepts contribute to the individual's sense of identity over time" (APA, n.d.b, para. 1). Because self-concept has many encompassing aspects, this research will focus on self-concept in adults with respect to the following constructs: clarity of self-concept, self-presentation online, and self-concept differentiation.

Self-Concept Clarity

Self-concept generally has many facets that contribute to an overall sense of self. Campbell et al. (2003) define self-concept clarity "as the extent to which the contents of the self-concept are clearly and confidently defined, internally consistent, and temporally stable" (p. 122). In Campbell et al.'s (1996) study, 471 undergraduate participants ranging from 17–41 years of age were tested for clarity, esteem, and the Big Five personality factors (extraversion, agreeableness, openness, conscientiousness, and narcissism) (Costa & McRae, 1989). Campbell et al.'s (1996) study determined that a more defined sense of self among undergraduate university students leads to higher self-esteem and less negative self-analysis. Campbell et al. (1996) also found that low self-concept clarity correlated with low self-esteem, meaning that the less defined and stable a person felt about themselves, the less self-esteem they felt. Nurmi (2013) discussed the idea that a strong self-concept should remain similar across many situations, defining self-concept as "the relatively stable schemata of oneself that are generalized to the extent that they refer to an individual's view of him—or herself across different situations" (p.

95). However, with the addition and accessibility of technology (including social media), the environments or spaces people move through overlap. Furthermore, in a study amongst adolescents between the ages of 13–18, Fullwood et al. (2016) assessed self-concept clarity and online self-presentation. They found that the older the adolescent, the more consistent and straightforward they were in presenting their true selves across multiple online platforms.

Campbell (1990) suggested that those who have a low self-concept clarity might seek validation or confirmation of self from external sources, which could lead to comparative habits to align or disassociate oneself among others (Butzer & Kuiper, 2006). As social media has become a space where users post photos or thoughts and receive feedback through likes and comments, someone with low self-concept clarity might find validation through social media. Yang and Brown's (2016) study assessed 218 first-year university students' self-concept clarity through their online use of Facebook. The study found that participants were intentional about the information they shared on Facebook, usually showing positive experiences or personal traits. However, "even though audience acceptance [made] students feel good about themselves, it [did] not help them clarify their self-concept" (Yang & Brown, 2016, p. 413). Those with low self-concept clarity, as suggested by Campbell (1990), might seek external support. However, Yang and Brown (2016) have confirmed that seeking clarity of self online via social media likely does not aid in determining a stronger overall self-concept. With technology and social media integration into business, communication, and socialization, self-concept clarity among online and offline spaces should be researched. As PTs are commuting between school, placement, potential workplace, and social environments, all

likely with social media components, it is worthwhile to address their clarity amongst all spaces.

Self-Presentation

Self-presentation, especially with the inclusion of social media, has strong associations with self-concept development. Choi et al. (2020) define self-presentation in relation to self-concept as "a transformative effect of self-presentation is amplified when they [a person] present themselves publicly … receive feedback from others that confirms their presented identities" (p. 2) and go on to suggest that the deepest self-concept development happens when the feedback from a person's closest relationships occurs. For example, Weisbuch et al. (2009) built off Cooley's (1922) looking-glass self and Turner's (1979) idea of self-concept in relation to attractiveness and appearance to determine that the social feedback received can shape how a person perceives themselves about their outward appearance—especially when thinking about the judgment or appraisal they hear from others when viewing their reflection in the mirror—or currently, their picture or image online.

The second construct of this research study is online self-presentation through social media apps such as Instagram or Facebook. If PTs present a different self online than what they present offline, could this blur their understanding of their actual and ideal selves? For example, a person may present their actual self, online, or what they genuinely believe to be authentic to them, or they could present an ideal self, the person they see themselves as or striving to be (Campbell et al., 2003; Fullwood et al., 2016; Higgins, 1987; Rosenberg, 1979). Choi et al. (2020) supported the notion of actual and true selves through their study on 277 young adults (18–34) across the United States who

were familiar with and actively used social media. However, one difference in Choi et al.'s study was a focus on affordances users took on social media, meaning that depending on the app being used, the user identified as their actual self or their idealized self. Two apps (Instagram and SnapChat), which participants of this study use, are likely used for different types of self-presentation. Researchers Choi and Sung (2018) linked the association between actual self-presentation to SnapChat and idealized self-presentation to Instagram.

With self-presentation online potentially operating in different capacities or, with users presenting themselves in certain ways for their own reasons, Fullwood et al. (2016), conducted a study to understand how young adults perceived their online self-presentation to be adaptable, authentic, and to gauge one's freedom of self while online. Fullwood et al.'s (2016) instrument, the Presentation of Online Self-concept Scale (POSS) was then adapted and tested for adults by Strimbu et al. (2021). The instrument created was called the Presentation of Online Self-concept Survey for Adults (POSSA) and measured three constructs or factors. The first factor is the Adaptable Self, how a person may present multiple selves online, the second is the Authentic Self to address how users present themselves authentically "in the online world in comparison to the offline world" (Strimbu et al., 2021, p. 5) and the third factor is the, Freedom of Self Online, represented by "the degree to which the SNS user believes in the merits of online self-presentation, particularly the freedom to express oneself" (Strimbu et al., 2021, p. 5). The findings of the POSSA instrument from previous studies suggest social media users are intentional when presenting online and consider aspects of online engagement such as audience and environments (Bareket-Bojmel et al., 2016; Strimbu et al., 2021). The

presentation of self in both online and offline environments is closely linked to the construct of self-concept differentiation.

Self-Concept Differentiation

Tying together self-concept clarity (SCC) and self-presentation, the term self-concept differentiation (SCD) is utilized, for this study, as a bridge between the two, to describe a person's sense of self across all spaces while a person presents to an audience. According to Donahue et al. (1993), SCD is defined as an individual's tendency to view oneself as possessing different personality characteristics across different social roles or contexts. For example, one person may view themselves as jovial with family but serious with work colleagues while another person may view themselves as jovial with both family and work colleagues. In a study of 96 undergraduate university students, Donahue et al. found that high SCD levels were indicative of poor emotional adjustment (e.g., depression) and "lack of an integrated core self" (p. 842). Fullwood et al.'s (2016) study investigating adolescents' self-presentation online, also explored the factor "multiple selves" through the Presentation of Online Self-concept scale (POSS) instrument. The results were similar to the findings of Donohue et al. showing adolescents with lower self-concept clarity were more likely to exhibit multiple selves and presented an online self that was inconsistent with their offline self. Online users adapted their identity to the persona that was most desirable (Strimbu et al, 2021). Adapting aspects of identity across unique environments can be a skill developed for personal success (Donahue et al., 1993) or identity experimentation (Arnett, 2000). When considering SCD concerning self-presentation, a person should have a consistent, internal understanding of their self, pulling traits of that consistent self to perform within different roles, but ultimately, never

losing sight of who they are (Campbell et al., 2003; Donahue et al., 1993; Pilarska & Suchanska, 2015). This idea was further supported by Campbell et al. (1996) and Yang and Brown (2016), who proposed that a person should have self-concept clarity across many different environments (including online), not just with different social groups.

SCD is an important bridge between self-concept clarity and self-presentation for this research because the participants of the study have several roles such as student, friend, employee, and PT. These multiple roles create an ever-changing environment, space for growth and learning, and determination of who they want to be as people and future teachers. Not to mention, all while likely navigating through social media and having to present themselves in many spaces, potentially as different versions of themselves. Furthermore, educators are often held to a higher moral standard than other professions, potentially obligating PTs to present themselves differently online than offline (OCT, n.d.b). The inability to compartmentalize SCD or to act following the expectations of the different environments could lead to difficulties in practicum or the hiring process, as PTs "grapple with the implicit threshold of upholding a higher moral standing in the public eye … usually involving teachers' digital footprint on social media … most commonly are pictures or statements made on social media" (Maxwell et al., 2018, p. 35).

Self-Concept in Adults

Pastorino and Doyle-Portillo (2013) stated that self-concept is a developmental process from young to mid-adolescence. As we mature into late adolescence and young adulthood, our self-concept becomes more robust, less likely to waiver in new social scenarios, and more defined (Pastorino & Doyle-Portillo, 2013). Strimbu and O'Connell

(2019) argued that the older the individual, the more likely they are to have a stronger self-concept. In theory, a person would then be more consistently themselves between online and offline spaces. Campbell et al.'s (1996) study presented correlations "consistent with an expected developmental trend of higher levels of self-concept articulation or clarity with increasing age" (p. 146). Participants in this dissertation research were a young-adult population (20–35 years of age, APA, n.d.d) of PTs who had completed one degree before entering a Bachelor of Education program. This participant age range was chosen with the assumption that the participants would be more stable in their self-concept because of their previous experience as postsecondary students and their desire to enrol in a professional program (Bachelor of Education).

It should be noted that most self-concept studies, especially self-concept and social media, had previously been done with adolescent populations (Bobkowski et al., 2016; Khan et al., 2016), as they tend to show more instability in self-concept than adults (Strasburger et al., 2014). Several studies have also highlighted the potential shift in self-concept development among first-year university students. For example, looking at 218 college first-year students, Yang and Brown (2016) examined the changes in self-presentation on Facebook and the overall self-development of these first-year students living in residence. In the first survey, the first-year students were tested twice in their first year showing signs of careful curation and selectiveness in their self-presentation on Facebook. The first-year students detailed stronger friendships and more openness in their self-presentation on Facebook by the second survey. In both surveys, the first-year students reported true self-authenticity, to which Yang and Brown (2016) suggested: "that for freshmen, selective self-presentation does not compromise authenticity" (p. 412).

Selective self-presentation is an exciting finding that could be considered during the analysis. Wright et al. (2018) used the Facebook False Self-Presentation Behavior Index (FFSBI) with 211 young-adult university students actively working in some capacity. The FFSBI "is a 19-item scale measuring the extent users participate in a range of false self-presentation behaviours on Facebook" (Wright et al., 2018, p. 45). Wright et al. determined that most participants did not engage in a false self-presentation online but were more likely to "like" posts, pictures, or causes they disagreed with than purposely posting false information online. These two studies suggest that the participants of this current research, being older university students, are likely to be true to their authentic selves while presenting who they are online.

Social Media

This section will detail the purpose of social media, general concerns, and the potential benefits of specific actions that social media can influence among young adults. As defined in the current literature, social media are "highly interactive platforms via which individuals and communities share, co-create, discuss, and modify user-generated content" (Kietzmann et al., 2011, p. 241). Users interact through immediate feedback such as likes, comments, and posts (Skogen et al., 2021). Different occupations or age groups may interact with social media for various purposes. Professionally, creating a positive, online, digital footprint is seen as a potential for competition within the current job market (Lowenthal et al., 2016). Socially, people use social media to communicate and share information with others and the larger world (Verduyn et al., 2017). Strategically, clothing brands, restaurants, celebrities, and small businesses use social media for advertising, highlighting, and running promotions for followers. According to

Statista (2021), the global average time spent on social media sites is 2 hours and 25 minutes daily.

Furthermore, major brands ask social media users, from celebrities to the average adolescent with thousands of followers, to promote their products—ultimately receiving significant discounts on the products as the promoter. Barker (2017), a writer for *Forbes*, has highlighted that whether a person has 1,000 followers or 1 million followers, they can make money from partnering with brands and posting promotions, earning thousands to hundreds of thousands of dollars depending on the partnerships. Whether the purpose is social, professional, or business-related, the reality is that social media tools and apps run most of the world's communications, information updates, and users' personal lives.

Concerns Arising From Social Media Use

Some of the general concerns surrounding social media use and its effects on self-concept in young adults include stress, academic impacts, and educational protocol.

Stress and Anxiety. With the constant need to interact online and the pressure of producing content or creating a desirable image through self-presentation, the development of stress is ever-present. Harter (1999) mentioned that having a high self-concept is a contributor to decreasing the number of mental health issues, such as depression and anxiety, which can stem from high-stress levels. With the addition of social media use, Lin et al. (2018) suggested that having a stronger, more consistent self-concept across online and offline environments can decrease the amount of anxiety young adults experience.

Bettmann et al. (2021), conducted a systematic review of the current literature to find that generally there is a correlation between young adults with depression and/or anxiety and their social media use. Some staggering statistics from Bettmann et al.'s

literature review found that roughly 90% of young adults use social media (Perrin, 2015), and spend approximately six hours each week accessing social media (Eagan et al., 2014), through their cell phones (Brooks & Pomerantz, 2017). The American College Health Association (2017) reported that 60.9% of college students felt "overwhelming anxiety," (p. 14), and studies such as Cain (2018) or O'Keeffee and Clarke-Pearson (2011) have made connections between young adults' anxiety levels and social media use.

With many young adults accessing social media for prolonged periods each week, the concern becomes how does social media-use impact the users and their feelings about themselves? Wu et al. (2015) conducted a study on young adults and determined a positive correlation between social media use and anxiety, meaning that as time on social media increased, so did the user's anxiety as well as depression. Damico and Krutka (2018) conducted a study with 60 PTs who used social media and found mixed results, as some PTs used social media to de-stress, and others would become stressed or anxious after spending time on social media apps. Another study on PTs and social media use found that PTs become anxious about their teaching performance or classroom abilities from watching teacher-related Instagram accounts (Carpenter et al., 2020). Ultimately, the studies and literature reviews above present similar participant groups of young adults attending post-secondary institutions who have self-reported their social media use and correlating concerns with anxiety.

Impact on Academics and Educational Considerations. Several studies (e.g., Aladwani & Almarzouq, 2016; Yu & Luo, 2021) have found correlations between frequency of device use and online connectedness with a decrease in academic achievement. For example, Aladwani and Almarzouq (2016), in their study investigating

university students' online addictions as a causal agent to academic performance, used several scales to measure their hypotheses, including the Rosenberg Self-Esteem Scale and Meerkerk's Compulsive Internet Use Scale among several other scales dealing with lecture attendance and anxiousness. At the university level in Kuwait, the researchers found moderate significant correlations between students' academic performance and obsessive social media use. Pera (2020) found psychological addictive behaviours associated with smartphone use and social media use. Pera used the term *problematic smartphone use* (PSU) to describe habits of adolescents and young adults after an extensive review of 241 original research articles that described literature on smartphone addition or compulsive use. In Pera's review, the literature on PSU supported the claim of poor academic performance (Giunchiglia et al., 2018; Grant et al., 2019, as cited in Pera, 2020). Countering the use of smartphones, Schmuck (2020) sought to understand if a "digital detox" would increase academic performance, sleep quality, and general well-being for young adults. In a study conducted with 500 young adults, participants were questioned on their digital detox habits, and Schmuck determined that those participants who were able to self-regulate their time on digital devices did not have a decline in academic performance. The young adults of this study, while exploring the educational experiences of a professional program, need to be mindful of the time they invest into social media, as concerning habits may develop.

Benefits of Social Media

Employment. Social media's benefits extend beyond the workforce's personal and educational possibilities. Companies are interested in seeing their employees as individuals while aligning with the company's image online and offline (Scolere et al.,

2018). In addition, employers may be interested in having their employees curate and produce a positive online digital footprint. However, the employee must recognize and consider their posting habits, or the type of information posted and the impact it could have on their employment (Buchanan et al., 2018; Martin et al., 2018; Maxwell et al., 2018). This employment factor could also be an area where self-concept development is challenged through posting about the ideal or actual self while being cognizant of the potential impact the posts can have on employment (Rosenberg, 1979). Overall, social media allows users to stay connected and communicate with others who live next door or on the other side of the world (Martin et al., 2018).

Building Positive Relationships With Self and Others. In spring 2020, the COVID-19 pandemic devasted the world, forcing school closures at all levels (Werling et al., 2021). The increased time online and use of social media for all ages yielded some positive outcomes for social media use. Specifically, Greenhow and Chapman (2020) conducted a literature review of teachers using social media to connect and teach with students during the COVID-19 pandemic. Their review found that for teachers from K–12 in all teaching capacities (from PTs to resource teachers, educational assistants, and administrative staff), there was an overwhelming sense of community built online between teachers, between teachers and their students, and between teachers and students' parents (Greenhow & Chapman, 2020). Using focus groups (n=70) and individual, semi-structured interviews (n=25), Vaingankar et al. (2022) conducted a study to address the lived experiences of youth (ages 15–24) using social media. Although the age group is not an exact match to this study, the findings of the age group slightly before the participants of this study are useful to address. The study found that three main

factors influenced the positive consumption and participation of social media amongst the participants: “connection with friends and their global community, engagement with social media content, and the value of social media as an outlet for expression” (Vaingankar et al., 2022, p. 1). If the participants had deep and meaningful connections through their online activity on social media, they were more likely to have positive responses to online engagement and a higher sense of self (Vaingankar et al., 2022). Vaingankar et al. discovered a main theme from the interviews was a strong self-concept amongst the participants through their social media use as participants discussed the relationship between the content posted, to the connections they felt with others through those posts, which ultimately created an outlet for self-expression and self-presentation, which boosted self-esteem and in turn, heightened their overall self-concept.

Digital Citizenship. Echoing the section above, in connection to the COVID-19 pandemic and online social media use in young adults, Vaingankar et al. (2022) discovered that the more participants were engaged in social media from a critical perspective, focusing on global movements and the global community, participants felt empowered and a part of something bigger. With the global lockdowns and strained access to others in person, social media became an outlet for people to use to connect in an accessible space at any time of the day or night (Vaingankar et al., 2022). Greenhow and Chapman (2020) argued that social media and online learning gave youth a way to connect and feel less disconnected in such an uncertain time in the world. Ultimately, the global experiences of many at every age were similar during the global pandemic; however, the relationships and connectivity through social media brought forward some highly positive interactions, extending and building a sense of community globally.

Self-Concept and Social Media

Nurmi's (2013) work strongly referenced the need to support the importance of measuring self-concept in several different environments. Nurmi stated that as adolescents begin to experience the world around them, developing an identity independent of parental influence, the strength in identity across multiple spaces and places can improve the overall strength of adolescent self-concept. This boundary of development becomes blurred with the addition of online interactions, knowledge acquisition, and relationship development. For young adults, self-concept development continues (van Halen et al., 2020) and as mentioned by Donahue et al. (1993) can cross between many avenues of environment and personality. An emerging research field is beginning to focus on young adult self-concept development in online spaces, an area previously undiscovered as social media and online relationships are a focus of the 21st century.

Nurmi's notion of the importance of a strong self-concept across multiple spaces, in connection with Cooley's (1922) looking-glass theory's structure of interaction, internalization, and action, suggests that the way a person interacts with others across multiple spaces should extend to the online realm; and furthermore, may provide an environment for a different type of internalization and action. For example, the initial interaction online could be a variety of things such as tagging, typing, posting, and liking which takes seconds to accomplish and real-time conversations with multiple people can now be conducted online. In the looking-glass theory, and highlighted with Rosenberg (1979), the concept of creating emotional connections to interactions or conversations can shape the perception one has of themselves and others. Reading a message, rather than hearing someone speak in person, can elicit different emotional responses because the interpretation of a written message can be taken out of context, and may lack the

linguistic tones of enthusiasm, question, anger, or sarcasm (Boutet et al., 2021). Online, these emotions are represented through emojis—a small picture or image representing an emotion or object to help clarify the tone of the written message. Increased online anonymity allows people to interact with others or material without directly linking themselves. Therefore, the growth of the online world has created a new environment for self-concept development to occur, needing future research attention.

It is important to note that social networking and social media are terms with similar meanings often used interchangeably within existing literature and will be included under the term social media for this literature review. The number of actions associated with online social media use is astounding and different generations of users tend to participate in these actions in several ways. A shortlist of possible actions on social media include filter, follow, friend, or unfriend, GIF, hashtag, live stream, message, and direct message, notify, pin, retweet, and tweet, like, comment, scroll, Photoshop, pose, post, share, snap, and tag. The actions are endless, and the meanings all relevant to the relationship the users create with one another. The need to keep up with the constant changes, advances, and notifications of the online world can be exhausting and create social media fatigue (Malik et al., 2021).

Self-Concept, Social Media, and PTs

Most studies regarding PTs' online use focus on their participation in online discussion groups for their program rather than social media use for personal or professional agendas (Lu & Curwood, 2015). Within these school-related domains, PTs use emoticons or avatars to decisively present themselves to others, meaning that *who* they are online might be their choice of *how* they present themselves to others (Lu & Curwood, 2015; Thomas, 2007). Other studies, such as Kabilan's (2016), have focused

on PT use of social media for professional development through e-portfolios. Adult self-concept and online usage tend to tie into life satisfaction and online addiction concerns. For example, Hawi and Samaha (2016) reported an increase in social media use since from 35% in 2011 to 64% in 2014. Using a social media platform for professional development allowed PTs to find a sense of community where they could share their thoughts with others in similar professional positions (Hawi & Samaha, 2016). However, the latter study fostered the creation of using Facebook as an e-portfolio. Therefore, participants were consciously posting teacher-related information rather than posting about their personal and perhaps authentic selves or interests.

Nykvist and Mukerjee (2016) conducted a 3-year study "of first-year pre-service education students and their understanding of identity in the digital world," focusing on "how students currently use social and digital media in their personal and professional lives to identify themselves online to promote a positive image" (p. 852). The 3-year study yielded primarily descriptive statistical data regarding PTs' social media app use and their sense of belonging online. Still, the study did not provide insights into self-concept or teacher-identity development, and there were no examples of the statements from the participants of the interviews. Lastly, some studies present the relationship between PTs and their social media use concerning the future teaching of students and their uses of social media. Damico and Krutka (2018) studied PTs at two different universities. They found that generally, PTs enjoyed using social media. Still, several students mentioned how using social media was a "waste of time" and the speed at which a few minutes on social media can turn into hours. Again, most of these works focus on this participant group's frequency, use, and overall happiness with social media rather than the connections between self-concept and social media use. This thesis study fills

this gap and investigates PTs' use of social media and self-concept development concerning the three constructs: clarity, presentation, and differentiation.

Other researchers, such as Saini and Abraham (2019), stated that PTs who used social media for educational purposes connected to the community identity of having shared content, goals, and resources. Their study sought to understand PT social media use for educational purposes in classrooms. Similar to the participant base of this current study, most PTs are female in their early 20s. Although this research focused on PTs' use of social media in the classroom, Saini and Abraham (2019) found that PTs were hesitant to use social media due to the "traceability of information posted on social media and exposure of personal identity" (p. 26). Through an extensive literature comb-through of over 2,000 articles, Kelly et al. (2021) concluded that PTs who access social media for practical classroom applications get real-time resources and a community of support. Saini and Abraham suggested that PT social media use in professional and personal settings has not been explored. Although their study focuses on in-classroom use, the theme of fear surrounding the use of social media with job security is a prominent point to be considered for this current study.

PTs' awareness regarding their social media use and professions can stem from mindfulness and self-awareness regarding personal habits and practices that may transition into future classrooms. Damico and Krutka's (2018) study analyzed personal social media diaries of "60 participants across two universities to better understand how PTs might develop personal and professional mindfulness" (p. 110). The data from the diaries were coded and themed to find that PTs often utilized social media without creating anything to share and used social media to escape boredom but ended up on these apps for hours—an unconscious habit of checking the phone, specifically social

media apps. Suppose PTs become more mindful of their own social media habits; then, they will be better suited to guide and assist their students (Damico & Krutka, 2018). Social media mindless activity can lead to anxiety and depression in children, adolescents, and college-age students (Twenge, 2017). The habits PTs and educators possess and bring into their classrooms can ultimately enhance or inhibit the growth and development of their students.

Finally, the last article on PTs and social media sought to understand if PTs were interested in using Instagram for self-promotion (Carpenter et al., 2020). The term *teacherpreneurship* means that teachers use social media to promote and sell their teacher-related products (Shelton & Archambault, 2018). Essentially teachers have begun marketing themselves and selling their work, lesson plans, and products online. Concerns for online teacher promotion relate to the accuracy of content and relatability to specified curriculum guidelines, as there are no "gatekeepers" (Carpenter et al., 2020, p. 3) or an overseeing body that checks to make sure the information being posted on Pinterest, Instagram, or Teachers Pay Teachers is accurate, meaning people may be paying for incorrect maths worksheets or products with spelling errors. Carpenter et al.'s (2020) study also discovered an overwhelming body of information and resources to sort through online alongside a lack of depth in teacher conversations and connections being made on social media. This means that most of the content online for *teachergrams* (teacher-Instagram accounts) is surface level.

Creation of Conceptual Framework

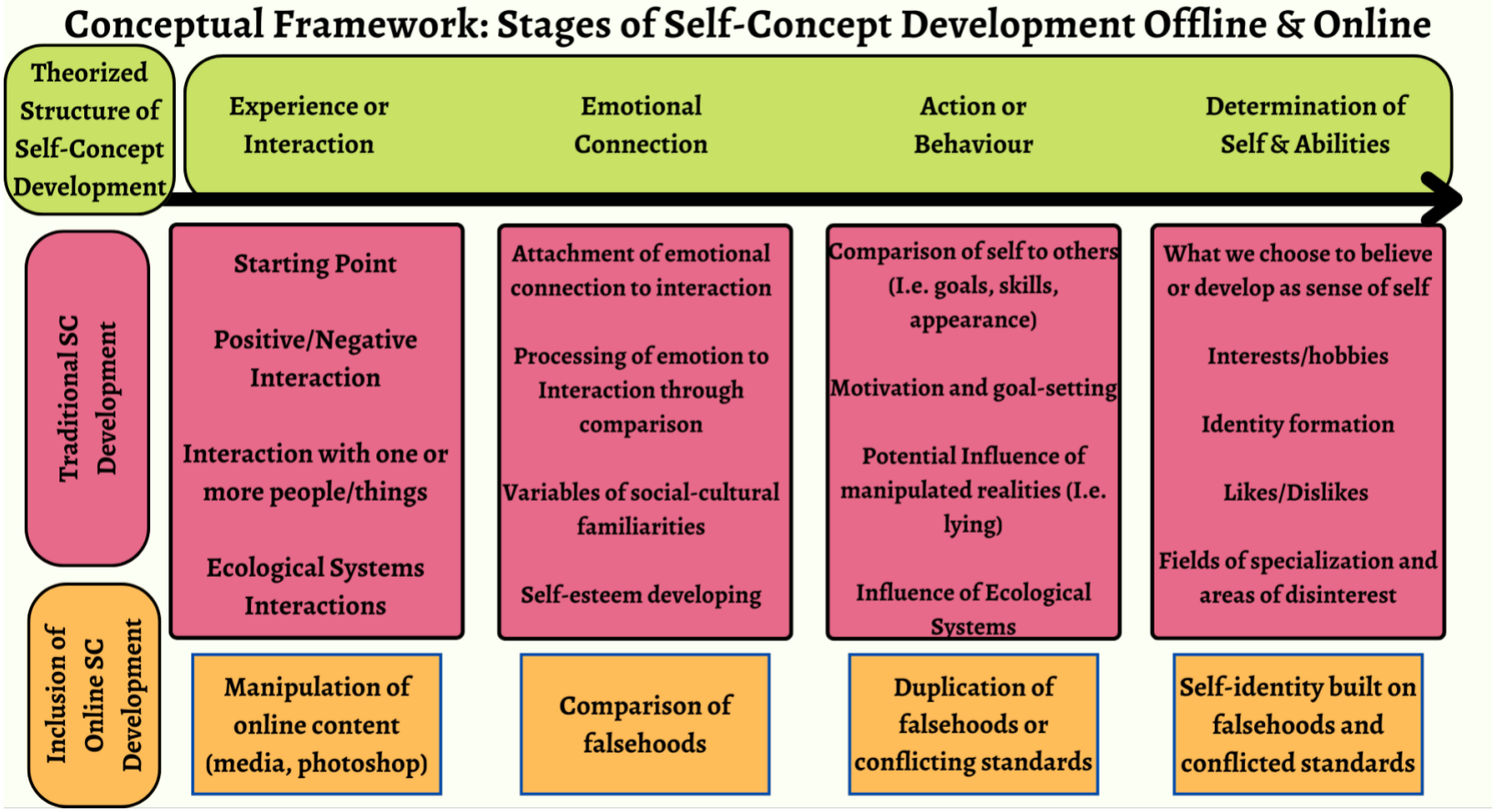
Although theories of self-concept have been circulating for over a century, how this research ties together self-concept and social media gives way to developing a conceptual framework. Jabareen (2009) argues that "a conceptual framework is not

merely a collection of concepts, but, rather, a construct in which each concept plays an integral role" (p. 51). I drew on several theories from the literature review to develop a conceptual framework to comprehend how integrated the online and offline worlds can be, specifically about social media and self-concept. The framework illustrates the social, emotional, physical, and cognitive processes an individual experiences to understand how self-concept could be developed in offline and online spaces (see Figure 3).

As shown in Figure 3, the process of self-concept development—whether online or offline—is represented in this diagram by four stages: Experience or Interaction; Emotional Connection; Action or Behaviour; and Determination of Self or Abilities. Humans partake in an experience or interaction and attribute an emotional connection to that experience which then prompts a specific action or behaviour that determines thoughts about oneself and one's abilities. The green portion at the top of the diagram suggests the way in which self-concept develops (as discussed by Cooley, 1922; Mead, 1934; Rosenberg, 1989), and is supported in this dissertation's extensive literature review. Self-concept is developed from a social interaction (Cooley, 1922), wherein an emotional connection is internalized (Mead, 1934), and a desired outcome or action is presented for the desired social context (Rosenberg, 1989). Although the diagram does move from left to right, the process of self-reflection may alter the outcome of self-identity (Harter, 1999), creating a non-linear path or process that is, to some degree, continuously in flux throughout a person's life. The red portion in the middle of the diagram are the characteristics or actual cognitive processes occurring at each of the four stages mentioned above. The orange section specifically focuses on some inclusionary considerations to self-concept development with the introduction of social media.

Figure 3

Self-Concept and Social Media Development Conceptual Framework



The four stages of self-concept development are explained below.

Experience or Interaction

As described by Cooley (1922), social and experiential interactions are the starting points for self-concept development. As this dissertation stems from a social constructivist lens, social interactions are the basis for learning, knowledge development, and cultural understanding (Vygotsky, 1978). Cooley (1922) explained that these interactions can be both positive and negative. Bronfenbrenner (1994) created the Ecological Systems Theory (mentioned earlier), which gave different people and social and systematic entities a designated proximity to their influence on a person's development. So, someone like a parent would have more influence on the interactions with their child than the experiences or interactions with a structure such as the government. Now, with the inclusion of social media, especially within the physical proximity to the individual as designed in Johnson and Puplampu's (2008) extension of the Ecological Systems Model to include the Technological Sub-System, social media and technology are in direct proximity to the individual. Fox et al. (2017) and Kleemans et al. (2016) suggested that the manipulation of content posted through social media, mainly using editing programs, can have detrimental effects to how the individual may interact with the online content they are exposed to—specifically with regards to esteem, body image, and self-comparisons.

Emotional Connection

The second stage, Emotional Connection, is where Mead (1934) explained that an individual might attribute a feeling or emotional attachment to an interaction and that emotional response is internalized and processed as the beginning stages of social

comparison. Some additional influences on the emotional connection could be through some variables such as socio-cultural familiarities or cultural competence of language and social structures (Vygotsky, 1978). The development of self-esteem also begins in this stage as either positive or negative emotions are attached to the individual's interactions with others (Mead, 1934; Rosenberg, 1979). However, with the inclusion of social media, the comparative factor of self-concept development and processing of emotional connections to an experience or interaction may be different online with the exposure of manipulated media. For example, Jackson and Luchner (2018) explained that self-esteem often derives from social comparison, and the manipulation of content online is prevalent among social media users (Kleemans et al., 2016). The inference, then, is that with the inclusion of social media, the interactions and following comparisons of self to others within Emotional Connection are more likely based on manipulated images or content.

Action or Behaviour

The third stage, Action or Behaviour, is where the individual takes their comparison of self to others and attributes a general understanding, for example of whether they are good or bad at the task being compared (e.g., basketball) (Marsh, 1990). Potential self-directed factors such as motivation and goal setting can influence the actions or behaviours developed, such as additional time practising skills (Marsh, 1990). Some influences through the Ecological Systems Model (Bronfenbrenner, 1994) could influence the behaviour of the individual, such as nationalism or media propaganda. The behaviour chosen by the individual to exhibit is likely learned in this stage with what is and is not socially accepted (Donahue et al., 1993). With the inclusion of social media online, it is inferred that here is the stage where the behaviour and action of the individual

may be mimicked or duplicated based on the emotional connection made in the previous stage. For example, if a person positively associates to a manipulated post on social media, they may act to replicate that post and use similar editing tools, or filters (Carter & Vartanian, 2022; Kleemans et al., 2016).

Determination of Self or Abilities

Finally, the fourth stage, Determination of Self or Abilities, stems from what the individual chooses to believe as their sense of self based on their interests or hobbies (Marsh, 1990), identity formation (Rosenberg, 1979), likes and dislikes (Cooley, 1922), and the sense of feeling attributed to these personality traits (Donahue et al., 1993; Mead, 1934). With the inclusion of social media, it is inferred that the determination of self may be built to include falsehoods, misinformation, and comparisons to manipulated content (Strimbu & O'Connell, 2019).

The Interconnections within self-concept development with the addition of social media may stem from complex social scenarios as articulated by Grundman (2019), who asserts, "in general, social environments serve as sociocultural frames of interactions and therefore of individual perceptions of one's capabilities to explore, to recognize and to cope with social reality" (p. 99). These social realities are the basis of "interactive co-constructions of meaning … [through] reciprocal communication" (Grundman, 2019, p. 99). Therefore, studies of integrating self-concept and social media should consider a person's sociocultural behaviour's inconsistencies and unpredictable aspects which can be best explored through a constructivist lens and methodology, as done in this study. This conceptual framework is presented as a guide to frame self-concept studies in social

media contexts in relation to the methodology, data collection, analysis, and interpretation of data.

Literature Gap

The literature reviewed presents many facets of PTs' social media use, some potential effects on their well-being, and some potential uses for social media in their future classrooms. However, the literature currently lacks research on how social media use may impact PT self-concept in terms of online and offline interactions and the unique PT dynamic of being both a student and a professional while manoeuvring through a unique learning landscape. For example, Fox and Bird (2017) suggested that how teachers negotiate the tensions between professional and personal social media use is poorly understood. Furthermore, the literature above suggests additional career-related fears (Saini & Abraham, 2019) and possible mental-health deficits (Twenge, 2017), which are essential to address when understanding why and how PTs utilize social media and its impacts on their self-concept.

Conclusion

The interconnections within self-concept development with the addition of social media may stem from complex social scenarios as articulated by Grundman (2019), who asserts, "in general, social environments serve as sociocultural frames of interactions and therefore of individual perceptions of one's capabilities to explore, to recognize and to cope with social reality" (p. 99). These social realities are the basis of "interactive co-constructions of meaning … [through] reciprocal communication" (Grundman, 2019, p. 99). Therefore, when examining self-concept, social media, and the constructs mentioned above, consideration must be given to sociocultural behaviour inconsistencies and unpredictable aspects through a constructivist lens. Ultimately, the theoretical underpinning and conceptual framework and literature review around the constructs

related to self-concept development will help guide the methodology, providing a clear path from the paradigm to data collection and analysis methods.

CHAPTER THREE: METHODOLOGY

The purpose of this survey study was to investigate pre-service teachers' (PTs') perceptions of self-concept development through social media and explore their engagement on social media as professionals. This chapter describes the survey study which collected both quantitative and qualitative data to best support an understanding of the relationship between participant self-concept in online and offline spaces. The philosophical underpinnings of the study, researcher positioning, ethics, survey design and instruments, validity and reliability of instruments, procedures of the study, the participants, methods of data collection, and data analysis processes are described in this chapter.

Philosophical Underpinnings

My philosophical perspective on research stems from exploring knowledge and understanding participants' experiences rather than attempting to justify singular correctness or exactness within a study. Berger and Luckmann (1966) believed that language is the basis for human interactions and social constructions of systems, symbols, and reality. Vygotsky (1978) also highlighted social constructivism as involving interactions between people, places, and systems, and it is within these interactions that knowledge is co-constructed. Consistent with social constructivism, I believe that meaning emerges from social interactions (Berger & Luckmann, 1966). Hence, to ascertain and understand the phenomenon of PTs perceptions regarding their social interactions through social media, I used surveys to investigate these experiences in a pilot study. Stemming from the pilot study, participant feedback included the desire to expand or explain their ideas surrounding their social media use, which led to the

inclusion of open-ended survey questions to enable participants to provide a fuller understanding of their views. Thus, presenting my research proposal, I knew generating both quantitative and qualitative opportunities for the participants to provide insight was crucial to best investigate the research questions. As an emergent researcher, I desire to best understand the views of the participant and how those individual views can be connected to others' views as well as larger systems such as social media. This viewpoint is consistent with Mertler's (2019, p. 204) suggestion that using a mix of closed and open-ended survey questions could show the "consistency of responses against respondents" with closed-ended questions, and "allow for more individualized responses" with open-ended questions. Open-ended questions were therefore included in the survey to tease out individual experiences that could add richness to explanations for how social media influenced the development of PTs self-concepts, both personal and professional. Social processes and interactions were the basis for this current study and guide the structure of the research process itself.

Researcher Positioning

My intentions to better understand self-concept and social media use grew out of my experiences with social media and friends. I wanted to learn if my experiences were similar to the experiences of other young adults. As a graduate of a teacher education program with broad experiences in the comparative, competitive nature of the teaching profession, I thought the PT participant population would be the strongest connection to myself as a researcher. Additionally, I am now an instructor in a teacher education program and feel a connection to and knowledge of the participant population recruited for this study, with a better understanding of the complexities they may be experiencing

with their self-concept as they build their teacher-identity across online and offline spaces. Walsh (2014) suggested that "researcher–participant relationships … are saturated with intersubjective influence" (p. 1670), meaning that my understandings and relationships with the participant population need to be acknowledged for potential bias and inferences. To minimize bias, I avoided deductive coding (Creswell, 2012) when analyzing the open-ended responses to best promote the emergent views of the PTs rather than incorporate my experiences with social media and the Bachelor of Education Program. However, reflecting on my personal experiences as a PT helped me gain clearer expectations for coding the qualitative data, as I was aware of some of the specific points of conversation such as ethical standards within the profession and competitiveness within the program. Overall, this helped reduce the study's (i.e., the researcher's) bias and helped provide stronger connections with the quantitative data.

Ethics

Ethics clearance through the Research Ethics Board at the home university was obtained prior to recruiting participants. Participants were provided an email which included an informed consent with the purpose of the study and a detailed process of what they could expect if they consented to participate. Participants were made aware of the number of instruments they would be required to answer for the study and were told the expected time commitment - a total of 15-20 minutes. Thereafter, to gain access to the survey, participants acknowledged they had read and consented to being a part of the study. They were also told that all data would be reported anonymously. Participants were also made aware of the $10.00 incentive to participate in the study. In the informed

consent, it was highlighted that if participants withdrew from the study prior to completing the survey, they would not qualify for the financial incentive.

Survey Design and Instruments

This study used a cross-sectional survey (Creswell, 2014) to understand the relationship between PT's self-concept development and social media use. Data were collected through participant-completion of one survey that encompassed four different quantitative measures/instruments and four different open-ended survey questions. In a cross-sectional survey design, data is collected at one point in time, about respondents' current views and attitudes (Creswell, 2014).

Rationale for Choice of Constructs to measure Self-Concept

Self-concept is the major variable in this study and, as explained in chapter 2, while there are many factors to the self such as identity, efficacy, regulation, and actualization, I selected the constructs of self-concept clarity, self presentation, and differentiation. The main reason was to support Cooley's (1922) *Looking Glass Theory*, whereby interactions and experiences become internalized and enhanced with emotional connections to alter the actions and behaviours of the self. Each construct of this study enhances this perspective of self-concept. Self-concept clarity acknowledges strength and consistency of the self across different spaces and over time (Campbell et al., 2003) and it connects to the internalization of the experiences and strength of self-concept overall. Self-esteem was included as the literature has connected a strong self-esteem to a strong self-concept (Cambell et al., 1996; Campbell et al., 2003; Gecas & Schwalbe, 1983; Rosenberg, 1979; Weisbuch et al., 2009). The second construct of self-presentation was included as it focuses on the actions and behaviour taken associated with self-concept.

Finally, self-concept differentiation was included to address the research's participant base of pre-service teachers, who uniquely move through student and professional spaces during their Bachelor of Education Program. I selected validated surveys from the literature to best measure these constructs.

The Survey Instrument

In collecting the data for this research, both Likert-scale measures and open-ended questions were utilized. Biesta (2016) stated that qualitative and quantitative methods provide an unproblematic research approach if the data collected is analyzed appropriately, either statistically or interpretively. Data collection using quantitative and qualitative methods will yield "numbers and text as two forms of information and, more generally, as two modes of representation" (Biesta, 2016, p. 100). For this study, the participants completed the following Likert-scale instruments in one sitting during the month of January 2022: (a) the Self-Concept Clarity scale (SCC) (Campbell et al., 1996), (b) the Rosenberg Self-Esteem survey (RSE) (Rosenberg, 1965), (c) the Presentation of Self-concept Survey for Adults (POSSA) (Strimbu et al., 2021), and (d) the Facebook False Self-presentation Behavior Index (FFSBI) (Wright et al., 2018), and then completed the four open-ended questions. I obtained permission to use these scales prior to data collection from the original authors of the four instruments. Each of these surveys were used to answer the different research questions posed which address the study's constructs of self-concept clarity, self-presentation, and self-concept differentiation.

The first set of questions respondents answered on the survey were Likert-scale questions. The first instrument respondents answered was the Self-Concept Clarity scale (SCC) (Campbell et al., 1996), which was used to determine the clarity of the participant

self-concept. Several studies attribute a positive correlation between positive self-esteem and high self-concept clarity (Campbell et al., 1996; Campbell et al., 2003; Crocetti, & Van Dijk, 2018; Morawiak et al., 2018). Furthermore, I interpreted esteem to be a strong factor in Cooley's (1922) *Looking Glass Theory* and how self-concept is developed, therefore the Rosenberg Self-Esteem (RSE) scale was the second Likert-scale instrument the respondents answered. In relation to self-concept or social media with young adults, the RSE scale has been used and validated in several studies suggesting the higher the self-esteem the more positive view of the self (Del Carmen Perez-Fuentes et al., 2019; Ketata et al., 2021; Ramon-Arbues et al., 2022). As self-presentation online was a core concept being investigated in this study, Strimbu et al.'s (2021) Presentation of Online Self-concept Scale for Adults (POSSA) was included to understand how PTs self-presentation aligned with the three constructs of the scale (adaptable self, authentic self, and freedom of self online). The final instrument used was the Facebook False Self-presentation Behavior Index (FFSBI) (Wright et al., 2018), which was included to focus on the constructs of liking and lying in relation to self-presentation online. The POSSA and FFSBI were included in this study as I interpreted Cooley's theory of self-concept to have internalizing components that contribute to the way a person acts or present themselves to others. Table 1 outlines this study's research questions and constructs in relation to the four instruments used in this study.

Table 1.

Research Questions with Corresponding Instruments and Data Analysis Approaches

Research Question	Research Instrument	Data Analysis
1- How do PTs perceive their self-concept through their use of social media?	SCC	Quantitative
	RSE instrument	Quantitative
	POSSA	Quantitative
	FFSBI	Quantitative
	Open-ended survey questions (1 and 2)	Qualitative Quantitative
Sub-questions:		
1.1- What is the relationship between PT self-concept clarity and online self-presentation?	SCC and POSSA Open-ended survey questions (1 and 2)	Quantitative Qualitative
1.2- How do PTs engage on social media as professionals?	Open-ended survey question (3 and 4)	Qualitative
1.3- How do PTs present themselves in online spaces compared to offline spaces?	Open-ended survey question (3 and 4)	Qualitative

Instrument Validity and Reliability

Considering research criteria of validity and reliability (Guba, 1981) for quantitative and qualitative data analysis is necessary because this study's survey design includes the use of both quantitative and qualitative data.

The purpose of establishing reliability and validity in research is essentially to ensure that data are sound and replicable, and the results are accurate. With respect to the quantitative data, the evidence of validity and reliability are prerequisites to assure the integrity and quality of a measurement instrument (Kimberlin & Winterstein, 2008). validity refers to the extent to which the instrument measures the constructs accurately (Heale & Twycross, 2015). This study utilized valid instruments because the surveys had been previously reviewed by experts, tested in different contexts, and continuously presented reliable findings across multiple studies (as explained below). These instruments also aligned with the research questions, constructs of the study, and the methodological approach, which Yin (2015) explained is a foundation to internal validity within a study. Reliability refers to the extent to which the instrument consistently produces the same results when repeated with the same population (Heale & Twycross, 2015; Shultz & Whitney, 2005). The most common way to indicate the reliability of an instrument is to measure its internal consistency – that is the degree of inter-relatedness of a set of items measuring a construct/concept (Tsang et al., 2017) to ensure the tool questions are measuring the same thing (Creswell, 2014). The statistic used to measure internal consistency is Cronbach's Alpha. An alpha coefficient reliability of at least 0.7 is regarded as acceptable with values closer to 1 indicating a high degree of consistency for items to measure the same construct or variable (Nunnally, 1978). The instruments are deemed reliable for this research because the developers found each instrument to have good internal consistency when measuring the constructs for the intended population of young adults. The SCC is a 12-item, five-point Likert scale—with rankings ranging from (1) strongly disagree to (5) strongly agree—that examines the "structural aspect of self-

concept: the extent to which self-beliefs are clearly and confidently defined, internally consistent, and stable" (Campbell et al., 1996, p. 141) (see Appendix A). The internal consistency of the SCC was .86, and "the alphas, item-total correlations, and inter-item correlations all indicate high levels of internal consistency, and there was very little variability in the statistics across the three samples" (Campbell et al., 1996, p. 145). After regression analysis of the three-part study, Campbell et al. (1996) found that self-concept clarity and self-esteem were positively correlated. In multiple studies thereafter, researchers demonstrated the validity and reliability of this instrument (Best, 2019; Cicei, 2012; Van Dijk et al., 2014). The SCC tool itself was valid and reliable.

The RSE questionnaire (Rosenberg, 1965) is a 10-item Likert scale measuring general levels of self-esteem, as self-esteem and self-concept are highly intertwined (Campbell et al., 1996; Jackson & Luchner, 2018; Mead, 1934; Rosenberg, 1979, Zell & Moeller, 2018) (see Appendix B). The internal consistency for this tool ranges from 0.77-0.88, and the test-retest reliability ranges from 0.82-0.85 (Rosenberg, 1965). Rosenberg's four-point scale from (1) strongly agree to (4) strongly disagree provided insight general self-esteem.

The third instrument was the POSSA, which Strimbu et al. (2021) reconfigured from Fullwood et al.'s (2016) original Presentation of Online Self Survey, meant for adolescents. The POSSA was validated by Strimbu et al. (2021), and they altered the original factors from ideal self, multiple selves, consistent self, and online presentation preference (Fullwood et al., 2016) to the adaptable self, authentic self, and freedom of self online. The POSSA is a 17-item survey scored on a five-point Likert scale from (1)

strongly disagree to (5) strongly agree (see Appendix F). The POSSA was found to be valid with an internal consistency of .73 (see Appendix C).

The fourth instrument was the FFSBI (Wright et al., 2018) (see Appendix D). This 19-item survey measures "the extent users participate in a range of false self-presentation behaviors on Facebook" (Wright et al., 2018, p. 43). However, as the survey questions are specific to Facebook, a forward to the survey stated that these questions will be directed generally to all social networking sites, not only Facebook. The survey is scored on a six-point Likert scale from (1) not at all, to (6) to a very great extent, and has been deemed valid by the pilot study conducted by Wright et al. (2018).

Although all abovementioned surveys had been found reliable, I also wanted to ensure they were reliable for this study. Using Cronbach's alpha for inter-item correlation (Field, 2019), each survey needed to be .7 or above to be considered internally reliable, meaning the questions being asked measure the same thing (Caldwell, 2012). For this study, the four surveys and their respective factors were all found to be internally consistent. The SCC questions were internally reliable at .87. The three factors of the POSSA were reliable at .89 for the adaptable self, .83 for the authentic self, and .78 for the freedom of self online. The RSE was reliable at .895, and the two FFSBI factors of lying and liking were reliable at .71 (lying) and .80 (liking).

At the end of the instruments, four open-ended, short-answer questions were asked to obtain the PTs opinions regarding how they interpret their self-concept in online and offline spaces (see below) with a specific focus on PT personal/authentic self and PT self in online spaces. Participants were asked questions about their roles as students and PTs to examine how PTs described these different roles to understand the degree to

which their self was consistent across the two contexts (i.e., self-concept differentiation – SCD).

1. How are your beliefs of who you are similar or different between your social media use and your offline world?
2. Authentic self refers to the person you are. When posting on social media, how do you present your authentic self to your followers?
3. Pre-service teacher refers to your current role in the Bachelor of Education Program. When posting on social media, how do you present your "pre-service teacher" self to your followers?
4. As a pre-service teacher, if you present yourself differently on social media (online) than you present yourself offline, what are your reasons for doing this?

To measure SCD, Donahue et al. (1993) created an index which is "assessed by participants rating how descriptive a set of attributes is of them in different social roles" (Pilarska, 2016, p. 85). Attributes were defined as broad, personal characteristics such as friendly, talkative, responsible, perceptive, and emotional that a person can exhibit in most social roles. If participant responses do not yield any variance between the traits or social roles, SCD will not be identified within the response (Locke, 2006). In this dissertation study, I did not use Donohue's measurement as it involves a complex process where participants rate themselves on 60 personality/descriptive attributes in general and then in five different social roles such as student and friend. Since this dissertation study focused on PT roles, I utilized the definition of SCD and knowledge of attributes on the Donahue et al. (1993) measure to identify personality attributes in the responses to the open-ended survey questions to investigate how PTs differentiate selves across online

and offline spaces. Table 2 details the flow of the survey and connects the survey components to the study's three main constructs: self-concept clarity, self-presentation, and self-concept differentiation.

Table 2

Order of the Survey Instruments and Constructs Measured

Order of Instruments	Instrument	Construct
1	SCC	Self-concept clarity
2	RSE	Aid in determining self-concept clarity
3	POSSA	Self-presentation online
4	FFSBI	Self-presentation online
5	Open-ended survey questions	Self-concept differentiation Self-presentation Self-concept clarity

Participants

The respondents of this study were PTs in the first or second year of a 2-year consecutive Bachelor of Education degree program or in their fifth or sixth year of a concurrent degree program (a combined undergraduate degree and Bachelor of Education degree) at a mid-sized, Southern Ontario university. All concurrent PTs were integrated for most of their courses with consecutive PTs. Respondents from the concurrent B.Ed. program would have had exposure to education-specific courses throughout their 4-year undergraduate degree. Consecutive students' first exposure to educational theories and learning constructs would have been in their first year of the B.Ed. program. Respondents ranged in ages from 21-35. The total number of PTs in the program during the 2021-2022

academic year was 920, with 514 PTs in their first/fifth year and 406 PTs in their second/sixth year.

Participant recruitment followed purposive, non-probability sampling (Mertler, 2019). According to Saunders et al. (2012), non-probability sampling suggests that not all members of a population will be able to participate in the study (usually due to researcher considerations such as time or cost). Purposive non-probability sampling suggests the researcher is "looking for a kind of 'representative' sample" (Vehovar et al., 216, p. 328). As this research solely needed PT perspectives on self-concept and social media, I chose to recruit directly for acceptable participants. By sending an approved email through the department administration directly to potential participants' emails, I ensured only the abovementioned participant population would have the option to be included in the study's sample. Potential participants clicked on the link provided to direct them to the Qualtrics survey site, where they were greeted with an online consent form and more detailed information regarding the study. This resulted in a volunteer sample – 173 PTs responded to the survey, resulting in an 18.8% response rate.

Data Collection

As previously mentioned in chapter one, a pilot survey was done in 2020 that did not yield reliable data as the tool I created did not have good internal consistency, meaning it did not properly measure the intended constructs (Field, 2009). Therefore, once reliable and valid tools of measurement were found, a precursor pilot, with six respondents, was done prior to the release of the actual survey to the PT population. The six respondents, known to the researcher, were both in and out of the field of education and fit the age category required. They piloted the surveys and questions to provide

informal feedback about the phrasing of questions and to ensure survey fatigue was unlikely. The time range for survey completion was 15–19 minutes and all respondents confirmed they understood the meaning of the open-ended questions when writing their responses. This process ensured that the researcher was able to adjust any misconceptions and grammatical errors, to ensure the reliability and trustworthiness of the survey instrument (Malmqvist et al., 2019).

Participants were surveyed mid-year of their program in the 2021-2022 academic year. After ethical clearance was granted by the Research Ethics Board (REB), the Faculty of Education's administration agreed to send out a general email to all PTs enrolled in the program in the 2021-2022 academic year. The email directed PTs to access the survey through a link in the email which directed them to the Qualtrics program (Qualtrics, 2020).

The participants were first asked to grant consent for their responses to the survey to be used as a part of the research. In the consent forms, it was stated that if PTs provided their school email, they would have the opportunity to choose a $10.00 gift card from either Starbucks or Tim Hortons. School emails were collected at the conclusion of the survey, at which time their emails were recorded through the Qualtrics program for the sole purpose of sending the monetary incentive. The researcher kept a personal excel file of the emails which detailed when the gift cards were sent to PTs, when the PTs received and opened the gift cards, and when a follow-up email was sent to remind PTs about the gift card (if unopened), one week later. The only time PT emails were used was in the administering of the gift cards and to ensure no participant completed the survey twice. This was checked to ensure PTs were not doubling their compensation and

skewing the data. Otherwise, as survey entries were logged, the PTs were given a respondent number (R#) to associate with their data. PT names were never collected and therefore, when gift cards and emails were sent out, PTs were only addressed by the email they had provided. As the researcher was aware of the school emails PTs used, PTs were not completely anonymous to the researcher; however, the emails remained completely confidential and were not shared (Creswell, 2014). PTs who completed the survey but did not provide their email did not receive a gift card for their contribution to the data set as there was no way to contact them to clarify this error. Privacy and confidentiality were maintained as no emails or names of PTs were used during data analysis and in the report write-up.

Data collection and storage were done on a password-encrypted platform, and the technological devices were locked in an office at a private residence throughout the study. There were two points where contact information for counselling services at the university was provided for the respondents. The first check-in came after the fourth Likert instrument, and the second check-in was after the final open-ended question. The survey questions were not designed to yield heightened emotional responses; however, researchers Lin et al. (2018) suggested anxiety can arise if a person's identity is in question or vulnerable. As the questions of the study addressed aspects of self-identity, prompts for counselling were included for participant well-being. Data collection began in mid-January 2022 and ended by the beginning of February 2022.

Data Analysis

Quantitative data analysis began in mid-February and ended in mid-March, with qualitative analysis beginning in late March and ending early May. Biesta (2016)

suggested that analyzing both closed-ended and open-ended surveys through both "measurement and interpretation… is simply about analysing data in ways that are data adequate" (p. 101). Quantitative research designs often focus on generalizations through numerical data, meaning open-ended survey questions are not often utilized (Eden, 2018). The OECD (2012) stated that survey design analysis should interpret survey results as perceptions of the participants and not as facts. Survey design is strengthened through multiple methods or data types (OECD, 2012). The quantitative data were analyzed first, then the qualitative data separately, and finally a cross-data analysis was completed.

Quantitative Analysis

Correlational analyses were used to find connections between the constructs of self-concept clarity, self-presentation online, and self-concept differentiation (Creswell, 2014). Correlational analysis was used to "explore the relationship between variables that are measured on an interval or ratio scale," (Mertler, 2019, p. 233), of the four Likert-scale instruments within this study's survey. Using correlational analyses was best for this study as the research is in its preliminary stages seeking to find the relationship between the constructs first, before trying to understand any causal elements that would require regression analysis.

The purpose of the correlational analysis was to find the baseline of the relationship between the constructs, determining what (if any) the relationship is between self-concept clarity and self-presentation in response to research question 1.1. It is hypothesized that if a person has strong self-concept clarity, they will have a strong or positive self-presentation online. Based on the literature surrounding self-concept clarity and self-esteem, the hypothesis to the main research question is that a person with strong

self-concept clarity will have a high self-esteem. It is also hypothesized that the participants who have a strong self-concept clarity and self-presentation online will also have a strongly connected idea of their self-concept differentiation in their personal and professional lives.

For this study, univariate, correlational analyses were run using Statistical Package for the Social Sciences (SPSS v.28; IBM Corp., 2019). After downloading SPSS and moving the data set over from Qualtrics, a preliminary comb-through of the data was done to account for missing variables and ensure participant responses who did not fit the parameters were eliminated. Specifically, n=198 surveys were reported, but only n=177 were completed, so n=21 was removed from the analysis. Then n=4 participants were removed as their documented age (20−35) was outside this study's scope. The total number of participants in the study were n= 173. Finally, missing variables were accounted for using -99 to identify any missed responses. A codebook was created to identify what variable would be represented by a designated number within the SPSS spreadsheet. For example, male = 1, female = 2, prefer not to say = 3. Although this was done directly from Qualtrics to SPSS, having a backup of the coding guide was useful when double-checking the reverse-coded questions were transitioned correctly from one program to the other. Participants were logged with a generic ID (i.e., R1-173), and this log was used to match qualitative responses with the quantitative survey. First, scores for each item were summed in each instrument/construct to obtain a single score for each participant. To determine whether participants demonstrated high or low clarity, esteem, and presentation, the highest and lowest scores for each question (i.e., 1 or 5), were added together to give a summed score for the instrument/construct. The high and low score

range for each instrument was calculated by subtracting the lowest summed score from the highest summed score and dividing the difference by 3 to obtain three categories, low, average, and high. If the sum was not divisible by 3, the average category had either one less or one more value than the high and low categories. For example, for the SCC instrument with 12 items, the range for self-concept clarity on a 1 to 5 Likert scale was low (12) to high (60). SCC scores were then organized into low scores (12-28), average scores (29-45), and high scores (46-60). Average and high SCC scores were combined, and the findings are represented in table 5. The same process was done for the RSE, POSSA, and FFSBI instruments, however the ranges were generated as specific to the instrument's scale. The RSE range of esteem was low (10-19), average (20-29), and high (30-40). The POSSA ranges were calculated for each construct (adaptable self, authentic self, and freedom of self online). Adaptable self ranged from low (6-13), to average (14-22), to high (23-30). The authentic self ranged from low (4-9), to average (10-14), to high (15-20). The freedom of self online construct ranged from low (7-16), to average (17-25), to high (26-35). Finally, the FFSBI instrument was split into two constructs lying and liking, and a lower score for each construct determined higher consistency of self-presentation online and offline. Lying, ranged from low (66-48), to average (47-30), to high (29-11). Liking ranged from low (48-35), to average (34-20), to high (21-8). Next, to find the relationship between each survey, Pearson's *r* (Caldwell, 2012) was run to determine the strength of the relationship between the total computed scores of each instrument/construct in the four instruments. The scores of each instrument were analyzed collectively, rather than determining the means of each instrument/construct and running the correlations based on each instrument's mean.

Qualitative Analysis

Under a thematic analysis process, the responses to open-ended questions were analyzed manually using emergent coding. Emergent coding analysis is the process wherein the researcher reads through the data collected and determines a set of codes to then apply to the data (Creswell, 2014; Given, 2008). Given (2008) explained that through emergent research analysis, the researcher has the potential to adjust the coding procedure and apply evolving codes to the data. Emergent coding was chosen because the research stemmed from a social constructivist theoretical framework wherein the interactions with people and language is the foundation for knowledge development (Gralewski, 2011; Vygotsky, 1978). The purpose of the qualitative analysis was to support and expand on the quantitative data findings by enhancing participant voices to determine the relationship between self-concept clarity, self-presentation, and self-concept differentiation. Between the four open-ended questions, a total of 692 open-ended responses were analyzed.

The emergent analysis process began by reading through the first open-ended question responses, and a list of initial codes was created (Castro et al., 2010). Each code was given a colour and during the second read-through of Question 1 responses, statements from the participants were highlighted with the correlating colour. In the second read through, the code list was then condensed regarding like-terms or expanded regarding themes that needed further explaining or defining. For example, concealment and censorship were similar terms but had different meanings regarding how the participants discussed privacy, information sharing, and self-presentation. Riessman (2008) suggests that when using thematic analysis, the researcher focuses on coding *what*

the participant states rather than *how* they say it. After statements were highlighted and sorted, a third read-through was done to ensure the leftover statements that were not sorted did not belong to any generated themes or create a new theme to code. The codes generated from the data were flat and non-hierarchical (Saldana, 2013). During the final read through of responses for open-ended survey question 1, general, non-descript statements such as "they're both the same," (referring to self-concept) were weeded out and logged using a tally system, rather than recording the remark directly into code log.

During the first read-through of responses for open-ended survey question 2, more specific codes were generated based on the experience and knowledge gained from the analysis process for question 1. Definitions, expansions, and compression of themes happened organically during the first read-through of question 2, rather than waiting until the second read-through. This process was repeated for questions 3 and 4. In total, each question had three complete read-throughs of the data to generate the main themes of each question. Specifically for question 3, the coding process required an additional layer of separation as participants answered based on their specific use of social media. Therefore, the participant responses for question 3 were separated into three categories before the codes were applied: (a) PTs who posted professional and personal information in unison as one social media profile, (b) PTs who created separate accounts for their professional and personal lives, and (c) PTs who completely refrained from posting professional content on social media.

Finally, the themes for open ended survey questions 1 and 2 needed to be condensed as not all the themes generated pertained to research sub-question one. As the first research sub-question sought to understand the relationship between self-concept

clarity and self-presentation online, themes specific to these two constructs of the research were only highlighted as illustrated in Appendix E. These qualitative findings were used as evidence to support the quantitative data analysis in chapter 4. The coding process for open-ended survey questions 3 and 4 yielded robust data and were used to address research sub-questions 2 and 3. Table 3 provides an example of final coding notes kept throughout the qualitative analysis process for open-ended survey question four, *As a pre-service teacher, if you present yourself different on social media, what are your reasons for this?* The full code list for all open ended survey questions can be found in Appendix F.

Table 3

Qualitative Coding Example

Overall Theme RQ4	Codes	Sample Transcript
Professional Reasons	Fear of jeopardizing career	"There will be parents or employers that will nitpick at every little thing that you post or do and one small slip up can cost you your entire career" (R28).
	Concern for future judgement	"Any reason would just be fear of judgment by important people in the education system" (R29).
	Moral/ethical considerations	"I don't want faculty, parents, students to see any bad examples that I may be setting with my language or with my behaviors" (R30).
	Competitiveness in Teaching	"Right now, there are so many teacher candidates creating social media accounts and making them purely aesthetic and "pinteresty." This creates a sense of competition for myself and other candidates to keep up with that and establish an online image for yourself as a teacher" (R22).

Table 3 (cont'd)

Qualitative Coding Example

Personal Reasons	Identity	"Reasons are for my own safety. I can't share all my beliefs with my family including parts of my identity/activities" (R23). "I know times are changing, things like dyed hair, tattoos and face piercings are becoming less controversial" (R24).
	Habits or activities that are not "professional"	"On some more anonymous spaces like Reddit and Twitch, I'm much more likely to make crude jokes, use coarse language, etc." (R25).
	Appearance	"Want my social media to look more polished than my actual life" (R26). "To make my life seem better than it is, make others jealous of me, want to be me and my friend" (R27).

Initially, this research sought to give equal weight to both types of data; however, as the qualitative data yielded more information than the quantitative data, the results section prioritizes the information obtained in the open-ended qualitative questions. According to Creswell (2003), when integrating mixed data types, the researcher can afford more attention or weight to either type of data collection and analysis. This research integrated the qualitative and quantitative aspects at the design stage during data collection (survey design) and at the interpretation stage after the data were analyzed independently, and, as Onwuegbuzie and Teddlie (2003) suggested, both are valid options for research involving mixed data.

Cross-Data Analysis

In survey-design, specifically with online surveys, Hsieh and Shannon (2005) stated that a common approach to content analysis of open-ended responses is by "counting and comparisons, usually of keywords or content" (p. 1277). Through a qualitative cross-tabulation analysis (Hai-Jew, 2019), the researcher utilized terms related to attributes of the main constructs from the quantitative instruments and tallied the terms in the open-ended responses that corresponded to self-concept clarity and self-presentation online. Therefore, the cross-data analysis focused on participant responses addressing clarity, presentation, and professionalism in relation to personal self-concept and social media use. The personality attributes were identified as the same or different online and offline to address the self-concept differentiation construct of the study. These tallies were then paired with the demographics of the participants, specifically gender. For example, the male and female responses were tabulated against Self-Concept Clarity and their alignment or misalignment of self-concept on social media in comparison to their offline self-concept (see Table 9). The purpose of this process was to give the qualitative, open-ended responses a numerical value that could bridge the mixed data of the study. Hai-Jew (2019) suggested that cross-tabulation charts could enhance the interpretation of qualitative data by presenting straight counts of the qualitative data associated with open-ended survey questions and "enables the identification of large-scale patterns in survey data" (p. 170).

Trustworthiness of Findings

Triangulation of data was used to enhance the study findings. Triangulation through the collection of multiple sources of data in a study helps to better understand the phenomenon (Creswell, 2014; Denzin, 1978). Both quantitative and qualitative data collected through one survey, wherein four of the instruments yielded quantitative data and four open-ended qualitative questions yielded interpretive data and quantified cross-tabulations, acted as sources of evidence to corroborate, and support findings in relation to the research questions. Creswell (2014) also suggested that triangulation is necessary "to build a coherent justification for themes," (p. 201) and further adds to the validity of the interpretative data. Lincoln and Guba (1985) outlined specific criteria to establish the trustworthiness of qualitative data such as credibility (confidence in the "truth" of the findings) and dependability (consistency of findings when repeated in different settings) and the techniques that can be used such as peer debriefing. Credibility is evidenced by the match between participants' views and the researcher's interpretation (Nowell et al., 2017). To establish credibility of the interpretations of the open-ended response data within the study, peer debriefing was provided by my supervisor who reviewed the data analysis process and interpretations. Dependability is enhanced when the research process is logical and well documented (Tobin & Begley, 2004). A procedural journal was kept by the researcher explaining the reasoning, design decisions, and the steps to the research process for data collection and analysis. The journal contributes to the trustworthiness of the study by acknowledging the changes, questions, and concerns I had during the research process. For example, when detailing the inductive coding measures, I wrote in my journal that upon open-ended question 2 analysis, I had created too many

codes and I was getting lost in sorting the respondents' answers. I wrote that I then had to go through and condense the codes I had already discovered, make stronger boundaries for the definitions (MacQueen et al., 1998), and re-sort the material I had already gone through with these newly defined codes before reading through the rest of the data for open-ended question two. Trustworthiness was also enhanced by researcher reflexivity, the act of acknowledging my role as the researcher (Tilley, 2016). Reflexivity is apparent through the procedural journal kept, as well as in the reflective aspects in acknowledging the limitations of this study (found in Chapter Five).

Conclusion

This research sought to understand the relationship between self-concept and social media use of PTs through a social constructivist paradigm. The chapter presented a description of the survey design and the survey instrument used to investigate PTs self-concept clarity, self-presentation online and self-concept differentiation. This chapter also presented a description of how qualitative and quantitative data collection and analysis methods were integrated for this study. These methods were selected for the research to highlight the data needed to contribute to our understanding of how self-concept develops in online spaces for adult populations of PTs.

CHAPTER FOUR: FINDINGS

The findings section will begin with the demographic characteristics followed by the themes found under the overall question: How do pre-service teachers (PTs) perceive their self-concept through their use of social media? The findings will also highlight themes that support the sub-questions:

1.1 What is the relationship between PT self-concept clarity and online self-presentation?

1.2 How do PTs engage on social media as professionals?

1.3 How do PTs present themselves in online spaces compared to offline spaces?

Then, as the research follows a survey design method (Creswell, 2014), the quantitative and qualitative findings will be presented. Direct quotes will be used to support qualitative findings, and respondent pseudonyms (e.g., R1, R14, R107, etc.) will designate the quotes provided. Finally, a cross-data analysis will synthesize the two types of data, unifying the findings in relation to the main research question.

Demographic Characteristics

Out of a total population of 920 PTs in the BEd program, with 514 in their first year and 406 in their second year, 198 PT respondents volunteered to participate in the survey by electronically submitting the survey. Of these participants, four participants (n=4) were removed for their age as they were older than the parameters of this study's defined term of "young adult" (ages 20–35). The participants who did not complete the full survey were also excluded (n=21). After these exclusions, the sample consisted of n=173 PTs representing approximately 18.8% of the total population, 17.9% of the first-year PT population, and 22.7% of the second-year PT population. Within the sample size, 43.5% were Primary/Junior PTs, 27.2% were Junior/Intermediate PTs, and 29.4% were

Intermediate/Senior PTs; 155 participants (90%) identified as female, 18 (10%) identified as male. Although this imbalance between sexes may seem peculiar, the Ontario Ministry of Education (2020) has indicated through schoolboard data sets that full-time educators also have a large imbalance (male n= 35,580 and female n=108,319). At the university where this Bachelor of Education program took place, the gender imbalance in the program during the year of data collection (2021–2022) was n=735 females (80%) to n=181 males (20%). This trend continued into future years where the gender imbalance between males and females remained consistently different at n=748 females (79%) and n=198 (21%) males in 2022–2023.

Descriptive Statistics

The survey began with general questions to better gauge participants' experiences with social media. Most participants (66.3% of n = 173) used between five and eight social media apps, the most popular being Instagram, Facebook, SnapChat, and TikTok. When asked how many times they log into social media apps daily, of the 173 participants, 48.4% of the participants stated that they are continuously open throughout the day, and 49.7% open social media over five times daily. Next, 32.6% of the participants logged into their social media and spent between 10–20 minutes on their app each time they logged in, while 29.4% of the participants spent between 5–10 minutes on their apps. Finally, 29.3% of participants spent around 30 minutes or more online each time they signed into their social media apps. To access social media, 98.4% of the participants used their phones as their primary devices. Finally, in the last two questions of the preliminary portion of the survey where 52.7% of the 173 participants said that if social media were taken away tomorrow, it would somewhat alter their daily habits, and 38% of the participants said it would drastically alter their daily habits; 35.9% of the

participants said that if social media were taken away tomorrow, it would somewhat alter who they think they are, and 7.6% said it would drastically alter who they think they are. This information is presented in Table 4. The descriptive statistics offer insight into the habits of the PTs and their social media use. Almost half of the 173 participants have social media continuously open on their devices throughout each day, which highlights the proximity of social media to the participant sample and the amount of time PTs are exposed to online social interactions. 98.4% of PTs in this study use their cell phones as the main source of accessing social media, suggesting continuous and instant access to social media. Each time PTs are accessing social media on their cell phones, over half of the participants stated they spent anywhere from ten to thirty minutes on a variety of social apps, meaning that PTs spend an abundance of their day in a space where social interactions and experiences are had in an online setting while in their pre-service teacher roles.

Table 4

Demographic and Descriptive Characteristics of Participants

Characteristic	n	%
Age		
20–25	147	85%
26–30	20	12%
31–35	6	3%
Gender		
Female	155	90%
Male	18	10%
Prefer not to disclose	0	0%
Social media apps used		
1	0	0%
2–4	54	31%
5–8	113	66%
9 or more	6	3%
Number of times logged into SM daily		
Not every day	1	0.1%
Once	3	0.9%
2–4 times a day	17	10%
Over 5 times a day	34	20%
Over 10 times a day	34	20%
Social media apps are continuously open on my devices throughout the day	84	49%
Time spent logged in during each session		
1–2 minutes	13	7%
5–10 minutes	53	31%
10–20 minutes	55	32%
Around 30 minutes	30	17%
More than 30 minutes	22	13%
Is your mobile phone your primary device for accessing social media?		
Yes	170	98.3%
No	3	1.7%

Table 4 (cont'd)

Demographic and Descriptive Characteristics of Participants

Characteristic	N	%
If social media was taken away tomorrow, how drastically would it alter your daily habits?		
Drastically alter	65	38%
Somewhat alter	91	53%
Not alter at all	17	9%
If social media was taken away tomorrow, how drastically would it alter your daily habits?		
Drastically alter	12	7%
Somewhat alter	60	35%
Not alter at all	101	58%

Note. Total participants were n=173.

Self-Concept Clarity and Self-Presentation Findings

The first sub-question of the study sought to describe the relationship between PT self-concept clarity and self-presentation online.

Pre-Service Teacher's Perceptions Survey Results

The survey results from the four measurements: the Self-Concept Clarity scale (SCC), the Rosenberg Self-Esteem Scale (RSE), the Presentation of Online Self-concept Survey for Adults (POSSA), and the Facebook False Self-Presentation Behavior Index (FFSBI) are presented in Tables 5 and 6.

Data for each instrument was computed to determine the strength of PT self-concept clarity, self-esteem, and presentation of self online as described in chapter 3. Initially, the PTs were separated by year of program, year 1/5 PTs together and year 2/6 PTs together. There were no identifiable statistically significant differences in the four Likert instruments between the first and second years of the Bachelor of Education

program and therefore, the cohort of participants was treated as a collective. The results for PT self-concept clarity and self-esteem are displayed in table 5. The results indicate that 70.5 % of respondents (n=122) had a high score on the SCC, meaning they have a strong self-concept clarity. PTs also scored extremely high in their self-esteem; for n=172, 99.4 % of the respondents had high scores on the RSE scale. Overall, as shown on table 6, 76% of PTs had high scores on the POSSA scale. The POSSA instrument was broken into three variables, adaptable self, authentic self, and freedom of self online. 71% of PTs (n=123) were found to have low adaptability online, meaning they may have difficulty showcasing different personas online that best fit a potentially changing environment. However, PTs scored extremely high under the authentic self variable, with 99.8% of PTs (n=171) scoring high, meaning PTs demonstrated a high self-authenticity in online and offline spaces. Finally, PTs found merit in freedom of self online with 67% (n=116) of PTs scoring high, showcasing the value they place in self-presentation online. The last instrument, the FFSBI showed that 95% (n=165) of the PT respondents scored low, meaning they did not participate in false self-presentations online through either of the variables. 97% of PTs (n=168) did not *lie* about themselves on social media where 86% (n=150) of PTs did not participate in *liking* behaviours if they did not genuinely like the content on social media.

Table 5

Results from the SCC and RSE Quantitative Instruments of the Survey

Instrument	Results	*n*=173	%
SCC	High	122	70.5%
Self-concept clarity	Low	51	29.5%
RSE	High	172	99.4%
Self-esteem	Low	1	0.6%

Table 6

Results from the POSSA and FFSBI Quantitative Instruments of the Survey

Instrument	Results		*n*=173	%
POSSA	Overall	High	132	76%
Self-presentation		Low	42	24%
online	Adaptable Self	High	50	28.9%
		Low	123	71.1%
	Authentic Self	High	169	2.3%
		Low	4	97.7%
	Freedom of Self Online	High	116	67.1%
		Low	57	32.9%
FFSBI	Overall	High	8	4.6%
Self-presentation		Low	165	95.4%

Table 6 (Cont'd)

Results from the POSSA and FFSBI Quantitative Instruments of the Survey

online	Lying	High	5	2.9%
		Low	168	97.1%
	Liking	High	23	13.3%
		Low	150	86.7%

These data suggest that the majority of PTs' online self-presentation was consistent with their self-concept clarity, meaning that PTs had a clear understanding of who they are and presented that same self online through social media.

A bivariate correlation between survey measures to determine the strength of the associations among self-concept clarity, self-esteem, and self-presentation revealed the following relationships as shown in Table 7. Results of the Pearson correlation indicated that there was a significant and positive association between self-concept clarity (SCC) and online self-presentation (POSSA; $r\ (171) = .145$, $p < .001$), and between SCC and FFSBI ($r\ (171) = .186$, $p < .001$). The low *r* values indicate a weak correlation meaning that, although self-concept clarity and online self-presentation increase in response to one another, the association is not very strong. Both POSSA and FFSBI measured the construct of self-presentation online. The correlation between these two instruments also indicated a significant and weak positive association ($r\ (171) = .191$, $p <.001$) suggesting that PT's authentic self-presentation online (POSSA) was associated with their truthful behaviours (FFSBI) while engaging on social media. Self-concept clarity (SCC) was significantly and negatively correlated with self-esteem (RSE; $r\ (171) = -.048$, $p <.005$), meaning that as self-esteem increased, self-concept clarity decreased but the relationship was not very

strong. Finally, results of the Pearson correlation indicated a significant positive association between self esteem (RSE) and online-self-presentation (FFSBI) ($r(171) = .095$, $p < .001$), meaning that as self-esteem increased, self-presentation increased, but the association was not very strong.

Table 7

Correlations of Surveys Measuring Pre-Service Teacher Self-Concept and Online Self-Presentation

		SCC	POSSA	RSE	FFSBI
SCC	Pearson Correlation	-	.145**	-.048*	.186**
	Sig. (2-tailed)		<.001	.045	<.001
POSSA	Pearson Correlation	-	-	-.054*	.191**
	Sig. (2-tailed)			.024	<,001
RSE	Pearson Correlation	-	-	-	.095**
	Sig. (2-tailed)				<.001
FFSBI	Pearson Correlation	-	-	-	-
	Sig. (2-tailed)				

Note. *. Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed).

Open-ended Responses

After examining the survey responses, the qualitative responses generally supported the outcomes of the quantitative tools of measurement (the SCC, RSE, POSSA, and FFSBI), providing possible reasons for some of the results that high self-concept clarity was related to strong online self-presentation and a high self-concept differentiation through PT alignment of personal and professional selves. The qualitative survey questions (open-ended Questions 1 and 2) that asked about self-concept clarity and online self-presentation did give rise to some themes which are used to provide

support for the quantitative results and provide insights into factors that affected PT responses on surveys.

Sense of Self Online and Offline

The first two open-ended survey questions asked participants how they present themselves online (social media) and in offline environments; 74% of the 173 participants stated they are the same or similar online and offline, often mentioning they "do not lie or falsify information" (R36). PTs expanded on several factors associated with falsifying information or presentation online by relating truthfulness to being a "good citizen," not using filters to adjust photos, and not creating false content just to 'fit in' on social media. One PT stated that they told the truth online because they did "not want my followers to see something untruthful online that they knew to be different of who I am as a person offline" (R37). According to the quantitative computations for self-concept clarity from this dissertation, 70.5% of the 173 PTs scored as having a high self-concept clarity on the Self-Concept Clarity scale developed by Campbell et al. (1996). The quantitative and qualitative findings regarding self-concept clarity suggest a harmony or unison amongst the PTs responses and enhance credibility of the study findings.

However, a small group of participants (roughly 11%, n = 19) were open to sharing that their online identity is better than what a person might see offline because they rely on enhancement methods such as filters or photoshop and curate a "highlight reel" to show their followers. About 15% (n = 26) of the participants mentioned they were different online than offline. There was an extensive range of reasonings for presenting oneself as different in online and offline spaces. Three participants mentioned they presented themselves differently based on adapting their online activity to model

what others are doing or what they noticed as standard practice. For example,

> Other than maybe sharing posts that I know others would enjoy that I may not 100% (R28).

> Instagram is a workout, motivation, and travelling account, thus, I feel that I must always present the content in a very flattering way (R29).

> Different because I act like I am always flawless and rich online, like celebrities (R30).

Seven participants noted they present themselves as more professional online, always keeping in mind what future employers might access. These quotes were chosen because they acknowledged how outside influences impact their behaviours online.

> Due to my fear of professional setbacks from posting online, I keep my person posting online to a minimum (R31).

> I present a very polished version of myself, the way in which I want others to view me, so that I do not contribute to any potential negative views surrounding my personal or professional image (R32).

One participant mentioned they present themselves differently online because of their cultural background.

> Reasons are for my own safety. I can't share all my beliefs with my family including parts of my identity. My family's beliefs are conservative Christian, so I can't post or include anything too political. Going against these beliefs, I would face push back from family all the way in India, which is overwhelming and not even worth it (R6).

Nine participants mentioned having an increased sense of confidence online and therefore

they presented themselves differently. Thirteen participants mentioned self-consciousness of appearance or abilities in person.

When I post a photo on Instagram, you don't see any imperfections and I feel confident in myself, but in the real world sometimes I feel anxious due to my face features (R33).The next participant represents a PT with social anxiety both offline and online but the use of social media tends to minimise that anxiety.

> The way I differ from social media and my offline world is the way in which I present myself in a confident manner. I have very bad social anxiety and a lot of the time the stuff that I want to post on social media takes me a long time to post because I'm so back-and-forth on whether or not people will judge me but in the end, I feel that I can post it whereas in person I have to suss out a lot of the people before I make any comments that might be politically offending or offending someone's beliefs. (R1)

In contrast, sixteen PTs stated that it is unnecessary to show sadness on social media, so many found it [online] a space where they did not have to confront those offline emotions.

> Most of what I posted is from positive moments in life because no one wants to see the bad (R34).

Finally, one of the participants mentioned they were better at communicating with others online, so they presented themselves differently online.

> The only difference is my comfort level communicating with more people online than I do in person due to being shy (R35).

The abovementioned quotes were chosen as they were either the only quote to represent a

specific reason for the overall finding, or because they represented an extreme, or because they represented the general statements being made within the commentary PTs provided in the open-ended responses.

Appearance and Confidence

Ten of the 173 participants (6%) had direct comments that linked posting photos on social media to the importance of appearance. For example, one participant stated, "I try to present myself as honestly as possible online, except for my physical appearance and general mood. I am my happiest and prettiest online, but I don't lie about who I am" (R2). Participants were honest about appearance and looking their best online:

> My social media use probably reflects a more conceited version of myself. 'I'm a pretty simple person in real life, but you might not be able to tell from the fact that I only post very done-up, flattering photos of myself. (R3)

According to Wright et al. (2018) and Schlenker and Leary (1982), self-enhancement strategies are used to impress others and often seek self-verification from others to confirm their self-worth. Twenty-three of the 173 participants (13%) discussed aspects of self-confidence that they struggle with, which impacts the type of self-presentation they engage with online. For example, many participants stated they used filters or Photoshop to enhance their self-image. In contrast, six participants (3.5%) mentioned they compare themselves to others they see online, which makes them feel self-conscious or are not accomplishing as much as others appear to be as one participant noted, "on social media, I feel as though everyone looks better than me" (R4).

Eight participants connected their authentic selves to their confidence and self-esteem. For example, one participant mentioned, "I don't think I am completely authentic

online because I don't really like myself a lot. So online, I am inauthentic by seeming more positive, more thin, happier, better" (R23). Of these participants, most mentioned they were self-conscious about some aspects of themselves and used filters or make-up to enhance their appearance. Specifically, one participant stated they used an appearance-altering app for their posts, saying, "in them [pictures], I often Facetune things that I don't like or emphasize the things I do like about myself. I pay $55 a year for my Facetune premium subscription to edit my Instagram photos" (R24). Most participants who mentioned their authenticity on social media explicitly stated they curate photos and only post images where they look their best. One participant said that they post pictures of themselves in any light, "I try to post more pictures that are genuine and candid of the people I love no matter how I look" (R25).

Social Media and Identity Formation

Although not discussed by most participants, a few participants mentioned the importance of identity formation through social media or how social media influenced their identity formation and self-concept. Five participants went into detail about aspects of their identity and the direct implications on their social media identity. The few that did were forward in stating that aspects of their culture, sexuality, and familial relationships were the foundation of their identity development. They actively chose to present or hide these pieces of themselves online. One participant said,

> Being a queer woman, I think being online gives me the opportunity to be anonymous in certain spaces, which allows me to be less closeted about my own identity. My beliefs of myself stay the same online or offline, but I identify differently in both spaces. (R5)

Another participant said, “different based on my cultural background, but somewhat similar to those within my program” (R6). Finally, one participant explained that her offline identity was morally sound; therefore, her social media followed the same ethical considerations:

> My beliefs of who I am are similar between my social media use and my offline world mainly because I think I've adapted to the expected moral and ethical role of being a good citizen offline, and I carry that out online. (R7)

Six participants explored their beliefs that social media contributed to their offline identity. One participant mentioned that social media has allowed them to explore and become their true self:

> If anything, I would say that online gave me the courage to be who I truly am. I found I was more my authentic self online than in person because online, I found all these people who didn’t judge me or were like me. I learned it was okay to be authentic, state my opinions, dress how I want, love how I want and ask for things I want without shame. Online helped me open myself up and live authentically. Now, I think who I am online and in-person is relatively the same. Online definitely helped me get here. (R8)

In contrast, three participants have acknowledged the potential for more harmful connections between their social media use and adverse identity developments. One stated “I struggle to accept who I am sometimes, and it is similar online as well. If I post a photo, I struggle to accept that it is not perfect” (R9). Collectively, according to these 11 participants, online self-presentation either impacted or was affected by social media use. The second research question will discuss these moral norms in further detail.

Self-Presentation in Online and Offline Spaces

The second sub-question of the research asked, "How do PTs engage on social media as professionals?" and the third sub-question asked, "How do PTs present themselves in online spaces compared to offline spaces?" Both sub-questions are addressed in the section below as the respondents' statements often collectively addressed online self-presentation as professionals and how being online or offline contributed to their self-presentation. As participants are both students and professionals within the Bachelor of Education program, SCD is used as a guiding theory to understand how PTs perceive their personality characteristics in the professional role.

Quantitative Analysis

The following section will present the results for individual questions from each of the four quantitative instruments used, as some questions can relate to the concepts of SCD and teaching.

Beginning with the Self-Concept Clarity scale (SCC), Questions 6, 11, and 12 reflect aspects of personality or role changes that indicate degree of SCD among PTs. Questions 5 and 7 of the Presentation of Online Self-concept Survey for Adults (POSSA) related to role differentiation in online spaces. Regarding esteem, the Rosenberg Self-Esteem Survey's Questions 1, 2, and 8 could be related to SCD formation. Finally, the Facebook False Self-Presentation Behaviors Index's (FFSBI) Questions 11 and 18 provided useful insight into the roles of PTs and their changing personalities. The following information is described in Table 8 and elaborated on below. For all survey results, the total number of participants was n = 173.

For Question 6 of the SCC, the participants were split in their beliefs that they seldom experienced conflict between the different aspects of their personalities; 44% of

respondents disagreed or strongly disagreed. When asked, “in general, I have a clear sense of who I am and what I am,” 76% of participants agreed or strongly agreed they knew who they were, which correlates with the participant statements from the qualitative questions that suggest they have a good understanding of who they are online, offline, and in their profession. When asked, “it is often hard for me to make up my mind about things because I don’t really know what I want,” 53% of the participants either agreed or strongly agreed that they had a hard time deciding what they wanted.

Regarding the POSSA scale, when participants were given the statement, “I am a different person depending on which online space I’m in,” 80% of the participants answered they disagreed or strongly disagreed, meaning they were the same person regardless of what online space they were on. This aligns with the qualitative questions 1 and 4 as roughly 74% of participants stated they are the same online and offline. In comparison, 11% believed they are the same but present the best versions of themselves online. Participants were given the statement, “I feel I am the same person in the cyber world that I am in the real world,” and 84% said they agreed or strongly agreed, which again correlates to the qualitative questions about self-concept and online/offline spaces.

Table 8

Relevant Questions from Instruments illustrating Pre-Service Teacher SCD

Survey & statement	Agree/Strongly Agree	Neutral	Disagree/Strongly Disagree
SCC Q6: I seldom experience conflict between the different aspects of my personality	59 (34%)	38 (22%)	76 (44%)
SCC Q11: In general, I have a clear sense of who I am and what I am	132 (76%)	24 (14%)	17 (10%)
SCC Q12: It is often hard for me to make up my mind about things because I don't really know what I want	91 (53%)	19 (11%)	63 (36%)
POSSA Q5: I am a different person depending on which online space I'm in	28 (16%)	7 (4%)	138 (80%)
POSSA Q7: I feel I am the same person in the cyber world that I am in the real world	145 (84%)	15 (9%)	13 (7%)
RSE Q1: On the whole, I am satisfied with myself	136 (79%)	14 (8%)	23 (13%)
RSE Q2: At times, I think I am no good at all	79 (46%)	18 (10%)	76 (44%)
RSE Q8: I wish I could have more respect for myself	95 (55%)	17 (10%)	61 (35%)
FFSBI Q11: Only posting flattering pictures of yourself	134 (77%)	–	39 (23%)
FFSBI Q18: Friending someone you don't like	45 (26%)	–	128 (74%)

Notes. SCC = Self-Concept Clarity Scale; POSSA = Presentation of Online Self-concept Survey for Adults; RSE = Rosenberg Self-Esteem Scale; FFSBI = Facebook False Self-presentation Behavior Index.

Regarding self-esteem, participants' personal satisfaction was strong with 79% strongly agreeing or agreeing that they were satisfied with themselves. However, 46% of participants mentioned that they strongly agreed or agreed that at times, they think they are no good at all. In contrast, only 44% of the participants disagreed or strongly disagreed with this statement. Then, participants were asked "I wish I could have more respect for myself" and 55% of participants answered they strongly agreed or agreed with this statement.

Finally, with the FFSBI, when asked "Only posting flattering pictures of yourself," 77% of participants agreed that to some extent or to a very great extent, they do only post flattering pictures. This was the only lying behaviour shared by most participants and had similar responses. Appearance and confidence were underlying themes in the qualitative questions, where only 6% of participants directly linked self-presentation online to the importance of appearance. However, the action of posting flattering photos was highly prevalent among the participants. Regarding "friending someone you don't like" on social media, 26% of participants said they do this from a little to a great extent. Professionally, social media is used for networking (Fox et al., 2018).

Qualitative Analysis

The section below will highlight the major findings emerging from the thematic analysis of the third open-ended survey question, *When posting on social media, how do you present your "pre-service teacher self" to your followers,* and the fourth open-ended survey question, *As a pre-service teachers, if you present yourself differently on social media (online) than you present yourself offline, what are your reasons for doing this*.

The qualitative data from open ended response questions 3 and 4 yielded robust themes that address research sub questions 2 and 3.

Concealment and Censorship

One of the first themes to arise concerning self-concept differentiation was that some PTs used concealment and censorship to differentiate self-concept in online social interactions. Concealment was thought of as a choice to hide personal information, whereas censorship indicated that the participant was hiding personal information due to an outside influence, mainly the teaching profession. This study differentiated between concealment and censorship as used by PTs. Concealment was the action of the PT hiding information they did not want to share; as one participant noted, "I have a fairly tight group of followers and they all know I'm in my B.Ed., but I don't feel that it's necessary to discuss work/school on my social media platforms" (R10). PTs felt that they censored or hid information online because the teaching profession limited what they felt they would be allowed to post.

> Posting on social media I represent my pre-service teacher self to my followers by posting more appropriate photos but if it did come in to view of my students or their parents or the faculty that I work at, it wouldn't embarrass my school or myself in any manner. I have deleted all photos of alcohol and partying on my social media or at least most of them where they would be considered inappropriate other than family events. I believe that even though I have a separate Instagram account for teaching that it's important for me to keep a private account for my personal life that my students cannot access but even if they could it is still clean and OK for them to see. (R11)

Honesty and Ethics

An interesting underlying theme that stemmed from the participant responses was that PTs related authentic posts and online self-portrayal to ethical traits of honesty and integrity. When asked about presenting their authentic self on social media, participants overwhelmingly responded by relating their authentic posts and online self-portrayal to ethical traits of honesty and integrity. In total, 14% (n = 8) of the participants spoke directly about moral or ethical honour while posting on social media. For example, of these participants six described their post content as being honest and, therefore, being true to themselves or authentic, "I guess I present myself the way I am. … I'm honest, and everything I post on social media is the truth and represents who I am" (R12). In addition, four of these participants linked their honesty to their appearance; for example: "I present my authentic self by not filtering my pictures … and not lying about any aspect of my life" (R13). Two participants stated that they do not lie about their lives online simply to keep up with content creation, one stating "I don't fabricate things just to post on social media" (R14). Although these participants mentioned morality and ethical ties to their online actions, many more PTs openly discussed teacher professionalism as a guiding principle.

Professionalism

Of the 173 participants, 114 PTs (66%) mentioned the importance of maintaining a level of professionalism in connection to teaching. PTs related professional self-concept in online environments to ideas of professionalism that are often promoted in the field. Defining professional behaviour according to the participants ranged from terms such as appropriate, respectful, honest, and careful, which were related to concepts surrounding

language use, cultural beliefs, clothing choices, and photo posting. Below are five quotes that explore the variety of ways participants described the importance of being professional online:

> I never post anything that could be offensive (offensive language, content matter, etc.) and I often advocate for inclusion and equity or just plain happiness in my posts. As a pre-service educator, we know how important our public personas are so I always strive to only post things I would be comfortable with a future employer or even class of students see! (R15)

> I do not post pictures of myself drinking or going "out" at night. I usually keep it PG with friend posts and family posts. (R16)

> I don't post anything that I wouldn't feel comfortable showing my parents, colleagues, or students. (R6)

> I try to keep myself relatively tame on social media. I feel there is an image for educators to be and I do think I fit it. However, I often describe myself as alternative of edgy and I don't post that as much because of my career choice. It's part of me struggling with my true identity and what I think the world wants me to be. I try to be respectful, not swear as much (even though it's one of my favourite things LOL), and not discuss certain topics that I normally do in my daily life online. (R17)

> I am always professional online and do not post any photos that could possibly cost me a chance at a job in the future. (R18)

These quotes highlight how PTs are conditioned to think about how their social and online activities could impact their potential career options. Specifically, with the first

quote, in that case, the participant uses the term *we* when connecting public appearance to the teaching profession, as if the participant is speaking on behalf of all their peers. In line with the participants above, many mentioned consciously thinking about who will see what they are posting.

Considering the Future

A major theme from participant responses was PTs perceived constraints on personal presentation and self-concept differentiation online when using social media. PTs' statements often contained references to the longevity of online posting and its' potential to impact their career. One stated, "What goes online can be seen forever [and] can be taken out of context" (P19). This fear of the future was a constant concern amongst 44 of the 173 (25%) participants who stated they present a different teacher-self online:

> We are told repeatedly in Teacher's College not to post anything embarrassing that will come back to us. Lots of pressure to look perfect online so no student or parent or faculty can find it one day and use it against us. (R20)

Another participant focused her response on her hire ability in the future:

> I am presenting myself appropriately and not in a way that would make someone say, "hmm, we aren't sure we should hire her based on that one comment she made on that post in 2020 because she didn't agree with something." If anything, that is the only way I present myself a bit differently. By just engaging positively online rather than negatively. (R21)

Through cross-tabulations of the qualitative responses, 25% of PTs suggested they post differently online; however, referring to Table 8, the POSSA Q7 suggested that

only 16% of PTs post differently online. As PTs had more space to discuss the reasons for differences in posting in the open-ended questions, they were able to expand further and give direct reasons for posting differently, such as future careers or professionalism. The collective findings suggested that PTs' self-concept was in alignment between their personal and professional selves; however, the thought behind the action of posting created a different outcome with the future of their careers in mind.

Respondent 20 mentioned the pressure of looking and acting appropriately as future teachers. This could be due to Bachelor of Education program's emphasis on professional standards in Ontario or the teaching job market's competitiveness (Lowenthal et al., 2016). Of interest was the fact that two participants mentioned the strain that the program and competitiveness were putting on their idea of who they are as teachers:

> Right now, there are so many teacher candidates creating social media accounts and making them purely aesthetic and "Pinteresty." This creates a sense of competition for myself and other candidates to keep up with that and establish an online image for yourself as a teacher. (R22)

The other candidate explained,

> I don't know if I actually want to be a teacher, and I struggle with this a lot. By presenting myself as a competent teacher I'm hoping this will manifest into me figuring out what I want to do with my life. (R17)

One participant mentioned the moral expectations of teachers as a reason for remaining professional online, stating, "We are told often that the teaching profession is one where you can never really take your 'teacher hat' off," (R27) and "It's been drilled into my

head that we need to live up to a certain standard as a teacher" (R27).

Overall, the thematic analysis showed that PTs were highly aware of the social expectations the teaching profession could have on their online and offline habits. PTs consciously posted morally curated messages, images, and resources, or they did not post at all in fear of putting something online that did not fall under the scope of appropriate actions for future teachers. PTs were always aware of the social undertones considered proper for teachers and teaching, and therefore abided by those protocols in their social habits both online and offline.

Summary of Analyses

By examining the open-ended survey questions and several specific questions from the measurement tools, it was determined that PTs in the study were strongly aware of their expectations to comply with the expectations of the teaching profession and majority of PTs presented themselves as professionals in online spaces. Concerning their self-concept, most of the participants' personality characteristics aligned with the expected behaviours of an educator. They found that their views, values, and behaviours coincided with those that were expected of them as teaching professionals. However, a small percentage of participants reported being at odds with how their identity and self-concept fit into the teaching profession. These participants felt that the behaviours expected of teachers were different than how they liked to behave, present themselves, speak (appropriate language use), or personal opinions they wanted to share. This led to an internal conflict between the expected behaviour they were to promote and the actual behaviour or personality they wanted to share and resulted in some degree of SCD in online spaces.

Cross-Tabulation of Open-ended Response Data through Quantification

Besides interpreting the open-ended responses through thematic interpretation, open-ended data were quantified, and cross-tabulations were computed to enhance interpretation of qualitative data in relation to gender. Thereafter, the relationship of gender in relation to the four statistical instruments of the survey is discussed.

In table 9 below, self-concept clarity was tallied for PTs who felt their self-concept was aligned or unaligned in both online and offline spaces. Words such as *same* and *similar* or *different* were highlighted to tally PT responses within the demographic provided. These responses connected to the open-ended survey question 1 and the main research question as well as research sub-questions 1.1 and 1.3. Results reveal that 83% of male PTs (n=18) stated they had a clear self-concept in both online and offline spaces, whereas roughly 72% of female PTs (n=155) suggested that they have a clear understanding of who they are in both environments. These results from open-ended response tallies suggest that both males and females exhibited similar self-concept across online and offline spaces; however, the percentage of males indicating having high SCC was higher than females. This result is consistent with findings from statistical analysis. Table 10 shows the results of statistical relationships of males and females respectively and SCC. High SCC is indicated by scores of 29 and above. As shown in table 10, 88.8 percent of males had high SCC compared to 78 percent of females which is similar to the qualitative tally responses in table 9. Males, however, scored higher on the SCC than their female counterparts in both types of analyses, suggesting males are more likely to have a stronger self-concept clarity.

Table 9

Cross-tabulation of Gender to Self-Concept Clarity from Open-ended Response Tallies

Gender of Respondents (n= 173)	Frequency of Self-Concept Clarity (in alignment on social media and offline), n (%)	Frequency of Self-Concept Clarity (unaligned on social media and offline), n (%)
Male (n=18)	15 (83%)	3 (17%)
Female (n=155)	111 (72%)	44 (28%)

Table 10

Statistical Analyses of Gender to Self-Concept Clarity (SCC)

		n	**%**	***n***	**%**
		Males		**Females**	
Scoring	12-28	2	11.2	36	23.2
	29-45	7	38.8	104	67.1
	46-60	9	50	15	9.7
Total		18	100	155	100

In the Table 11 below, self-presentation was tallied for PTs who felt their self-presentation of their authentic self was aligned or unaligned on social media. Words such as *present, true me, better, best, does show, authentic, does not show, and inauthentic* were used to tally in connection to the demographic. These tallies aligned with the second open-ended survey question and sought to answer the overall research question and

research sub-question 1.1 and 1.3. Results show that females and males both engage in self-presentation online in a manner that aligns with their self-concept; however, only female participants made reference to presenting an *idealized* version of themselves by using phrases such as *best self, positive,* and *highlight(s)*.

Table 11

Cross-tabulation of Gender to Self-Presentation from Open-ended Response Tallies

Gender of Respondents (n= 173)	Frequency of Self-Presentation (in alignment on social media), *n* (%)	Frequency of Self-Presentation (unaligned on social media)
Male (n=18)	13 (72%)	5 (28%) (unaligned because they do not post)
Female (n=155)	General alignment 121 (78%) Idealized 19 (12%)	15 (10%)

Finally, in the Table 12 below, professionalism was tallied for PTs who presented a professional self online or considered their profession while presenting online. This analysis aligned with the open-ended survey questions 3 and 4 and research sub-question 1.2. Keywords such as *congruent, conflicting, absent, resources, appearance, future* were used to sort and tally PTs responses. Qualtrics was used to sort the data by gender, then manual tallying was used for each respondent based on the above-mentioned words. The results indicated that a higher number of females present themselves differently online (due to professional considerations) than males. Females opted to consider privacy online; however, it was not a factor discussed by males. Finally, the percentage of males

in comparison to females who mentioned they do not present themselves differently online was higher, complimenting the findings from above that suggest that males display higher self-concept clarity than females.

Table 12

Cross-tabulation of Gender to Self-Concept Differentiation in Professionalism from Open-ended Response Tallies

Gender Respondents (*n*= 173)	Frequency of Professional actions (online), *n* (%)	Frequency of Considerations for professional vs. personal self (online), *n* (%)
Male (*n*=18)	Limited Sharing, 5 (28%) Resources, 3 (17%) Same self, 1 (5%) Future Career/Professionalism, 7 (39%) Truth/Ethical, 2 (11%)	Present differently, 4 (22%) (due to professional considerations) Do not present differently because they are in alignment with profession/personal, 12 (67%) N/A, 2 (11%)
Female (*n*=155)	Limited Sharing, 35 (23%) Resources, 20 (12%) Same self, 11 (7%) Future Career/Professionalism, 54 (35%) Privacy, 35 (23%)	Present differently, 72 (46%) (due to professional considerations) Do not present differently because they are in alignment with profession/personal, 83 (54%)

Synthesis of Cross-Tabulation Results

Research sub-question 1.1 of this study investigated PT self-concept clarity and self-presentation on social media. The cross-data analysis results as shown in Table 9 and Table 10 suggest that PTs generally have a high self-concept clarity, and that male PTs scored higher on the SCC than female PTs. Findings from the cross-data analysis also suggested that PTs self-presentation on social media was in alignment with their offline self, although only female PTs stated they often presented an idealized version of themselves online. Finally, Table 12 findings highlight the parallels between males and females PTs who consider their professional careers when posting online, where 46% of female PTs consider posting differently online compared to 22% of male PTs. The crosstab tallies also support the quantitative results that PTs had a weak, but positive statistically significant relationship between self-concept clarity and self-presentation online.

Research sub-question 1.2 asked PTs how do they *engage on social media as professionals?* With the qualitative cross-data tabulation yielding a tallied number for the open-ended response questions, the main terms for professional considerations online as shown in Table 9 aligned with the qualitative findings. For example, qualitative themes of limited sharing, resource sharing, personal and professional alignment, future thinking regarding the profession and career, privacy, and ethical considerations were similar to the common content/attributes identified from cross-tabulation.

Summary of Main Findings

In connection with the main research question, *how do PTs perceive their self-*

concept through their use of social media, the findings suggest that PT's have a clear self-concept while using social media and while socializing offline. Collectively the quantitative and qualitative findings suggested the majority of PTs had a good self-concept clarity, a high self-esteem, and they presented themselves on social media in an authentic way to their offline self. Majority of PTs commented that their self-concept in personal and professional spaces aligned, and they cognitively thought through posting online due to external factors such as future career ambitions and expectations of their professional program and career path.

Chapter Summary

This chapter presented the findings of the study. Survey data were analyzed using SPSS to report descriptive statistics about demographic data such as age and gender, against the respondent population. The data from the first two research sub-questions were then analyzed quantitatively and qualitatively. Quantitative findings included results from Pearson correlations to find the relationships between the four quantitative surveys. Qualitative themes were then presented using responses to the open-ended questions. The open-ended survey questions 1 and 2 connected to research sub-question 1.1 and open-ended questions 3 and 4 were associated with research sub-questions 1.2 and 1.3. Thereafter, the results of cross-tabulations from quantification of open-ended responses were presented to triangulate data and compare qualitative and quantitative results.

Research sub-question 1.1 sought to understand the relationship between self-concept and online self-presentation. All three types of data analyses, quantitative, qualitative and cross-tabulation of open-ended responses indicated that PTs presented themselves similarly in online and offline spaces. Underlying themes from the open-

ended survey questions suggested that appearance, confidence, and identity formation were important to their online self-presentation. Supporting these claims, the quantitative surveys showed positive correlations between SCC, FFSBI, and POSSA; meaning that PTs' self-concept clarity was positively correlated to their online self-presentation albeit weakly, and that the stronger the self-concept clarity, the more closely related online self-presentation will be. However, self-esteem (RSE) had weak, negative correlations with SCC and POSSA, meaning that as self-esteem increased, self-concept clarity and self-presentation decreased which means there is a discrepancy between how PTs feel about themselves and how they present themselves.

Research sub-question 1.2 sought to understand if there was a relationship between self-concept differentiation (SCD) and social media use, in connection with the third sub-question that directly focused on roles as PTs. Although no quantitative instrument directly linked to SCD, questions from each survey regarding personality traits or feeling differently about oneself in different spaces were linked to participants' understanding of their SCD as PTs. Thematic analysis of open-ended responses corroborated with a cross-tabulation analysis of response data, revealed four underlying themes that highlighted respondent views surrounding professionalism, concealing and censoring online content, honesty and ethics, and considerations for future teaching careers. These themes led participants to explain that when they actively engaged in social media, they only exposed certain parts of who they were for fear or because they understand the professional expectations teachers should uphold.

CHAPTER FIVE: SUMMARY, DISCUSSION, AND IMPLICATIONS

The population of respondents for this study were PTs who were utilizing social media for personal and professional ventures, thereby providing a space for self-concept development. This study investigated pre-service teacher perceptions of self-concept development through social media and explored their engagement on social media as professionals. Ultimately, this research highlighted how PTs describe the way in which social media use shaped their self-concept clarity, online self-presentation, and self-concept differentiation.

Summary of Study

Through a survey design (Creswell, 2014; Mertler, 2019), utilizing Likert scale measures and open-ended questions, this study sought to understand and investigate the phenomenon of the relationship between self-concept clarity and online self-presentation of PTs, and how PTs viewed their self-concept differentiation between student and professional roles. The guiding research question for the study was, "How do pre-service teachers perceive their self-concept through their use of social media?" The guiding research question was answered by investigating these specific research questions:

1.1 What is the relationship between PTs' self-concept clarity and online self-presentation?

1.2 How do PTs engage on social media as professionals?

1.3 1.3 How do PTs present themselves in online spaces compared to offline spaces?

A survey was administered to collect data. Overall, 173 responses to four different quantitative scales and 692 qualitative responses to four open-ended survey questions were obtained. Quantitative data were analyzed with descriptive and inferential statistics

using SPSS (v.25) software. Open-ended responses were coded using an inductive thematic analysis process, codes were grouped into categories from which themes that answered the research question emerged. Open-ended responses were also quantified using terms related to reasons or self-concept attributes and analysed by conducting cross-tabulations with gender. The main findings were that PTs' self-concept was in alignment with their professional identity as guided by the ethical and moral considerations in the context of the Ontario teaching profession. PTs had a strong understanding of the permanence of online content in relation to their appearances and social activities, which they considered when presenting themselves online.

Discussion of Results

Relationship Between PTs' Self-Concept Clarity and Online Self-Presentation

Overall, PTs explained they understood who their authentic selves were, which were connected to their professional personae that they then presented similarly across online and offline spaces. PTs explained that they had developed a clear understanding of their professional personae and presented that persona online through professional behaviours and appearances (e.g., commenting, posting photos, networking). PTs indicated they presented themself in postings in a confident manner online. Self-presentation is often done to showcase or highlight the most socially desirable aspects of oneself to others, without straying from one's beliefs (Baumeister & Hutton, 1987; Skogen et al., 2021). These socially desirable traits may change from setting to setting and can be similar or different between family, friends, and place of employment or study (Skogen et al., 2021). However, a handful of respondents shared that social media use was either impacting or impacted by identity formation. Some participants found that social media was helping shape who they were, while others believed that they had a

strong sense of who they were but used social media to amplify and project that self-concept. Jang et al. (2018) discovered that while using social media (specifically Facebook), self-esteem directly influenced the type or style of self-presentation online, meaning the higher the self-esteem, the more self-presentation linked to the user's true self. Campbell et al. (1996) used correlational analyses to determine that self-esteem and self-concept clarity are strongly related, likely because a person with higher self-esteem can more clearly define their positive traits. Yang and Brown (2016) explained that "self-presentation [is] the process through which individuals communicate an image of themselves to others" (p. 402) and that self-presentation now extends to online spaces. Strimbu and O'Connell (2019) suggested that adults are more likely to have a stable self-concept than adolescents, which may explain why only a handful of participants were wavering in their comments about their profession or who they felt they were as people. This study found that most participants had developed a stable, professional identity and were secure in their understandings of themselves as professionals.

The relationship between self-concept clarity and online self-presentation was statistically significant with a positive correlation, meaning that when self-concept clarity increased, so too did authentic self-presentation online. Participants in the study with a strong self-concept clarity often presented themselves authentically on social media and did not lie about who they were or about attributes (e.g., professional status, age, hobbies, and interests) that influenced who they were. The study's findings also suggested a weak, positive correlation between self-concept clarity and self-presentation, which could likely be due to the PTs having a strong sense of alignment between their personality traits that they might showcase as professionals and as students. Specifically, the majority of PTs felt their intrinsic values, ethics, and actions reflected those of the teaching profession.

Also, these behaviours were likely similar across multiple spaces because PTs best identified with the behaviours accustomed to the teaching profession. These behaviours are promoted through teacher education programs which expect a strong sense of professionalism and ethical responsibility from PTs in all coursework, professional development programming, fieldwork, and examinations.

In this study, self-esteem was weakly and negatively correlated with both self-concept clarity and self-presentation online. In previous studies, such as Campbell et al. (1996), self-esteem was highly correlated with self-concept clarity. In this study, as self-esteem increased, self-concept clarity and self-presentation decreased, which could be related to several factors. For example, the qualitative findings of the current study showed that PTs exhibited some variability in their online posting in relation to their profession (i.e., some PTs posted pictures of partying or used offensive language), even though the quantitative data indicated that online self-presentation and self-concept clarity were cohesive. Thunman et al. (2018) explained that "social media tends to blur the boundaries between public and private domains" (p. 138), which can cloud the judgment of PTs who are uncertain about how their professional identities align with their personal philosophies. An explanation for this discrepancy could be that when answering the quantitative questions first, PTs were not given direct instructions to answer each measurement tool about their esteem, clarity, or online presentation from the perspective of either their social or professional selves. The quantitative survey was done from a general perspective on self-concept and the quantitative open-ended questions narrowed into either a personal or professional lens. It could also be that PTs viewed self-presentation and self-concept clarity from the perspective of having to conceal or censor themselves based on their future profession, potentially leading to a decrease in having a

clear or consistent self-concept clarity and self-presentation online. Therefore, although their self-esteem increased, their self-concept clarity and online self-presentation may have decreased due to the multiple roles (social and professional) they had to consider.

Another interesting finding was related to how gender was associated with SCC. The study results suggest while males and females showed similar self-concept across online and offline spaces, a higher percentage of males displayed higher SCC scores. In this dissertation, female participants outnumbered males, which aligns with Campbell et al.'s (1996) three-part study where the proportion of female to male participants was significantly higher. Males in both this dissertation and Campbell et al.'s (1996) study scored slightly higher on the SCC than the females. Although the data is ungeneralizable due to the small sample of males, a recent study (Cicero, 2020) with a sample size of over 3000 undergraduate students with 68% females also reported that males scored slightly higher than the females on the SCC. Berger and Luckman (1966) suggest that men and women often construct different social realities, which could be a contributing factor to the way males perceive their self-concept and continually score higher than females.

Overall, the findings of this study suggest that PTs know that professionally they must present themselves with a high degree of moral and ethical behaviour, and because their self-concept clarity was consistent across many contexts both online and offline, these expectations for a high moral compass may have become second nature to the PTs. These findings are similar to studies such as that by Yang and Brown (2016), who found that even though self-presentation of first-year college students using Facebook changed from surface-level to deeper connections, the participants felt that at each point of the study, they were being authentic while online. Yang and Brown suggested that the

participants likely had a core self-understanding but chose when to highlight different aspects of themselves depending on with whom the participants engaged. Their study's findings suggest a similar connection to self-concept differentiation, whereas Donahue et al. (1993) explained that SCD is about knowing when to showcase personal traits to different audiences, which is discussed in the section below to answer sub-questions 2 and 3.

PTs' Engagement on Social Media as Professionals

Research sub-question 1.2 sought to understand how PTs engage on social media as professionals and how they presented themselves online and offline. These findings drew from open-ended survey questions 3 and 4 and several specific questions from the four Likert-scale surveys.

The PTs in this study exhibited interactions as represented in Johnson and Puplampu's (2008) Ecological Systems Model, technological sub-system, which illustrated that technological devices such as phones are in as close physical proximity to us as the values, language, and connection humans have to their immediate family. The technological ring of human development associated with Johnson and Puplampu's theory showcases not only the physical space that technology now occupies in human life but also the expansive range of information and human connectivity that previously in Bronfenbrenner's (1979) theory was only made up of immediate family. This study found that 66% of PTs used between five and eight social media apps and that 49% of the participants stated that social media apps were continuously open throughout their day, while 40% of participants said they logged into social media five to 10 times a day.

Alongside this information, 63% of PTs spent anywhere from 5 to 20 minutes logged into the social media app each time they accessed social media on their phone—meaning that on the low end of social media use, the participants of this study access social media for 25 minutes, and on the high end, 200 minutes or over 3 hours per day. Statista (2021) stated that the global average time spent on social media sites is 2 hours and 25 minutes. In this study, the average time participants spent on social media daily was 2 hours and 45 minutes, and the mode was 3 hours. On the low end, some participants spent roughly 15 minutes each day on social media, whereas on the high end, one participant spent 8 hours on social media daily. These findings show the amount of time spent on social media each day for participants of this study. Social media was highly prevalent in their daily activity and socialization.

The respondents in this study demonstrated a high level of participation in social media environments—both professional and personal—which led to specific actions and behaviours by the PTs in the study. Overall, findings from this study found that PTs engage on social media in ways that show low SCD—that is majority of PT self-concept was aligned in both the professional and personal spheres, and they also consistently presented the same self in both spheres when using social media. The findings of this study also show that for some PTs, the use of social media was intentional, constructed, and considered the concerns about appearance and appropriateness. These PTs stated their self-concept aligned with the moral and professional expectations of educators, acknowledging their awareness that what they posted online could impact the potential of job prospects. For example, these PTs were always thinking ahead to "what could be" and would participate in self-concept differentiation, leading to highly curated material, including the act of concealing aspects of themselves online for personal reasons, and

censoring information they were posting knowing that it could impact them professionally.

Many participants were vocal about the need to appear professional online due to their role as a PT and any future impact of their use on their teaching careers. Several PTs explained that they did not want to post something that would come back to haunt them later. Finally, when explaining online self-presentation in relation to their profession, some PTs used language such as morality, truth, trustworthiness, do not lie, and falsify to establish an expectation of being morally superior or morally virtuous online. Marsh (1990) and Gecas (1982) both suggested that morality was a non-academic facet of self-concept development alongside physical and social aspects, which supports the findings that the majority of PTs were aware of how their participation in social media could influence their future careers. This finding is similar to the findings of Damico and Krutka (2018), who also found that many PTs made conscious decisions about how to appear professional in their social media use as well as understanding the influence such use could have on their future careers.

How PTs Present Themselves in Online Spaces Compared to Offline Spaces

Research sub-question 1.3 sought to understand how PTs presented themselves online and offline. These findings drew from open-ended survey questions 3 and 4 and several specific questions from the four Likert-scale surveys. A main finding of the study was the PTs self-concept often aligns with the characteristics of the teaching profession, consistent with the Ontario College of Teachers' (n.d.a) expected *Standards of Practice*. In the relevant survey questions, some participants noted that they frequently use caution when posting content online, have heightened privacy settings, and utilize a professional teaching account separate from their personal accounts. Some participants mentioned that

they only share information online that they would feel comfortable sharing with co-workers or employers, while others mentioned that they post happy highlights online and show up to professional settings with the same positive and energetic tone. The PTs' focus in the dual spaces of professionalism in both online and offline settings derived from either their prior knowledge of the teaching profession and the professional expectations, or the PTs explained that the Bachelor of Education program and its courses influenced their professionalism in both online and offline spaces.

Through posting, commenting, curating photos, sharing resources, and restricting information, PTs took information from their in-class lectures regarding online safety and professionalism and acted on that knowledge online. Under the umbrella of social constructivism, the findings support Vygotsky's (1978) socio-cultural theory that humans develop knowledge through interactions and internalize and create meaning associated with said experiences by illustrating that social knowledge building through language, traditions, and culture, has an impact on self-identity formation and self-concept development. The findings from this study suggest that the alignment of PT professional identity (including habits, behaviours, ethics, and values) and PT self-concept may be connected to the socio-cultural theory. Meaning that PT interactions with the education system as students themselves may have elicited personal and emotional responses that imprinted on the PTs desires to continue actioning specific manners and behaviours in the future. The results above suggest that PTs potentially align their current online actions with those behaviours favourable for a teaching career.

Theoretical Connections

Social Constructivism

As mentioned above, social constructivism assumes knowledge development happens through human interaction, culture, and language (Vygotsky, 1978). The findings of this study show that most PT respondents not only access social media mainly through their cellphones, but that PTs continuously have social media apps open on their cellphones throughout the day. I infer that with the accessibility of human interaction and socialization through online social media apps, the level of human interaction PTs are exposed to is higher than prior to the introduction of online social media. Bettmann et al. (2021) conducted a literature review where they determined that "as many as 90% of young adults use social media currently, compared to just 12.5% in 2005" (p. 368). With a high number of social interactions each day, the potential for PTs to experience a wavering self-concept might be higher; however, the responses (both qualitatively and quantitatively) highlighted the connection most PTs feel to their self-concept in several environments (i.e., online and offline) and through their chosen profession (teaching).

Several studies suggested that a higher-self-concept clarity was correlated with a high self-esteem (Campbell et al., 1996; Campbell et al., 2003; Crocetti, & Van Dijk, 2018; Morawiak et al., 2018), and although those findings were not strongly reflected in this dissertation study, the level of self-esteem PTs reported was high. Ramón-Arbués et al. (2022) suggested the high self-esteem among university students often leads to a higher quality of life and was likely due to a balanced academic and physical lifestyle, paired with positive social interactions and personal beliefs. Vygotsky (1978) suggested that social interactions were a pillar for knowledge development and understanding.

Ultimately, the social experiences and interactions PTs are exposed to can influence aspects of their self-being such as esteem, which is connected to their overall self-concept.

Knowledge development through social constructivism can derive from culture which can include traditions and ethics (Berger & Luckman, 1966; Vygotsky, 1978). Berger and Luckmann (1966) explained that moral instruction, either through religion or societal norms, often shaped experiences, and interactions within a society, especially through language. PTs in this study often spoke about aspects of morality shaping their self-concept, self-presentation, and actions on social media. Some PTs specifically addressed the concept of lying about oneself online as a negative personal attribute or negative action. Or, some PTs spoke about the expected ethics of the teaching profession, and the moral behaviour that was expected by the Ontario College of Teachers (OCT, 2021) and the university's Bachelor of Education Program. Morality and ethical underpinnings can be learned as early as childhood, as many Western civilizations value moral accountability from a young age (Berger & Luckman, 1966). PTs strongly connected the importance of ethical behaviour in relation to the teaching profession, internalizing this factor of self-concept and socio-cultural expectations.

Ecological Systems and Techno-Sub-Systems Theories

According to Bronfenbrenner's Ecological Systems Theory (1994) and Johnson and Puplampu's (2008) Techno-Sub-System, the closer the influence on a person, the greater the impact that influence can have over a person. For example, Bronfenbrenner's theory explained that the proximity of parents to their child will likely yield a greater influence on the child's self-identity. With the addition of social media and global

communication via mobile, personal devices into the Ecological Systems Theory (Bronfenbrenner, 1994; Johnson & Puplampu; 2008), PTs are experiencing global comparisons in their inner most circles. Some PTs explained that some teachers have *Teachergram* accounts that had caused them to become self-conscious or concerned with their own output or ideas in their professional journey. As this study found, PTs experience a high proximity to social interactions through social media. The latter suggests that PTs understanding of self could be influenced by the vastness of the reach of social media while still navigating personal relationships with peers, colleagues, coworkers, and family in offline spaces.

The expansion of the inner rings of this theoretical model to include the techno-subsystems can potentially explain some wavering in who PTs think they are and their confidence in themselves as professionals.

Looking Glass Theory & Conceptual Framework

Cooley's (1922) *Looking Glass Theory* suggested that the emotional connection attributed to the interactions humans have with others, with society, and with the systematic structures within communities can shape the behaviours and actions a person chooses to perform after the initial interaction. The conceptual framework developed for this study (p. 49) highlighted Cooley (1922) and Mead's (1934) theories that human interactions shape self perspectives, such as identity, concept, and esteem. The findings of this dissertation study suggests that PTs are acutely aware of how these interactions and their own consequential behaviour influence their present self, but also their future selves. PTs interactions, specifically though self-presentation on social media, are a driving force behind their daily choices regarding appearance, language-use, and sharing

of personal content online. The findings from this study also support the notion that PTs experiences alter their behaviours and further internalizes specific traits to determine self-concept. Specifically, PTs responded to acknowledge the influence their experiences of the Bachelor of Education Program and interactions with other peers and colleagues had on their behaviour, presentation of self (especially online), and expectations for professionalism. According to this study's conceptual framework (p. 49) and the findings, data suggested the PTs exhibited a strong alignment between their self-concept across multiple spaces, including online and in professional settings. Ultimately, PTs personal selves positively aligned with their online and professional selves, due to, as PTs stated, their interactions within the educational profession. Overall, this study's findings suggested PTs self-concept while using social media was influenced by their past, present, and future selves interacting in personal and professional spaces that created a standard of expected professional norms; in turn, influencing their self-presentation online and strengthening the alignment between their self-concept differentiation of personal and professional selves.

Significance of the Study

Through a social constructivist framework, focusing on pre-service teacher social-cultural interactions via social media, this dissertation sought to determine the relationship between PTs self-concept and social media use through survey-design. Despite the existing literature on young adults' self-concept and social media uses, PTs were a neglected population in the literature. Specifically, when seeking to understand their self-concept via social media personally and professionally, the literature

surrounding PTs focused on their use of social media for educational and teaching purposes (e.g., Damico & Krutka, 2018; Kelly et al., 2021; Saini & Abraham, 2019).

This study presents findings on the relationship between PT self-concept clarity, self-presentation online, and self-concept differentiation in relation to PTs professional selves. The findings of this study uncovered a strong connection between PT self-concept clarity and self-concept differentiation through their professional selves, which means that PTs personal self-concept was strongly associated with their professional self-concept. With the addition of social media and the digital world, individuals can re-create their identity, often being influenced by cultural or social norms and expectations on these platforms (Carpenter et al., 2019). Developing a professional identity as an educator, factors into several components of the PTs future including job satisfaction, length of career, and teacher development (Danielewicz, 2014; Hong et al., 2018). With the support from the literature above and the findings of the dissertation, the findings suggest that if PTs have a strong alignment between their sense of self and their professional self, they could be more likely to feel fulfilled in their future roles as educators. Ultimately, this is important for the Bachelor of Education Program itself, knowing that the selection process of the PTs is successful at admitting the candidates whose personal and professional selves in the field of education are aligned.

This dissertation has indicated the significance of PTs having a long-range concept for their online self-presentation, meaning that when PTs are interacting online through posting pictures or comments, they are being purposeful and cognisant of what they are doing and who might be watching in the present and in the future. Lowenthal et al. (2016) discussed the importance of educators strengthening their digital literacy and

better understanding their digital footprint and online identity. The PTs in this study learn about creating intentional, positive digital footprints as "a digital footprint may fail to reflect what we want it to reflect about ourselves professionally, emphasizing only our personal interactions and activities," (Lowenthal et al., 2016, p.321), not all of which may be socially appropriate. Teachers who post inappropriately online have the potential to lose their jobs or have their teaching licenses suspended (Kent, 2017). The findings from this study thus uncovered the significant processing that PTs embark on while engaging in social media. PTs are acting now but thinking about the potential ramifications years later, showing the importance of concentrated and curated self-presentation online that can influence their future potential employability and attrition.

In this study, most participants reported a similar self-concept between online and offline spaces, which is consistent with Campbell et al.'s (2003) views that as young adults grow, self-concept should be more consistent and clearer. This study contributes to the current literature by supporting notions from Donahue et al. (1993) that a person who easily transitions between multiple roles and environments is more likely to have a singular, unified sense of self. The PTs of this current dissertation commonly connected shared aspects of their identity, personality, professional expectations, and social habits, ultimately, leading to a cohesive self-concept between personal and professional selves online.

This study supports several research claims that self-concept clarity and self-esteem are positively correlated (Campbell et al., 2003; Gecas & Schwalbe, 1983). However, an important finding that emerged from this dissertation research revolved around the concept of concealment versus censorship. The data highlighted that although

the PTs had similarities between their self-concept in different spaces, some PTs actively chose to hide or not represent aspects of themselves online; similarly, to how they might conceal or repress parts of themselves offline. This aspect of concealment ultimately supports the transition of utilizing the best social norms for a designated environment, or what self-concept differentiation theory is defined by. As mentioned in the literature review for this study, research on social media and PTs focused on building professional portfolios for practical classroom uses. This study provides insights into the ways and reasons why PTs conceal or censor information on social media and the overall impact on PT self-concept.

Self-concept is a major construct of this dissertation and is explained by the social interactions people have, that they internalize, generate an emotional connection to, and enact a designated behaviour that fits the scenario at hand. The findings of this study suggest that aspects of self-concept in terms of interactions in the present can be extended to consider future interactions of self-concept clarity, presentation, and differentiation. Specifically, some research shows that people think about their future selves in terms or goals or aspirations in relation to age stereotypes (Kornadt & Rothermund, 2012); however, this literature does not present any information about a cognisant change of behaviour at a younger age with the implications the behaviour may have on the older self. Voss et al. (2017) conducted a study on n=593, 30–80-year-old adults and found that those who had future-self views when they were younger had more positive praise on their life looking back. Oyserman et al. (2004) suggested that self-concept is a make-up of self-reflection on the past, and current processing of the present and future-self considerations. Although self-concept differentiation considers using different

personalities in different spaces, the change in behaviour or personality traits for the future environment is not presented in Donahue et al.'s (1993) research. While there are some considerations for future self within the self-concept literature with adult participants (e.g., Kornadt $ Rothermumd, 2012; Voss et al., 2017) the notion of PTs changing behaviour to benefit the future self is a contribution to the self-concept literature.

PT Self-Concept and Implications for Teaching Practice

The notion of teachers maintaining high professional standards are continually brought forward in both the Ontario College of Teachers' (n.d.b) *Standards of Practice* and many Teacher Education programs. The four ethical standards of the teaching profession are care, respect, trust, and integrity, with the focus for teachers being to "uphold the honour and dignity … guide ethical decisions … [and] to promote public trust" (Ontario College of Teachers, n.d.a, para. 1). For any PT to obtain a teaching licence, these standards are expected to be upheld among all incoming and veteran teachers. Upon entering a professional teaching program, the concept of professionalism, in terms of behaviour and ethical expectations are explicitly stated in many Southern Ontario teaching programs (Brock University, 2022; University of Windsor, 2022). Specifically, the University of Windsor's (2022) *B.Ed. Program Guide* has a designated section on professionalism expectations, stating that PTs "are positive, honest, capable of facing problems constructively, motivated, motivating, and sensitive to others" as guided and outlined by the "Teaching Profession Act established by the Ministry of Education in Ontario" (Professionalism section, para. 1). The expectation is that PTs and established teachers are to maintain professional standards of behaviour in all social environments

thus connecting their careers to their social behaviour is at the basis of the provincial ministry and induction into teacher education programs across the province of Ontario. These participants are implementing current learning practices to preserve or enhance their future career goals. These commonalities learned throughout every stage of the teaching profession, root this study's participants under the guiding expectation that PT behaviour should follow the guiding principles of the Ontario College of Teachers and be engrained into their daily lives during their Bachelor of Education program and life in education thereafter. When acting in a manner that would consider future professional opportunities, PTs are varying their selves in a pre-emptive way to ensure their best traits continue from one social space and point in time to another.

The findings of this dissertation could provide teacher education programs across Southern Ontario with a better understanding of the influence social media has on the professional preparation of PTs—that PTs experience a heightened sense of awareness while participating online using social media that is directly tied to their behaviours, appearance, and future careers. Although the findings suggest that PT self-concept is in alignment with their professional identity, it could be beneficial for teacher education programs to build in additional supports or guides for PTs who are struggling with the competitiveness of a professional program, their own professional identity, and the concept or moral and ethical duties within their roles as PTs and future teachers. In a study with over 3,000 participants, LaPalme et al. (2022) found that 93% of PTs experienced Imposter Syndrome, the individual fear of being inadequate and being exposed as a fraud (Clance, 1985). Clance (1985) suggested that these fears stemmed from feelings of being incompetent about their skills. Specifically, within this study, several participants mentioned the enhanced feelings of competitiveness and portrayal of

perfection either in their appearances or in highlighting their educational work or experiences as PTs in their online accounts. Samfira and Palos (2021) conducted a study of 283 PTs within the same designated age range as those in this dissertation and found that perfectionism in PTs was used as a coping strategy to manage or handle a difficult situation, such as a teacher education program. With the introduction of *Teachergram* accounts on social media, some respondents of this study suggested that they found faults or insecurities within their own teacher-related postings. Dunn et al. (2006) stated that perfectionism itself can be considered a personality trait, usually developed to match high expectations and standards. Therefore, if current PTs are experiencing difficulty with measuring up to the standards expected of them within a professional teacher education program or the teaching profession itself, there should be additional supports to assist—especially with the comparative nature of self-concept (Mead, 1934) and the expansion of the comparative platform to a global scale (Johnson & Puplampu, 2008). The finding that more males reported having higher self-concept clarity than females also suggests that Teacher Education programs may need to include supports for female preservice teachers as they develop their professional identities online. Reflection tasks such as writing about personality traits have been found to help females with low SCC achieve higher SCC (Csank & Conway, 2004).

Limitations of the Study

There are several limitations to the study. First, the participants studied were PTs who completed 4 years of undergraduate degrees. As Strimbu and O'Connell (2019) state, the older the individual, the more likely they have a stronger self-concept, suggesting the expectation that self-concept would be more consistent between online and offline spaces, whereas an adolescent, who is wavering through their self-

development and building their identity, may have less consistency across online and offline spaces regarding the strength of their self-concept. Hence the findings may not show statistically significant changes in self-concept development as PTs are an older demographic group. The findings also cannot be generalized to other populations such as PTs in other countries with different demographics or adolescent experiences.

A second limitation is that the findings are a snapshot and representative of PTs' perceptions of themselves at a stage in their lives, and we cannot assume that people ever stop developing or truly know their full self-concept—meaning that self-concept and identity could be ever-changing or even dependent on life stages (Oyserman et al., 2012). This limitation could be remedied with a longitudinal study to follow participants over time.

A third limitation in the study design is that the same respondent data answered both the second and third research sub-questions. More attention to question creation, design, and understanding could help in future by either collapsing the questions prior to respondent access or developing stronger open-ended questions that do not have potential overlapping content (Creswell, 2014).

Other limitations in this study include the fact that the data collection process relies entirely on self-reporting measures and assumes the participants are being truthful and honest within their responses to both the Likert scale and open-ended questions. With self-reporting being the only form of data collection, researcher inference into the type of wording and phrasing used for the open-ended responses was necessary. Ultimately, the study would benefit from interviews or small focus groups to expand on the statements made in the open-ended questions. Another limitation in self-report studies is the potential bias of the participants. Lehdonvirta et al. (2020) suggested that participants are more likely to respond to a survey if they have a personal connection to the topic of the

survey. Not only was this research specific to the PT population, but the survey was also administered through the Faculty of Education's administration. Although this study only wanted to hear from a select participant type of PTs, there is still potential bias regarding the type of respondent. Holland and Christian (2009) suggested that there are more responsive *types* of participants to open-ended survey questions and the response rate both in quantity of responses and quality of the response itself is often determined by the participant's interest or connection to the survey topic and material.

This study did have a low response rate that reduces the ability of generalizing findings in the PT sample to the PT university population in this study. Also, a limited budget during data collection, to support incentives for participants, led to the researcher having to cut off the intake of participant surveys. With more funding, there could have been more participants to show a more substantial representation of the overall population. Finally, as mentioned in the literature review, the participants were mainly female, as education programs and the teaching field are female-dominated professions.

Recommendations for Future Research

When a research project finishes, there are careful considerations a researcher should take through reflection and reflexivity (Tilley, 2016). The role of the researcher in this study was both explorative and informed. The researcher was informed in the sense of being a graduate of and an instructor within a Bachelor of Education program, which allowed a personal connection and identification with the PTs' responses to the open-ended questions. Also, this researcher decided to conduct a study that could be done remotely, with low cost, and efficiently, specifically, with regards to data collection, as the COVID-19 pandemic had generated waves of lockdowns and inaccessibility to human interactions for over 2 years. Firstly, in future studies, the research design could

be adjusted to a sequential design (Creswell & Plano Clark, 2006), where the quantitative data is collected first, and then participants who volunteer would participate in a second round of qualitative data collection to yield a smaller number of participants providing qualitative responses. This design would incorporate a possible interview or focus group portion and facilitate the analysis of a manageable number of transcripts to generate findings. Interviewing a few participants could shed light on the aspect of self-concept differentiation and the role of the PT. Having 173 participant responses to go through for four open-ended questions was time-consuming and challenging to ultimately determine what was grouped into themes and what was left out.

The findings of this study support the need for more investigation into how social media can affect PT self-concept. Regarding the quantitative survey measures, there were some minimal, positive relationships between self-concept clarity (SCC), self-esteem (RSE), presentation of online self (POSSA), and the online behaviours index (FFSBI). The surveys did not yield the strength of correlation expected. This could be due to the participants' strength of self-concept and age. In future research, it could be useful to run regression analyses (Field, 2019) to see which construct influenced the other. For example, does self-concept clarity positively or negatively affect the presentation of the online self? In addition, future research could explore whether social media has any potential causal effects on adult (PTs) self-concept.

With respect to this study's constructs—self-concept clarity, self-concept differentiation, and self-presentation—there are some specific findings unique to this study that can be explored further. Regarding clarity, this study explained that for majority of PTs' self-concept across multiple spaces and professional requirements is aligned. Many PTs naturally exude the expected professional behaviour roles, often

personally identifying with the professional traits as a part of their core personalities. Although PTs are among the adult population likely to have a stronger self-concept clarity (according to Campbell et al., 1993), further research applicable to other fields such as Psychology or Cooperative Business Programs with active placements in the community might find it informative to explore self-concept in adults in other professional programs.

For self-concept differentiation, it would appear that PTs find it easy to navigate their respective personality traits across different roles (friend, family, professional, student). Although not highlighted through the regimented SCD testing that Donahue et al. (1993) created the concepts of using differing personality traits or behaviours within different settings was at the forefront of the qualitative research questions of this study and were notably key ideas shared by PTs. An extension to SCD that should be considered for future research and future theory would be to incorporate the cause or reason for concealment which was a point of contention for only a few PTs and how it impacted their professional roles. A few PTs concealed parts of their identity (e.g., sexuality or going out with friends) online to appease cultural norms or familial expectations.

In relation to the construct of self-presentation, the study findings suggested that the female participants were highly aware of dressing conservatively and not sexualizing their appearance online, as *dressing appropriately* came up consistently across the PT qualitative questions. Across all genders of this study, the concept of self-presentation online was also uniquely linked to the lasting nature of the internet, creating this air of permanence when posting anything online. PTs as professionals had a heightened sense

of what they were putting out for the world to see could have lasting effects and potential implications for their future job prospects. This finding in relation to the construct of self-presentation and longevity of online content is important to be addressed in future studies with PTs and self-presentation.

There are also several ways to extend this research project. This dissertation mentions that self-concept development strengthens with age (Strimbu & O'Connell, 2019); such an investigation could be reproduced on two separate longitudinal scales. The first is to track PTs from their first year in the program through to the second year to see if any changes in self-concept clarity, online self-presentation, or self-concept differentiation about professionalism change. The second option for a longitudinal study would be to follow concurrent PTs through the undergraduate portion of their 4-year education program and into their final years of the 2-year Bachelor of Education program. This would be a large-scale research project, likely in need of external funding options and considerations for losing participants over the duration of a 6-year study.

Conclusion

Pre-service teachers are a unique group of students who spend two years in the B.Ed. degree certification program in Ontario, a dynamic space teetering between student and professional. PTs' insight into social media use and the relationship with self-concept development can provide bountiful research opportunities that would provide a better understanding of the lived experiences of PTs as they progress through the Bachelor of Education program. This research sought to understand the relationship between PTs' social media use and self-concept development in online and offline spaces. Furthermore, the research exposed a relationship between PTs' self-concept differentiation and their

role as students and professionals. This research found that PTs have a strong sense of self-concept online and offline, considering themselves to be similar in both spaces.

Regarding their profession, PTs either conceal or censor the information they share or pictures they post online, always keeping in mind the importance of professionalism and future job prospects. Finally, this study learned that there was a weak, but positive statistically significant relationship between self-concept clarity and presentation of online self. Self-concept has many facets (Marsh, 1990), including aspects of self-esteem (Rosenberg, 1979), clarity (Campbell et al., 1996), presentation (Strimbu & O'Connell, 2019), and differentiation (Donahue et al., 1993). These many facets work cohesively to shape the individual who, through experiences with others and the world around them, internalize interactions and attach emotional connections to develop their overall self-concept.

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Appendix A

Self-Concept Clarity Scale

From:

Campbell, J. D., Trapnell, P. D., Heine, S. J., Katz, I. M., Lavallee, L. F., & Lehman, D. R. (1996). Self-concept clarity: Measurement, personality correlates, and cultural boundaries. *Journal of Personality and Social Psychology*, *70*(1), 141–156. https://doi.org/10.1037/0022-3514.70.1.141

1. My beliefs about myself often conflict with one another.*
2. On one day I might have one opinion of myself and on another day, I might have a different opinion.*
3. I spend a lot of time wondering about what kind of person I really am.*
4. Sometimes I feel that I am not really the person that I appear to be.*
5. When I think about the kind of person I have been in the past, I'm not sure what I was really like.*
6. I seldom experience conflict between the different aspects of my personality.
7. Sometimes I think I know other people better than I know myself.*
8. My beliefs about myself seem to change very frequently.*
9. If I were asked to describe my personality, my description might end up being different from one day to another day.*
10. Even if I wanted to, I don't think I could tell someone what I'm really like.*
11. In general, I have a clear sense of who I am and what I am.
12. It is often hard for me to make up my mind about things because I don't really know what I want.*

Scale ranges from 1 *(strongly disagree)* to 5 *(strongly agree).*
* Indicates reverse-keyed item.

Appendix B

Rosenberg Self-Esteem Scale

From:

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton University Press.

Instructions: Below is a list of statements dealing with your general feelings about yourself. Please indicate how strongly you agree or disagree with each statement.

1. On the whole, I am satisfied with myself.
2. At times I think I am no good at all.
3. I feel that I have a number of good qualities.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I certainly feel useless at times.
7. I feel that I'm a person of worth, at least on an equal plane with others.
8. I wish I could have more respect for myself.
9. All in all, I am inclined to feel that I am a failure.
10. I take a positive attitude toward myself.

Scoring: Items 2, 5, 6, 8, 9, are reverse scored. The scale ranges from 1 (strongly disagree) to 4 (strongly agree).

Appendix C

Presentation of Online Self-Survey for Adults

From:

Strimbu, N., O'Connell, M., Nearchou, F., & O'Se, C. (2021). Adaptation and psychometric evaluation of the Presentation of Online Self Scale in adults. *Computers in Human Behavior Reports, 3,* Article 100073. https://doi.org/10.1016/j.chbr.2021.100073

Factor 1: Adaptable Self

1. I very often act out different personas in certain online spaces.
2. I regularly use different personas online.
3. I enjoy acting out different identities online.
4. Being online allows me to create a new identity.
5. I am a different person depending on which online space I'm in.
6. I can escape from myself online.

Factor 2: Authentic Self

7. I feel I am the same person in the cyber world that I am in the real world.
8. I am always my true self online.
9. I can't really be myself online.*
10. The way I present myself online differs significantly from real life.*

Factor 3: Freedom of Self Online

11. I find it easier to community in face-to-face contexts.*
12. I find it difficult to be myself in the real world.
13. I prefer being online than offline.
14. I can show my best qualities online.
15. Communicating online allows me to say the things I can't say offline.
16. I feel I can be my ideal self online.
17. I can talk to people who wouldn't usually talk to me in the real world.

*Indicates a reversed scored item. Each factor is scored on a 5-point Likert scale from 1 (strongly agree) to 5 (strongly agree).

Appendix D

Facebook False Self-Presentation Behavior Index

From:

Wright, E. J., White, K. M., & Obst, P. L. (2018). Facebook false self-presentation behaviors and negative mental health. *Cyberpsychology, Behavior, and Social Networking*, *21*(1), 40–49. https://doi.org/10.1089/cyber.2016.0647

1. Lying about your relationship status
2. Lying about your age
3. Lying about the gender you identify as
4. Lying about the gender you are interested in
5. Lying about your achievements
6. Lying about where you live
7. Lying about the job you have
8. Lying about your religion
9. Posting a status update exaggerating the way you feel
10. Posting a status update about doing something you didn't actually do
11. Only posting flattering pictures of yourself
12. Liking causes that you don't contribute to
13. Liking causes that you don't understand
14. Liking musicians you don't listen to
15. Liking sports teams you don't follow
16. Liking brands you don't buy
17. Sharing a post you're not interested in
18. Friending someone you don't like
19. Liking a friend's status you don't agree with

Likert scale from 1 (no extent) to 6 (very great extent)

Appendix E

Sample Qualitative Themes from Open-ended Survey Questions 1 and 2

Overall Themes	Codes	Sample Transcript
Sense of Self Online and Offline	Similar self online	" I do not lie or falsify information" (R36)
		"I do not want my followers to see something untruthful online that they knew to be different of who I am as a person offline" (R37)
	Different self online	" Instagram is a workout, motivation, and travelling account, thus, I feel that I must always present the content in a very flattering way." (R29)
		"Most of what I posted is from positive moments in life because no one wants to see the bad." (R34).
Appearance and Confidence	Appearance	"My social media use probably reflects a more conceited version of myself. 'I'm a pretty simple person in real life, but you might not be able to tell from the fact that I only post very done-up, flattering photos of myself." (R3)
		"I don't think I am completely authentic online because I don't really like myself a lot. So online, I am inauthentic by seeming more positive, more thin, happier, better" (R23).
Social Media and Identity Formation	Offline Identity development	"If anything, I would say that online gave me the courage to be who I truly am. … I learned it was okay to be authentic, state my opinions, dress how I want, love how I want and ask for things I want without shame. Online helped me open myself up and live authentically. Now, I think who I am online and in-person is relatively the same. Online definitely helped me get here." (R8)

Appendix F

Qualitative Coding Guide

Open-ended Survey Question	Emergent Themes
Q1. *How are your beliefs about who you are similar or different between your social media use and your offline world?*	Similar Self Online Different Self Online Appearance Identity Influencing Social Media Social Media Influencing Identity Censorship, Concealment, Consumption Confidence and Comparison
Q.2 *When posting on social media, how do you present your authentic self to your followers?*	Participants who Post Participants who do not Post Emotional Connection to Content Type of Content Virtues, Ethics, Morality, Honesty Confidence, Esteem, Appearance Relationship Fostering vs. Self Presentation Uses
Q.3 *When posting on social media, how do you present your 'pre-service teacher' self to your followers?*	Professionalism Posting Consciously Posting to Support Others

	Concealment vs. Censorship
Q.4 As a pre-service teacher, if you present yourself differently on social media than you present yourself offline, what are your reasons for doing this?	Professionalism Changing Environments Personal Reasons Future Impact Online Permanence Competitiveness of Teaching