

Running Head: DIGITAL BELONGING

Digital Belonging:

The Role of Social Network Sites in Establishing a Sense of Belonging Among First-
Year Undergraduate Males in an Online-Only Setting

By

MATTHEW HOWLETT

A Thesis Submitted to the Faculty of Social and Applied Sciences
in Partial Fulfillment for the Requirements for the Degree of

Master of Arts in Professional Communication

Royal Roads University
Victoria, British Columbia, Canada

Supervisor: DR. JENNIFER WALINGA
SEPTEMBER, 2022



MATTHEW HOWLETT, 2022

DIGITAL BELONGING

COMMITTEE APPROVAL

The members of Matthew Howlett's Thesis Committee certify that they have read the thesis titled Digital Belonging: The Role of Social Network Sites in Establishing a Sense of Belonging Among First-Year Undergraduate Males in an Online-Only Setting and recommend that it be accepted as fulfilling the thesis requirements for the Degree of Master of Arts in Professional Communication:

DR. JENNIFER WALINGA [signature on file]

JOE L. COUTO [signature on file]

Final approval and acceptance of this thesis is contingent upon submission of the final copy of the thesis to Royal Roads University. The thesis supervisor confirms to have read this thesis and recommends that it be accepted as fulfilling the thesis requirements:

DR. JENNIFER WALINGA [signature on file]

Creative Commons Statement



This work is licensed under the Creative Commons Attribution-NonCommercial-ShareAlike 2.5 Canada License. To view a copy of this license, visit

<http://creativecommons.org/licenses/by-nc-sa/2.5/ca/>.

Some material in this work is not being made available under the terms of this licence:

- Third-Party material that is being used under fair dealing or with permission.
- Any photographs where individuals are easily identifiable.

DIGITAL BELONGING

A sense of belonging is a fundamental human need, especially important for first-year undergraduates since it is directly related to their overall success and experience with the institution they attend (Ahn & Davis, 2020; Freeman et al., 2007; Tinto, 2017). This need drives individuals to seek mutually beneficial relationships (Baumeister & Leary, 1995; Over, 2016; Taormina & Gao, 2013), underscoring the need for ongoing, positive interactions between the students and their instructors—and the university as a whole—as well as between the students themselves (Tinto, 2017). For the 2020-2021 school year, however, first-year students at traditional universities in Canada faced a new and unexpected reality: an online-only experience—along with restricted in-person contact in general—due to policies enforced by the Canadian government in response to the global COVID-19 pandemic (CBC, 2020; CDC, 2020; Government of Canada, 2020). At the University of British Columbia (UBC), specifically, on-campus activities and related events were cancelled, limited, or offered solely online, the requirement to live locally was removed—removing the dormitory or shared housing experience for most students—and all courses (except a select few within visual arts, music, and theatre) were delivered online (UBC Service Desk, personal communication, April 4, 2022). This combination of restricted in-person contact and digital course delivery highlights the importance of understanding the students' need for belonging—specifically, whether and how it is met in the online-only context—as well as the roles played by the communicative tools involved.

Sense of belonging among undergraduates is a topic of considerable focus within academia, but the context created by the COVID-19 pandemic generated a gap in the research, especially as it relates to the first-year transition from secondary to post-secondary studies and the roles of tools used in a restricted online-only setting. Often referred to as critical to student

DIGITAL BELONGING

success, the first-year transition is intensive and challenging as students traditionally face a variety of changes related to living environments, social networks, academic expectations, and financial obligations (Freeman et al., 2007; Vincent, 2016). During this first year, opportunities for establishing a sense of belonging naturally exist through in-person lectures, first-year events, and the organic interactions a student has with staff, faculty, and other students while being on campus (Arslan, 2021; Tinto, 1999); all of these were removed for the 2020-2021 school year. With that removal came the introduction of, and increased reliance upon, digital tools such as Zoom (so students could digitally attend lectures and participate in work groups), Canvas (UBC's learning management system) (University of British Columbia, 2017), as well as social network sites like Facebook and Instagram (where students can learn about the school and each other, interact, and develop relationships).

This research views the students' sense of belonging as a socially constructed phenomenon that is best understood via discovery of individual experiences and interpretation using communication theories within the phenomenological and socio-psychological traditions. Since the students' first-hand experiences are of highest importance in understanding the phenomenon (Tinto, 2017), the interpretivist paradigm is appropriate as it allows for the existence and exploration of varying student perceptions and realities (Merrigan et al., 2012). As the study is situated at the intersection of developmental psychology, communication technology, and social interaction, the following theories will support an understanding of the student experience. Within the phenomenological tradition, constructivism (i.e., which explains how meaning is constructed from experience) will help me to understand how students understand and develop a sense of belonging while symbolic interactionism (i.e., which outlines

DIGITAL BELONGING

how that meaning is shared through interaction with others) will frame the sharing of this understanding and its development among the students (Merrigan et al., 2012). Within the socio-psychological tradition, uses and gratifications theory (i.e., about how individuals choose media based on specific expectations or goals) (Bryant & Oliver, 2009) will enable a clear understanding of the students' specific uses of Facebook and Instagram while media dependency theory (i.e., how motivation to use a specific medium can lead to dependency upon and increased effects from that medium) (Sun et al., 2008) will support the framing of student relationships with each platform.

This research aims to fill a gap in the literature surrounding the experiences of emerging adult males (specifically, aged 18-to-20) with development and maintenance of sense of belonging in the first year of university in an online-only setting. This thesis, specifically, intends to highlight in what ways the belonging need is met in the first-year of the online-only, post-secondary context, the roles that social network sites (SNSs) play in meeting the need, and the ways in which the need's fulfillment can be understood and supported to ensure positive student outcomes. Amidst the pandemic (i.e., during the 2020-2021 winter and summer semesters), a survey was conducted among forty-four 18-to-20-year-old male, first-year UBC students followed by five semi-structured interviews using the same demographic. This research contributes to the areas of post-secondary sociology and communications studies with regard to SNSs and online education.

Literature Review

There is a considerable amount of literature surrounding emerging adulthood, their use of technologies like SNSs, and their need for belonging, but a somewhat limited amount on the

DIGITAL BELONGING

interplay between the three and virtually none within the specific context of a pandemic where in-person activities are forcibly restricted. Traditionally referred to as young adults, 18-to-20-year-olds find themselves in a challenging stage of life where tasks related to identity development and the transition to adulthood are critical (Brown et al., 2016; Vincent, 2016). Computer-mediated communication (CMC) is nothing new to the people in this demographic, but the unexpected shift to an online-only university context certainly was, at least for the first-year UBC students in the 2020-2021 school year. The restrictions on in-person contact due to the COVID-19 pandemic changed their first-year reality: ‘university’, for the most part, became a home office and a computer screen rather than a bustling campus filled with other students, instructors, and face-to-face interactions. Although in-person contact was restricted and not prohibited (e.g., restrictions in B.C., for example, allowed students to meet in person in groups of less than 6) (Government of British Columbia, 2020), this shift to a fully-online learning environment removed many of the naturally occurring opportunities for interactions for the students, introducing potential concerns about their all-important need for belonging. For example, how was the need for belonging fulfilled when the majority of the university experience is forcibly restricted to an online context? How did these students use platforms like Facebook and Instagram and how can they be used to support this need for belonging and the students’ overall experience and success? A review of the literature—specifically, the topics of emerging adulthood, the need for belonging, computer-mediated communication, and the relevant theoretical frameworks—informs and directs this research while providing the foundational understanding necessary to address these and other questions.

Emerging Adulthood

DIGITAL BELONGING

Emerging adulthood is a demographic where the fundamental nature of the need for belonging—and the role of technology in its fulfillment—is especially salient, mainly because of the support that a sense of belonging provides amidst the challenging transition distinct to this life period (Arnett, 2007; Swanson & Walker, 2015; Taormina & Gao, 2013). The term itself conceptualizes the stage of life between the ages of 18 and 25, reflecting changes witnessed over the past 20-to-30 years in how adolescents transition to adulthood. This demographic is understood as desiring autonomy and exploration of experiences as they tackle issues of identity: understanding who they are and choosing who they want to be (Arnett, 2000, 2007; Swanson & Walker, 2015; Yang et al., 2018). According to Jeffrey Jensen Arnett (2000) who coined the term, there is a general sense among this demographic that they are “no longer adolescent but only partly adult” (Arnett, 2007, p. 70). It is in this formative period of transition that sense of belonging can be critical, providing the emerging adult with the social support needed to successfully navigate the challenges they face (Arnett, 2007; Baumeister & Leary, 1995; Taormina & Gao, 2013). Since emerging adults in Canada have widely-adopted digital communication technologies and this life stage is described as “the most volitional years of life” (p. 69) yet the least structured (Arnett, 2007), several authors have highlighted the importance of understanding the role of technology in such formative years. Within the specific context of post-secondary education, Swanson and Walker (2015) stated that technology “has been documented to impact the manner in which these individuals think, learn, and interact” (p. 149), underscoring its integral role in the lives of emerging adults. When it comes to SNSs, specifically, the documented impacts are both positive and negative and have been seen in various areas of the emerging adult’s student experience such as GPA (Raacke & Bonds-Raacke, 2015), sense of

DIGITAL BELONGING

belonging (Vincent, 2016), retention (Vincent, 2016), and subjective well-being (Yang et al., 2018). In summary, emerging adulthood's distinct characteristics—including the formative transition and use of technology—make it a demographic of importance in studying the need for belonging.

Emerging Adult Males

Emerging adult males are the most active demographic online, differing from women in their relationship with technology, in their social skills, as well as in the rates at which they complete undergraduate programs (Frison & Eggermont, 2016; Joiner et al., 2015; Morahan-Martin & Schumacher, 2000). First, regarding their relationship with technology, males differ from women in their physiological makeup—primarily the function of their brains—since the male brain is “one-track, goal-oriented and visuospatial (mentally manipulating objects)” (Struthers, 2009, p. 57). In other words, males would tend to have specific reasons for their internet use and respond differently to visual stimuli—especially those which are more sexual in nature—and this type of content is shared regularly on SNSs and is easily accessed online (Fight The New Drug, 2019). Since the internet is filled with visual elements that are vying for the user's attention (e.g., search ads, SNS notifications) and the emerging adult males in this study were spending more time online because of the shift to online learning, there is potential for increased distraction or even *pathological internet use*: “use which causes a specified number of symptoms, including mood-altering use of the Internet, failure to fulfil major role obligations, guilt, and craving” (Morahan-Martin & Schumacher, 2000, p. 14). Second, males tend to be less socially driven in their internet usage and are generally considered to be less socially skilled (Frison & Eggermont, 2016; Verduyn et al., 2017). Verduyn et al. (2017) found that men report a

DIGITAL BELONGING

higher frequency of negative interactions online; an especially important point since activities within the online context can be anonymous or disinhibited (with men reporting less inhibition online), increasing the potential for interactions to be negative (Morahan-Martin & Schumacher, 2000; Parent et al., 2019). Third, men are more likely to drop out of their education programs than women (Parkin & Baldwin, 2009). Post-secondary statistics show that men have lower and slower degree completion rates than women; statistics which some researchers link to a low sense of belonging (Layous et al., 2017; Parkin & Baldwin, 2009). Finally, previous studies state that gender differences are a mediating factor in a student's relationship with CMC and should be considered (Frison & Eggermont, 2016). For these reasons, as well as my lived experience as a male student during the pandemic, the emergent adult male is the demographic of focus for this study.

Belonging as a Critical First-Year Need

Sense of belonging is a critical need for undergraduate students since it is directly related to their motivation, academic performance, well-being, and overall experience (Ahn & Davis, 2020; Arslan, 2021; Freeman et al., 2007; Layous et al., 2017; Over, 2016; Tinto, 2017).

Generally speaking, satiation of the need requires ongoing, positive interactions within a context of reciprocal care (Baumeister & Leary, 1995). In the post-secondary context, specifically, a sense of belonging is also linked to the students' perception of their standing, both academically and socially. As Strayhorn (2018) explains,

“it refers to students' perceived social support on campus, a feeling or sensation of connectedness, the experience of mattering or feeling cared about, accepted, respected, valued by, and important to the campus community or others on campus such as faculty,

DIGITAL BELONGING

staff, and peers. It is a cognitive evaluation that typically leads to an affective and/or behavioural response.” (p.23-24).

Therefore, to have this need fulfilled, a student must experience ongoing positive interactions—both with other students and the university as a whole—where reciprocity is perceived, along with the student’s value (and ability to add value) as a respected member of the university community (Ahn & Davis, 2020; Arslan, 2021; Frenk, 2016; Over, 2016; Tinto, 1999).

The criticality of this need for belonging is especially salient within the context of first-year studies since it is “an intensive life transition” requiring new levels of confidence and security (Vincent, 2016, p. 5), where students must navigate unfamiliar academic and social milieus while balancing new roles and responsibilities (Freeman et al., 2007; Strayhorn, 2018; Tice et al., 2021). Since education is an evaluative domain, the first-year student faces what Layous et al. (2017) call “threats to self-integrity”. “Receiving criticism from a teacher or being excluded from a social gathering can challenge people's view of themselves as adaptively adequate, triggering stress and defensiveness” (p. 227). These “threats” are compounded by the fact that first-year students are often separated from the comforts of home or support groups formed throughout high school. This combination of challenge and threat creates the potential for a poor adjustment experience which, in turn, could lead to the development of long-term challenges (Freeman et al., 2007; Vincent, 2016). In fact, a 2005 study by Statistics Canada showed that 14-20% of post-secondary students who leave their program do so after the first year (Parkin & Baldwin, 2009). Within this challenging context, a sense of belonging stands as a foundation for ongoing success: it affirms the student (e.g., by supporting perceptions of acceptance and self-efficacy) (Ahn & Davis, 2020; Tinto, 2017), it is directly related to the

DIGITAL BELONGING

student's desire to persist (i.e., the motivation or drive to work hard and graduate) (Tinto, 1999; Vincent, 2016), it promotes health and well-being (i.e., it is linked to positive emotional, mental, and even physical well-being) (Baumeister & Leary, 1995; Over, 2016), and it provides a buffer for threats to self-integrity (e.g., feeling accepted and supported socially makes receiving criticism or a disappointing grade much easier to cope with) (Gopalan & Brady, 2020; Layous et al., 2017). Since the need for belonging is linked to multiple areas of student life, it should be a priority for post-secondary institutions—as well as for the students themselves— especially in the all-important first year of undergraduate studies.

Belonging and the Online-Only Context

While the first year of post-secondary studies is challenging on its own, the unexpected shift to an online-only experience introduces new aspects to that challenge; the most obvious and likely the most impactful being the removal of face-to-face interactions (Mooney & Becker, 2021; Tice et al., 2021). The development of relationships between students—as well as those with university staff and faculty—are supported by physically being in the same space, so the restriction to an online-only context could very well hinder their development (Tice et al., 2021). Although relationships and a sense of belonging can certainly develop within an online-only context (Kellerman, 2014; Rainie & Wellman, 2012; Srivastava, 2005a), the forced restriction to this context (because of the COVID-19 pandemic) both removed the organic interactions that would naturally occur, supporting the need's fulfillment (e.g., students being in the same physical space or having conversations in passing), and limited the students' options for in-person social interaction overall (Markel & Guo, 2020; Mooney & Becker, 2021).

DIGITAL BELONGING

On a deeper level, the challenges found in the restriction to an online-only context are linked to the concept of *telepresence*: “the perception a person has of the objects, spaces, or people they encounter while using one of more technologies” (Lombard, M., personal communication, June 14, 2022). More commonly referred to simply as presence, the participants in this research project repeatedly used the term to refer to the state of being fully focused or engaged in the immediate situation where, in the context of a social interaction, the individual is processing and responding to the physically present other in real time (Lombard & Ditton, 2006; Mooney & Becker, 2021). In an online-only context, students virtually attend lectures while physically being elsewhere, dividing their presence between the two places; a phenomenon referred to as *copresence* (Kellerman, 2014). According to Kellerman (2014), the use of virtual space could “provide for a number of relations with physical space: competition, complementarity, substitution, escape, and, theoretically at least, exclusivity” (p. 539). In the face-to-face context (e.g., being physically present in a lecture), the relationship between physical and virtual space is limited or restricted, supporting the potential for the student being fully present. In the online-only context, however, the student must be simultaneously present in both physical and virtual spaces. This creates the potential for competition (i.e., more attention given to one space over the other) or complementarity (i.e., both spaces provide benefit and garner the students’ attention), or some combination of the two relationships (Abeele et al., 2016; Kellerman, 2014; Srivastava, 2005a). When competition between the physical and virtual spaces exist, the student’s presence can be so divided that they become *absently present*: physically present yet “absorbed by a technologically mediated world of elsewhere” (Aagaard, 2016, p. 1). The generalized division of presence—along with the potential for competition between the two

DIGITAL BELONGING

spaces—can adversely affect the quality of interactions in either space (e.g., distraction, diminished trust) which, in turn, would negatively affect the students’ sense of belonging (Aagaard, 2016; Hoffman et al., 2002; Over, 2016). For example, a student could attend an online lecture while being involved in any number of other activities (e.g., online gaming, chatting via SNSs), reducing the student’s focus on or engagement with the lecture. This absent presence would result in a divided focus, potentially leading to a negative perception of the lecture experience as well as decreased performance or benefit for the student (Aagaard, 2016; Abeele et al., 2016; Dwyer et al., 2018). On the other hand, if the student—or instructor, for that matter—is fully present, the potential for focus and engagement in the lecture increases along with the potential for a positive experience and improved performance or benefit (Aagaard, 2016; Abeele et al., 2016; Dwyer et al., 2018). In summary, presence is an aspect of CMC that plays a vital role in the quality of a communicative experience—or the value or meaning derived from it—and must be considered in the online-only context, especially when it comes to the first-year students’ development and maintenance of a sense of belonging.

Computer-Mediated Communication

The shift to an online-only learning environment amidst the restricted context of the COVID-19 pandemic increases the first-year students’ reliance upon CMC considerably, likely impacting their relationship development and overall university experience. This increased reliance is important to understand since, as Swanson and Walker (2015) state, “the active and significant role technology plays in most collegiate emerging adult lives...has been documented to impact the manner in which these individuals think, learn, and interact both in a personal and collegiate setting” (p. 149). These emerging adult first-year undergraduates are considered to be

DIGITAL BELONGING

digital natives (i.e., those who have grown up with, widely-adopted, and become very comfortable with new technologies) (Palfrey & Gasser, 2008). They also live in an age of constant connectivity as mobile devices can travel with them wherever they go, enabling access to information, entertainment, and networks as well as the ability to communicate with almost anyone at any time through a variety of content types and platforms (Kushlev, Dwyer, et al., 2019; Kushlev, Hunter, et al., 2019; Vincent, 2016). As this study is situated at the intersection of an online-only context and a demographic considered to be familiar with technology, it seeks to provide an increased understanding of CMC's current role and future potential in supporting the fulfillment of important socio-psychological needs like belonging in the online learning environment. In doing so, this study will also highlight the ways in which CMC can have an impact, whether positive or negative, on the students' academic motivation, GPA, and overall experience.

The primary concern with the increased reliance upon CMC is its restricted or limited nature and its impact on the communication between students and post-secondary staff or faculty. For example, graphic or text-based communications (such as Facebook comments or Instagram posts) lack "some of the principal elements of human interaction (e.g., tone of voice, body language, facial expression and touch)" (Srivastava, 2005a, p. 124), which can lead to confusion or uncertainty regarding the communication or the status of the relationship(s) involved (Turkle, 2011, 2015). Since the brain derives large amounts of information by interpreting the 'social cues' found in these elements (Aktipis et al., 2020), CMC can leave the student with limited options for learning during and immediately after social interactions, potentially leading to adverse effects on psycho-social development (Williams & Merten, 2008).

DIGITAL BELONGING

As a critical aspect of this development (Baumeister & Leary, 1995; Over, 2016), Turkle (2011) argues that the need for belonging is not easily met via some forms of CMC (e.g., text-based communication) since, by nature, they enable communications that are flippant and lacking in depth. On the other hand, Rainie and Wellman (2012) suggest that the need is simply being fulfilled differently: by the increased support made possible by the larger networks of fragmented connections available to the student via CMC. I see the existence of arguments on both sides of this debate (i.e., over the pros and cons of CMC as it relates to belonging) as further evidence of the need's subjectivity. In other words, while the literature provides an understanding of the restricted context and how the need for belonging is met within it, it also indirectly highlights the fact that a medium and its content are likely to be interpreted differently from one student to another. For example, 'likes' and comments on an Instagram post may have substantial meaning for one student—potentially supporting that student's sense of belonging—while another student may find the very same interactions to be somewhat meaningless. This variance in perceived meaning underscores the subjective nature of the need itself, further informing my approach as to the existence of multiple interpretations of belonging among post-secondary students in regard to the technology they use. Although some online communication mediums like Facebook or Instagram could substitute for, or even be preferred over, in-person options (Markel & Guo, 2020), online learning environments (e.g., the UBC environment primarily consisted of Canvas and Zoom) are generally found to be lacking in several significant areas including student engagement, focus, and inclusivity (Mooney & Becker, 2021; Patel, 2020; Tice et al., 2021). As outlined below, the development and maintenance of a sense of belonging is supported by positive experiences in these areas, so additional challenges there

DIGITAL BELONGING

would likely make fulfillment of the belonging need challenging as well. Additionally—because SNSs are commonly used by both universities and students alike—it is important to consider the roles that platforms like Facebook and Instagram play in the students’ first-year experience.

Engagement

Defined as active involvement in educationally supportive and related activities (Kuh et al., n.d.), student engagement supports the development and maintenance of a sense of belonging. In the online-only learning environment, however, the increased reliance on CMC can pose a challenge to student engagement, primarily because the online-only environment lacks key elements of in-person communication (Aagaard, 2016; Markel & Guo, 2020; Peper et al., 2021; Tice et al., 2021). As stated by Markel and Guo (2020), online tools “cannot foster as much ambient awareness or spontaneous interaction” (p.1) as their in-person counterparts. The importance of this point cannot be overstated as it relates to how communication and connection occurs in conversation. As Aargard (2016) explains, humans are “evolutionarily hardwired to pick up on movement” or *vitality*: “how life itself is manifested in movement” (p. 2).

“In social interaction, we often match and share forms of vitality across different sense modalities...[it is] what brings us ‘in sync’ with each other...Ordinary conversation is a moment-to-moment collaborative process of steady interchanges in which the listener’s vitality dynamics actively contribute to the conversation” (p.2, 6).

In the online environment, however, conversations lack the same vitality and are fraught with challenges introduced by the technology itself (e.g., delays due to internet bandwidth or the lack of body language due to cameras being off or displaying only a portion of the speaker) (Aagaard, 2016; Peper et al., 2021). These challenges and the general lack of vitality hinder or disrupt the

DIGITAL BELONGING

conversational flow, causing the participants to be out of sync. Since we as humans desire to be “in sync” with others—or, at least, the mediated presence of those we are conversing with (Campbell, 2008)—it is safe to assume that a conversation that lacks these characteristics is a less appealing one. For the undergraduate student, this context results in less feedback on their participation in the conversation (i.e., because of the limited vitality), negatively affecting their engagement—and, consequentially, their sense of belonging—making it much easier and more likely for them to be a passive observer rather than an engaged participant (Aagaard, 2016; Ahn & Davis, 2020; Peper et al., 2021; Tinto, 2017). As the online-only context removes the naturally occurring aspects of in-person interactions like vitality and introduces new technological challenges, student engagement—and its support of the belonging need—becomes a more challenging goal to achieve.

Focus

Student focus—or the degree to which they are interested in, attentive to, and concentrating on the aspects of their studies—must also be considered since it is directly related to important outcomes for both students and universities. In a study completed during the pandemic, Tice et. al. (2021) reported that students found focusing on a lecture attended via Zoom much more difficult than one attended in-person. Putting aside the obvious physical challenges of the increased reliance upon CMC (e.g., eye strain from staring at a screen for an extended period), the authors stated what may be the most critical aspect of the online context: the fact that it “lacks the attention-maintaining power of the presence of co-attending peers” (p.3). In other words, students find holding focus on a lecture easier when physically in a room with other students. Furthermore, the online context provides greater ease or opportunity for

DIGITAL BELONGING

distraction or for the students' focus to shift to other technologies (e.g., since the student is already using a computer for the Zoom call, they could also check SNSs) or to elements of their physical environment (e.g., a pet or family member) (Carr, 2010; Peper et al., 2021). When focus is challenging, divided, or lost, students can “withdraw from psychological ownership of their learning” (p. 4), which ultimately has a negative effect on their learning and sense of belonging to the university (Abeelee et al., 2016; Tice et al., 2021; Tinto, 2017). For the university, this withdrawal can lead to lowered participation and, because of its negative effect on belonging, a lowered desire to persist or remain in the program (Tice et al., 2021; Tinto, 2017; Vincent, 2016). Since retention is an important university goal and persistence (i.e., program completion) is an important student goal (Tinto, 2017), keeping students focused in the online context is a crucial post-secondary task.

Inclusivity

A final aspect to consider is that of inclusivity or the degree to which the resources required for the online-learning environment are available to, and understood by, all students equally, since varying levels of access and understanding likely exist. For most students enrolled in the 2020-2021 school year, the shift to an online-only context was unexpected, challenging, and somewhat disorienting (Patel, 2020; Peper et al., 2021), but the degree of difficulty during the transition likely varied from one student to another. In their 2021 study, Peper et al. noted that 94% of the 325 undergraduate students surveyed stated experiencing “moderate to considerable difficulty with online learning” (p. 48). Despite their status as digital natives, competence and comfort with the nature or the tools of the online context (e.g., Zoom) vary, as do the home environments that students were restricted to for the university experience (e.g.,

DIGITAL BELONGING

availability of a quiet place to study, internet connectivity and differences in connection speeds) (Markel & Guo, 2020; Patel, 2020; Peper et al., 2021). Although some find sharing personal information and, subsequently, relational development to be easier online (Frison & Eggermont, 2016), it is clear that, at least within the educational context, the issue of inclusivity must be considered when students are restricted to the online context.

Social Network Sites (SNSs)

Regarding SNS usage among undergraduate students in their first year of university, multiple studies highlight how the platforms can play a wide variety of roles (Aalbers et al., 2019; Frison & Eggermont, 2016; Mäntymäki & Islam, 2016; Steers, 2016; Verduyn et al., 2017; Vincent, 2016). SNSs are ubiquitous with emerging adults, offering opportunities for them to develop and present their identities (e.g., via profiles and user-generated content); establish and maintain relationships with other students, groups, or organizations (e.g., as Facebook friends or Instagram followers); and interact with a virtually unlimited amount of content through a variety of communicative interaction options (e.g., like, share, etc.) (Boyd, 2014; Ellison & Boyd, 2013; Srivastava, 2005b; Swanson & Walker, 2015). As two of the top 3 SNSs in Canada, Facebook and Instagram have been widely-adopted by 18-to-25-year-olds, with 89% using Instagram and 84% using Facebook (Gruzd & Mai, 2020). With such wide adoption, first-year students' (i.e., traditionally, 18-20) use of these platforms—and the outcomes they experience from those uses—are important to understand.

In reviewing the related literature, it is clear that an array of both positive and negative outcomes exist for emerging adult students in their use of SNSs. On the positive side, Vincent (2016) showed that SNSs like Facebook can facilitate the students' offline interactions and an

DIGITAL BELONGING

increase in their total number of relationships. Steers (2016), as well as Frison and Eggermont (2016), highlighted the fact that these networks can make sharing intimate details easier (e.g., personal challenges), potentially supporting the deepening of these relationships and the students' sense of belonging. Additionally, SNSs can support the student in development and maintenance of *social capital* or the resources that come from one's relationships (Ellison et al., 2007). For the first-year student, these resources could be anything from help with course work to membership in online groups or friendship circles. On the negative side, Verduyn (2015) points out that Facebook—and SNSs in general—are considered by many researchers to have addictive properties and that users generally continue their use even if negative effects exist. For the students in this study, these negative effects could include depressed mood (e.g., often connected to the use of social comparison: comparing one's self to another and seeing the other as 'better'), narcissism (e.g., students being more concerned with growing a following on Instagram rather than developing authentic relationships with those followers), or loneliness (e.g., if a student is lacking supportive relationships, seeing the relationships of another via social posts can remind them of their unfulfilled need) (Aalbers et al., 2019; Frison & Eggermont, 2016; Mäntymäki & Islam, 2016). As SNSs show the potential for both positive and negative effects, it is important to understand how the students use the platforms, their motivations behind each use, and the outcomes they experience, especially as they relate to their sense of belonging.

The literature suggests that the factor which most determines the effects from SNSs, however, is the conceptual category that the use falls within: namely, *passive* or *active*. Outlined by Phillippe Verduyn and several other researchers in 2015, active social media use (ASMU) involves direct interaction with others (e.g., commenting on a Facebook post) whereas passive

DIGITAL BELONGING

social media use (PSMU) use denotes consuming content without social interactions (e.g., scrolling through an Instagram feed). Generally, PSMU is linked to more negative outcomes (e.g., poor subjective well-being, depression, envy) whereas ASMU is related to positive outcomes (e.g., feelings of connectedness, increased subjective well-being) (Verduyn et al., 2015). These points underscore the importance of exploring the ways in which the undergraduate males at UBC use SNSs, the motivations for those uses, and how they played a role in the students' sense of belonging in their first year of study during the pandemic when in-person social contact was restricted.

Method

This research was conducted during the COVID-19 pandemic (i.e., during the 2020-2021 winter and summer semesters) using a mixed-methods approach, combining a cross-sectional survey (44 respondents) with semi-structured interviews (five interviewees), with data interpreted via content analysis and reflexive ethnography. Requests for participation were sent through various UBC undergraduate societies with participants self-selecting into the study based on the criteria presented (i.e., 18-to-20-year-old males in their first year of study at UBC's Vancouver campus who used either Facebook or Instagram). The majority of survey respondents were part of UBC's science faculties with all five interviewees being from applied science (specifically, engineering). (Additionally, one of the interviewees was of Asian descent, speaking English as a second language, while the other four were White males).

The survey (see appendix A) was completed first (between April and May of 2021), covering the students' context (e.g., living on or off campus, participation in UBC clubs or activities, etc.), their use of SNSs (e.g., platforms used, usage time and type, etc.), as well as their

DIGITAL BELONGING

first-year experience (e.g., belonging, sense of support from staff, etc.). Likert scales were used to obtain a quantitative characterization of both the students' use of SNSs (i.e., ASMU and PSMU) as well as aspects of their first-year experience (e.g., belonging, GPA, etc.). For the students' use of SNSs, eight questions were formulated based on the Passive and Active Facebook Use Measure developed by Gerson et al. (2017). This section asked the students to indicate the frequency of each of the eight listed activities (e.g., posting to my profile) by choosing between five options (i.e., never, rarely, sometimes, frequently, and very frequently). For the aspects of their first-year experience, the students were presented with 11 personal statements (e.g., "I feel a sense of belonging at UBC") and asked to indicate their agreement by selecting from five options (i.e., strongly disagree, disagree, neither agree nor disagree, somewhat agree, and strongly agree). Once the data were collected, a statistical analysis was completed to check for the existence of relationships between student belonging and ASMU, PSMU, or aspects of their first-year experience such as GPA, motivation, and overall experience.

The five one-on-one interviews were completed between June and August of 2021, after the survey had concluded. The questions and general discussion was structured around the survey's results; specifically, the potential relationships between the use of SNSs and the students' sense of belonging. Additionally, each interviewee was asked general questions about their sense of belonging including whether and how it was met during the previous school year as well as the relationships between belonging and the various activities or aspects of the online learning environment that they experienced. Since this research occurred during the COVID-19 pandemic, in-person gatherings were restricted, leading to 4 of the 5 interviews being conducted

DIGITAL BELONGING

via Zoom (the fifth occurred in person). Each of the five interviews were recorded and then transcribed for content analysis.

Along with the survey and interviews, my own experience as an online-only student during the pandemic also played a significant role in research design, leading to analysis via reflective ethnography. As a man that shares a similar context with those in the study (i.e., a student during the pandemic who was expecting more in-person experiences but was ultimately restricted to the online learning environment), I interpreted data—gaining deeper understandings and drawing conclusions—through a “process of self-reference” (Davies, 2012, p. 4). This process enabled me to better understand, empathize, and converse with the interviewees because we shared some of the same experiences. It also guided the analysis (primarily of the interview content) as my interpretations of interviewee responses were based on my experiences and understanding of the online learning environment.

Results

The survey resulted in several points of interest; the most important being the indication of the existence of a strong relationship between sense of belonging and important aspects of the students’ first-year experience such as GPA, academic motivation, and overall experience. Those who strongly agreed with the belonging statement (i.e., “I feel a sense of belonging at UBC”) also agreed or strongly agreed with statements related to GPA (i.e., “I am satisfied with my GPA”), academic motivation (i.e., “I feel motivated to succeed academically”), and satisfaction with overall experience (i.e., “I am satisfied with my university experience”). Because two Likert scales were used (i.e., one to measure SNS activity and one for aspects of the first-year experience), the responses were given numerical values (i.e., “Never” and “Strongly Disagree” is

DIGITAL BELONGING

0 and “Very Frequently” and “Strongly Agree” is 100), so that results could be displayed as percentages of the whole (i.e., with 100% equalling all 44 respondents). When responses were converted to numerical values, those who strongly agreed with the belonging statement scored 18 points higher, on average, across all other statements, when compared to those who agreed with the belonging statement. These results certainly supported the existence of a connection between the students’ sense of belonging and the categories of GPA, academic motivation, and overall satisfaction with the first-year experience. It was also interesting to see a higher frequency of PSMU among all respondents, contradicting my assumption that usage type (i.e., either active or passive) would be linked to reported sense of belonging (i.e., where ASMU is linked to an increase and PSMU linked to a decrease). When it comes to the platforms themselves, 90% of respondents reported using both Facebook and Instagram with the latter seeing the heaviest daily use (i.e., 31% used Instagram for 30-60 minutes each day). Additionally, 82% of respondents reported that they primarily accessed SNSs via smartphones, spending an average of over 120 minutes per day on the device in total. Since the main goal of the survey was to provide an overview of the students’ use of SNSs and their experience during the pandemic, points like these formed the basis for follow-up questions and general direction for the interviews that followed.

Table 1: Relation of Students’ Sense of Belonging with ASMU, PSMU, and Select Aspects of First-Year Experience

	“I feel a sense of belonging at UBC.”	ASMU	PSMU	“I am satisfied with my university experience.”	“Overall, I am satisfied with my life.”	“I feel motivated to succeed academically.”	“I am satisfied with my GPA.”
--	---------------------------------------	------	------	---	---	---	-------------------------------

DIGITAL BELONGING

Strongly Disagree	11%	36%	59%	10%	10%	40%	20%
Somewhat disagree	20%	23%	40%	50%	58%	58%	67%
Neither agree or disagree	30%	30%	58%	37%	52%	60%	40%
Somewhat agree	30%	27%	57%	38%	71%	56%	44%
Strongly agree	9%	30%	52%	69%	69%	81%	75%

In analysing interview content, two main themes emerged. First, the online-only learning environment is viewed as more challenging and of less personal value than its in-person counterpart. Second, SNSs do play a role in the students’ sense of belonging, primarily in the initial stages of new relationship development and the maintenance of existing connections.

Table 2: Online-Only Learning Environment as More Challenging and Less Valuable

Theme	Summary	Examples as Communicated through Interviewee Comments
“I Didn’t Enjoy the Way We Had to Learn”	Negative overall view of the online learning environment	“I get really kind of anxious around the whole thing [the increased reliance upon technology].” “[The online environment is] more stressful; its less active. And less like, less of your curiosity is piqued.” “[Focusing on a lecture was] much harder and it's recorded so you can always watch it later.” “In that online environment, the drive was definitely like, a limited resource.” “There's so much more motivation, when you can go out and socialize and being in an environment instead of, you know, getting up and going on computer.”
“It’s Not Really a ‘Present’ Classroom”	Negative overall view of the online classroom	“It's not really a present classroom because the teacher at that point [when students have cameras and microphones off] is just running through the material to get it done.”

DIGITAL BELONGING

		<p>“If you're doing something online...it doesn't really matter who you're doing [it with] like, you could potentially be doing it with anybody. Whereas I guess in person, it just feels more sort of significant.”</p> <p>“But it just doesn't feel as meaningful. Doesn't feel as real either.”</p> <p>“You can work with people online, but you don't have that face to face connection, where it really feels like you're working as a team.”</p> <p>“You're not really present with sort of the classroom community when you do that [turn off the camera or microphone].”</p> <p>“But when only a few people have their faces on the screen...it always feel kind of weird, because you know that everyone sees you, but you can't really see them.”</p>
--	--	---

A More Challenging and Less Valuable Context

Two sub-themes exist in relation to the students' perception of the online-only context as more challenging and less valuable. First, a generally negative outlook exists on the nature of the context itself with increased challenges in areas of computer literacy, distraction or focus, procrastination, and motivation. Second, the students shared a negative sentiment towards their experience with the online classroom, specifically noting that it lacks the same presence found in its in-person counterpart.

“I Didn't Enjoy the Way We Had to Learn”

The first sub-theme related to the students' view of the online-only context as more challenging and less valuable is the generally negative outlook they shared on the online-only learning environment itself. All interviewees reported a general sense of disappointment with the restriction to online learning, partly because of the loss of the on-campus experience but, more importantly, because of the increased reliance upon technology and the way it changed course delivery and student routines.

DIGITAL BELONGING

First of all, the increased reliance upon technology brought with it an obvious requirement: increased computer literacy. Despite their status as digital natives, this requirement added a degree of difficulty for some since the five interviewees did not share the same level of experience, comfort, or proficiency with the internet or the specific hardware and software required for the online setting (e.g., Zoom video conferencing, the UBC website). “I’m horrible with technology”, said one interviewee when asked about the increased reliance upon CMC; “I get really kind of anxious around the whole thing”. While only one of the five interviewees relayed this sentiment, all five described the environment similarly, using words and phrases like “more stressful”, “less active”, and “distracting”. For one student in particular, the challenge of computer literacy was compounded with the quality of his internet connection since, as he stated, “I just kind of live in the country so internet wasn’t the best”. For another student, the university’s website was a challenge, describing it as “kind of a mess” and “hard to navigate”. User experience issues like this would obviously compound any issue of computer literacy, increasing the students’ struggle. In short, computer literacy is an aspect of the online-learning environment that can be a challenge for some students, affecting their overall experience.

Second, the increased reliance upon technology changed the way that courses are delivered, impacting the students’ experience in mostly negative ways. Generally speaking, the interviewees shared a negative initial outlook on the environment as a whole (when asked about their expectations before their programs begun, after learning that they would be online only rather than in person). Each student vocalized a variety of feelings including disappointment, a lack of excitement, and a sense that the restriction to online-only learning was reducing the quality of their first-year experience. A specific area that all interviewees agreed on was the

DIGITAL BELONGING

lectures. One student described them as “more boring”, referencing the lack of student or instructor faces on some Zoom calls (i.e., some instructors didn’t require video because its usage increases internet bandwidth demand and the risk of lag) while another student described the instructor, specifically, as “just running through the material to get it done”. Every interviewee indicated that lectures delivered via video call (i.e., Zoom) were more challenging and less engaging, but they also indicated that the online context itself was distracting. In order to share resources and have social contact like they would in person, students set up servers or private communities on Discord (i.e., a separate SNS, primarily used by the interviewees for educational purposes) and chat groups using Instagram. Activity on Discord was ongoing and intermittent but the Instagram chat groups, specifically, became active with each live lecture, with students cracking jokes, chatting, and generally socializing while attending the lecture. Despite the potential for distraction, the interviewees wanted to be active in the servers and chat groups since, for some, it was their only way to interact with their classmates. “You’re trying to focus and at the same time, you want to be social” said one interviewee, indicating that his attention was somewhat divided in order to “stay in the loop with your fellow classmates”. For some, though, the existence of these groups—and the ease at which they could use them during lectures—made the learning environment a little better. “You don’t have to interrupt the professor when they’re talking to ask the question”, said another interviewee, stating that the question could be posed in the group. For one student, being part of the Discord servers was “probably one of the cooler feelings of belonging in online school...seeing people helping each other out, talking with people, and really seeing it all come together in an online virtual sense”.

DIGITAL BELONGING

Overall, the five students described their experience with online course delivery in primarily negative terms and indicated a clear preference for in-person learning.

Finally, the students linked the online learning environment to increased challenges in the areas of focus, procrastination, and motivation, with two of the five students specifically linking these challenges to poor academic performance (i.e., lower GPA than they wanted or expected). Speaking specifically to increased distraction, Tyler said “there are so many options out there” (e.g., distractions at home, opportunities to do other activities online); “it is easy, very easy to get distracted”. When asked about his daily routine, Wesley stated that he attended his lectures (i.e., via Zoom in a browser window) while doing any number of other activities including reading a book, checking out Facebook marketplace, or playing a game on his Nintendo Switch. This lack of focus and increased distraction was evident throughout the interviews, closely tied to the challenge of procrastination. Ben linked procrastination to the informal or flexible nature of online learning: “I’m just staying in the house for the entire day. Why not shower at lunch? Or, you know, eat breakfast later...well I guess I slept in, so let’s do coding in bed this time”. Karl described his routine similarly by saying “being able to roll out of bed at 9:55 and then go to class at 10...that’s something that’s nice, but I don’t think it’s healthy...you become lazy”. This sentiment was echoed throughout the interviews (as well as in my own experience), highlighting the challenges that the flexible nature of the online learning environment can present, especially when motivation is running low. “The drive was definitely a limited resource”, said Tyler. “It’s a lot easier to maintain a sense of motivation in person, because you have a much stronger foundation when it comes to...social connections and just having people there for you”. After completing his first term at home and moving into UBC residences for his second term, Jack

DIGITAL BELONGING

confirmed the difference in motivation levels that social connections provide: “I went out to residence for a second term and that was a lot better. I just sort of like having a community of friends that are going through the same thing.” Whether it was the reduced social interactions or the method of course delivery, every interviewee highlighted staying motivated as a significant challenge.

The increased challenges in the areas of focus, procrastination, and motivation were also connected to the students’ GPA, with the general consensus being that they’d expect to do better in person. While three of the five students stated that they were satisfied with their performance (although suggesting that they could have done better), one student stated “it’s the worst I’ve ever done, academically, in my entire life”. While the interviews did not contain specific details related to GPA or course grades, four of the five students linked the additional or increased challenges of the online environment to poor or only satisfactory academic performance and the surveys indicated an average GPA satisfaction of just 49% (i.e., “I am satisfied with my GPA”). Overall, the students held a negative sentiment towards the online learning environment, citing the above challenges as making their experience more challenging and of less personal value.

“It’s Not Really a ‘Present’ Classroom”

The second sub-theme related to the increased challenge and reduced personal value of the online-only learning environment is the students’ somewhat negative perception of the virtual classroom. Karl unknowingly summarized the sentiment of the interviewees when he said “you’re not really present with the classroom community when you do that”, speaking of attending lectures virtually without video or audio. He continued:

DIGITAL BELONGING

“It’s different when you’re in person and, you know, everyone’s there, everyone’s faces are showing, you know, like normal life, but when only a few people have their faces on the screen...it always feels kind of weird, because you know that everyone sees you, but you can’t really see them”.

In one way or another, each of the five interviewees described this phenomenon, indicating their desire for presence (i.e., with instructors and other students) and their awareness of its limited existence in the online setting. As they talked about the classroom and Zoom calls in general, they drew connections between presence and other aspects of their first-year experience including motivation (e.g., “there’s so much more motivation...being in an environment [with other students]) and engagement (e.g., describing online events as having “not really much interaction” and the online learning environment in general as less interesting). When asked if CMC could substitute for in-person interactions and meet this desire for presence, Jack firmly said “no, not at all”, citing the loss of body language and how that loss hinders the communication of emotions. “It [CMC] doesn’t feel as meaningful”, he said. On a positive note, four of the five interviewees did describe a sense of connection to other students via involvement in groups that were formed for most courses (e.g., several students grouped together by the instructor for work on a shared project). “By building these connections”, Tyler said, “you gain the sense of belonging, even though you’re in your room, because you do have those connections”. The interviewees described these groups in positive terms, using words or phrases like “support”, “connection”, “cared about each other”, “belong”, and “working together to get it done”. Despite the positive experience brought by the groups, each interviewee generally linked

DIGITAL BELONGING

the online classroom’s lack of presence (as compared to its in-person counterpart) to their negative view of the online context as more challenging and of less personal value.

Table 3: SNSs Role in Students’ Sense of Belonging

Theme	Summary	Examples as Communicated through Interviewee Comments
“Moving Onto the Next Level”	SNSs were used to find potential friends, initiate contact, and develop relationships	<p>“Once you feel like you've met someone who could...potentially be a friend, you end up moving on to the next level, maybe getting into video chat or video call, and then going, you know, like, even further on.”</p> <p>“So it's [Instagram] kind of good to find people who have similar interests and go to your same school.”</p> <p>“I knew that one of the guys in my group was like, super into like outdoorsy stuff, right? Because he had a bunch of hiking pictures [on Instagram].”</p> <p>“We ended up meeting a bunch of cool people; starting our own like Instagram, or like discord groups...we got a lot closer to each other to the point like that I think I even hung out with quite a few of them.”</p>
“We Had Some Good Experiences”		<p>“They [instructors] had us put in teams...and that was amazing, because I made some really good friends. And we had some good experiences.”</p> <p>“An example of an experience where it did sort of feel like natural was maybe just like facetimeing, like your fellow student to do homework together.”</p> <p>“We formed a study group that stuck together throughout the semester...I think that'd be the greatest sense of belonging that I felt at UBC; it was belonging to this...it's an unnamed group.”</p>
“It’s the Main Way We Keep In Touch”	SNSs were used to keep in touch with existing pre-existing friends	<p>“I have group chats on it [Instagram] with friends from high school. And that's sort of, that's the main way we keep in touch, it's really good for doing that.”</p> <p>“The reason why I go on Instagram is like, sort of like the DM section, just to chat with friends.”</p>

SNSs and Belonging

DIGITAL BELONGING

When it comes to the role of SNSs in the students' sense of belonging, three sub-themes emerged, highlighting the different ways that Facebook and Instagram (as well as other SNSs) support belonging. The first sub-theme frames the platforms as tools for learning about and initiating relationships with other students. The second sub-theme shows how SNSs enable the development of relationships via shared experiences and the importance of those experiences in the students' sense of belonging. The final sub-theme outlines the students' use of SNSs for the maintenance of pre-existing connections.

“Moving Onto the Next Level”

The first sub-theme related to the connection between SNSs and sense of belonging is the students' view of the platforms as tools or environments for learning about other students, noting potential connections (i.e., via shared characteristics like sense of humour, similar hobbies, etc.), and taking the first steps in relational development. In the discussions on this topic, the students' comments signaled the existence of an unspoken process that framed their usage of SNSs as a type of relational research and development, most clearly seen in Tyler's comments:

“Through the Zoom chat [i.e., during lectures] we ended up meeting a bunch of cool people...starting our own Instagram or Discord groups...like you start chatting through text and once you feel like you've met someone who could potentially be a friend, you end moving on to the next level, maybe getting into video chat, and then going even further on...we got a lot closer to each other to the point that I think I even hung out with quite a few of them [in person, during the school year].”

Although the interviewees described this progression in different terms, their comments all relayed its existence as well as the ways in which it could start. According to Ben, a possible

DIGITAL BELONGING

'first step' in the progression would be learning about the "online mannerisms" of another student. These mannerisms include anything from the type of content they share (e.g., funny or serious posts) or their use of language (e.g., formal or informal) to the way that they use the platforms themselves (e.g., posting often or hardly at all). For example, Jack found a connection via Instagram when a fellow student saw his post and realized that they were from the same area. Supported by this shared characteristic, the student reached out to Jack through the platform and a relationship began to develop. The interviewees highlighted a variety of methods for relational development via SNSs (e.g., private chat groups, video calls, etc.), but they also noted that, at least for the relationships that they wanted to develop, in person interactions were the ultimate goal and the best way to develop lasting friendships. Although several interviewees mentioned not meeting some of their online connections in person, they each outlined how SNSs enabled them to learn more about others and develop relationships, supporting their sense of belonging at UBC.

"We Had Some Good Experiences"

The second sub-theme related to SNSs and the students' sense of belonging is the role that the platforms play in enabling shared experiences and the importance of those experiences in establishing and maintaining the students' sense of belonging. For example, Karl stated that simply being in the Discord server with the other students was "one of the cooler feelings of belonging in online school". For Ben, his most supportive experience came via the work groups instructors created. "That was amazing", he said, speaking of the groups, "because I made some really good friends and we had some good experiences". Not all shared experiences supported the students' sense of belonging, however, since each interviewee held a generally negative

DIGITAL BELONGING

sentiment towards UBC-facilitated events. One such event, called ‘Jump Start’, is an orientation event specifically designed to provide new students with an overview of what’s to come (i.e., see the campus, meet faculty and staff, etc.) and help them make their “first friends” at the Vancouver campus (University of British Columbia, n.d.). While several interviewees recognized the challenge of transitioning traditionally-in-person events to the online setting, they still shared a sense of disinterest and disappointment. “I think a lot of this stuff that was sort of run by the university...you’re quite aware that it was very facilitated”, said one interviewee. Another student described the events by saying “there was not really much interaction...not much energy”. Although the UBC-facilitated events did not appear to support the students’ sense of belonging, the existence of support from positive shared experiences was clear, as was the role that SNSs can play in those experiences.

“The Main Way We Keep In Touch”

A final sub-theme related to SNSs and the students’ sense of belonging is the role that the platforms play in the maintenance of social capital derived from pre-existing connections. All interviewees shared details about pre-existing friendships, noting SNSs as easy ways to maintain and continue to draw support from those connections. “I have group chats on it [Instagram] with friends from high school”, said Karl, “and that’s sort of the main way we keep in touch, it’s really good for doing that”. As an international student, Wesley relied heavily upon SNSs to maintain pre-existing connections. “I much prefer to interact with my high school friends...I have consistent messaging [with them]”, he said, noting that SNSs are best used for maintaining existing connections rather than developing new ones. Although Wesley’s sentiment was an outlier, his experience clearly indicates that developing relationships in an online-only

DIGITAL BELONGING

environment can be very challenging for some, especially when factors such as language or cultural differences are taken into account. Overall, the students held a positive view of SNSs as a medium for communicating with pre-existing connections, ultimately maintaining their social capital.

Discussion

This study found that SNSs did play a supportive role in the development and maintenance of a sense of belonging among first-year post-secondary students in the online learning environment amidst a socially restricted pandemic context, primarily in the creation of new relationships and the maintenance of pre-existing relationships. Specifically, SNSs provide an avenue for learning about others (e.g., sense of humour), finding those with whom something is shared (e.g., hobbies), developing the initial relationship (e.g., introduction via Instagram direct message), and maintaining relationships through ongoing, intermittent contact. This study has also shown that, while SNSs can support the students' sense of belonging in the online learning environment, the fulfillment of this fundamental need is complex, intertwined with their overall experience, and complicated by the challenges distinct to the online context.

The Need for Presence

Compared to its in-person counterpart, the online learning environment lacks presence; a phenomenon that the students indirectly outlined as a need, linking it to the majority of the challenges and disappointments they experienced in their first year. In the online context, the students' relationships are restricted to co-presence: being physically present in one space while virtually taking part in a lecture or study group held in a second, online space. Throughout the interviews it seemed clear that the relationship between the two spaces was one of competition,

DIGITAL BELONGING

as all five interviewees outlined experiences of dealing with challenges related to the lack or division of presence. This division introduced a multitude of challenges to the first-year student experience, but it also created specific opportunities for SNSs to support that experience along with the students' need for belonging.

Presence and Student Perceptions

The lack of presence fundamental to the online context negatively impacts student perceptions of the online learning experience itself, leading to challenges in several areas previously outlined including distraction or focus, procrastination, motivation, and engagement. At multiple points in the study, students directly and indirectly contrasted online interactions with those occurring in-person, consistently framing the online environment as less significant or interesting. In their eyes, the specific characteristics of communication in the online learning environment (e.g., student cameras being off, instructors showing slides only) and the ways in which technology constrains the environment itself (e.g., delays due to internet bandwidth, limited body language) reduce the value of that communicative experience, negatively impacting their overall experience. Although the interviews did not allow time for in-depth discussion of all of the reasons for their negative perceptions, those mentioned appeared to originate from the online context's lack of presence. More specifically, the interviews indicated the existence of a causal relationship between presence and student perceptions of their experiences. For example, when students spoke of avoiding distraction and being fully present in a lecture or work group—and the instructor or work group participants were also perceived as being present—the students reported generally positive perceptions of those experiences. On the other hand, if the student was distracted or disinterested and not fully present in the lecture—or the instructor or work

DIGITAL BELONGING

group participants were perceived as not being fully present—the students reported generally negative perceptions of those experiences. Overall, the students’ presence—and that of the instructor or other students—was the key ingredient for a positive experience. Although the challenges related to focus, procrastination, motivation, and engagement likely exist in the online learning environment to some extent regardless of whether the need for presence is met or not, the extent to which they exist—and how they impact the students’ experience—appears to be mediated by presence.

Presence and Perceived Value

The need for presence in the online learning environment is also connected to a critical aspect of the first-year experience: the need for students to feel like they are valued and have value to offer. As a fundamental aspect of sense of belonging in the academic context, the existence of this need could be seen throughout the interviews with each student—whether verbally or non-verbally (e.g., changes in body language when describing a social interaction they perceived as positive versus one that was not)—indicating the existence of a deeper meaning or need that was unmet in the specific experience they were describing. For example, when Karl described one instructor as “running through the material to get it done”, I interpreted a sense of disconnection in his experience. In that moment, he was just another student attending a virtual lecture, likely preferring to see and be seen by other students and the instructor but, instead, he was left viewing the instructor’s slides or a sea of mostly empty boxes (i.e., names but no faces in the Zoom participant display areas, since most students didn’t turn their cameras on). When online events were described by Wesley as having “not really much interaction” or by Jack as “it just doesn’t feel as meaningful”, I sensed a desire for increased connection or

DIGITAL BELONGING

presence. In other words, by directly stating the negative side of their experiences, the students also indirectly stated the unfulfilled desires that caused them (i.e., the desire for increased connection, value, or meaning that can come from interactions with fully-present others). This desire for presence and its impact on the student experience was a central theme throughout the study, highlighting its important role in the first year of the online learning environment, as well as the consideration it must be given by post-secondary institutions and others looking to support positive student outcomes.

Presence and SNSs

As SNSs have been shown to play a supportive role in the students' overall experience, they can be used to supplement the desire for presence in the online learning environment by providing opportunity for more personal or informal interactions, as well as increasing the amount of interactions themselves. For instructors, SNSs provide an opportunity to connect with most, if not all, of their students on a less formal, more personal level; a type of connection that would likely happen within the on-campus experience (e.g., saying hello when unexpectedly crossing paths on campus). In these more personal interactions, the instructor's focus is on a singular student (or smaller group of students), increasing the likelihood for the student(s) to perceive the instructor as being fully present which, in turn, improves the likelihood of a positive perception of that interaction. Although the students in this study didn't speak of opportunities like this, it was part of my experience as a graduate student in the online learning environment. Connecting with instructors via SNSs and speaking directly with them via Zoom, however brief those interactions were, usually left me with an increased sense of support and belonging because I was given the instructors time and full attention or presence. At large institutions,

DIGITAL BELONGING

however, one-to-one meetings like this may not be possible for every student, but instructors could certainly meet with groups or make themselves available for set periods of time via SNSs or tools like Zoom. For students, SNSs can supplement the need for the social interaction that would naturally occur on campus. For example, several students in the study stated that their need for socialization and for belonging was often met, or at least supported, by simply being part of Discord servers or Instagram chat groups. To support this use, institutions should recognize the potential of SNSs and weave the platforms into their online strategies. For example, institutions could provide students with the opportunity to include links to social profiles or groups within their learning management systems (e.g., within a student's profile). With a little creativity and the willingness to explore non-traditional ways of communicating with and supporting students, the potential of SNSs can be fully realized. Ultimately, it is the presence of those involved in the interactions that is important, rather than just an increase in the amount of interactions themselves. SNSs do provide an array of options for student interactions, but those involved must recognize the need to be present in those interactions and make a conscious effort to do so.

Integrating SNSs With the Online Environment

Despite the students' generally negative overall sentiment towards the online environment, there are specific aspects of the environment itself that do support—or at least have the potential for supporting—the students' sense of belonging, and this support can be improved upon via a deeper integration with SNSs. These aspects include, but are not limited to, shared experiences via student work groups, orientation or other events, the online classroom, the institution's website, and the unspoken relational development process that the students alluded

DIGITAL BELONGING

to. By integrating SNSs more fully with the online environment (e.g., SNS profile links in student profiles within the learning management system, using Facebook groups as part of course delivery), institutions can go to where the students already are and take advantage of the more social nature of the platforms themselves. For the institution, this is an opportunity for improving the students' overall experience and better supporting their sense of belonging in the all-important first year of post-secondary study and beyond.

Shared Experiences

Shared experiences offer excellent opportunities for students to develop new relationships in the online-only context. Course-based work groups or student-initiated study groups are two examples of such experiences which this study has shown to have a positive impact on both the students' sense of belonging and their overall experience. However, this positive impact is not a given and appears to depend upon an array of factors including facilitation of the experience (i.e., by UBC or by students), student motivation (i.e., what incentivizes the student to take part), and presence or engagement (i.e., the facilitator's and participant's full presence and active engagement in the experience). For example, this research indicated that experiences which were facilitated by the university played far less of a positive role in the students sense of belonging compared to those that were facilitated by students. With university facilitated experiences (e.g., the Jump Start orientation event), students reported feeling a sense of disappointment and lack of energy. However, when students facilitated or played a more prominent role (e.g., the work or study groups), the experiences were consistently described in a positive light. In those experiences, students naturally connected via SNSs, learning about one another and developing friendships. In this study, both Facebook and Instagram supported that learning and relationship

DIGITAL BELONGING

development process, along with Discord. In the future, university-facilitated experiences could benefit from incorporating SNSs via live chat or video options, ensuring as much student involvement as possible (i.e., not just in participation but potentially in facilitation as well). Universities should also consider the creation of student-facilitated experiences that happen on the networks themselves (e.g., utilizing Facebook or Instagram live video). Along with the integration of SNSs in the learning environment itself (i.e., mainly in student profiles within the learning management system), these types of events or initiatives could allow for a more prominent student role, potentially increasing both student motivation and engagement. As one of the more prominent positive themes in this study, shared experiences—and how SNSs can be utilized to support or enable them—are a clear opportunity for supporting the first-year students' sense of belonging.

The Online Classroom

The online classroom is another area of challenge and potential improvement. In more ways than one, the online classroom was described by what it lacked: interest, engagement, and a sense of presence. With empty Zoom boxes and opinions of instructors as “just running through the material to get it done”, student motivation weakened as they began to accept that their first-year experience wasn't going to meet expectations. While the experience of sitting in the classroom with other students was, in a way, substituted by the SNS chat groups that became active during lectures, those groups were socially, rather than academically, focused, adding an element of distraction that wouldn't necessarily exist within the in-person, non-pandemic context (i.e., because students would physically be together rather than limited to online-only interactions) . Although the online classroom may never equally substitute for its in-person

DIGITAL BELONGING

counterpart, lectures can and should be better adapted to the online context, keeping its distinct characteristics in mind. For example, several students noted that it was easier to ask questions online because you could simply present them to the instructor via text in the Zoom chat or to the other students via the SNS chat groups. In some cases, however, this presented a problem since the comments of others would quickly blend in with that question, making it challenging for the instructor, or other students, to recognize that a question was asked. This aspect of the classroom could be better managed in a number of ways including Zoom training (i.e., ensuring all instructors are quite familiar with the interactive functions of Zoom) and encouraging students to use the chat feature for lecture-related questions only, with discussion requiring the students input via audio or video. Another opportunity for improvement is found in the delivery of the lectures themselves. Although the students appreciated the fact that no one was fully prepared for the restrictions that came with the COVID-19 pandemic, they did share a general sense of disappointment in the lectures. I too was disappointed at times, noticing that some instructors were more present or engaged in their lecture than others; one aspect which directly impacted my level of motivation or engagement in the online classroom. This inconsistency in presence from the instructors is an obvious area for improvement, one which post-secondary institutions should recognize as more important because of the inherent lack of presence in the online context. Institutions and instructors should also consider more creative ways to use the online context to their advantage. For example, since the students in this study reported positive experiences from the course-based work groups—and the shared experiences within those groups supported their sense of belonging—the same groups could be incorporated into the lectures (or smaller, temporary groups that exist just for the lecture itself). In this way, small groups of students could

DIGITAL BELONGING

use Zoom or SNSs together to discuss a given question or topic (potentially using video and audio, since the lower number of students would require less bandwidth). They could then return to the main Zoom room after an allotted amount of time, potentially presenting their findings to the class. Overall, the classroom experience could be better adapted to the online context, creatively turning its distinct characteristics into advantages for both instructors and students.

The Institution's Website

The institution's website is an important aspect of the first-year students' experience; one which also holds opportunity for improvement, specifically in areas of user experience and in the distinct needs of prospective and first-year students. As the central hub for university information, the students' experience could very well begin with—or at least be heavily impacted by—their interactions with the website. Since two of five interviewees inferred a negative experience, it is likely that work can be done to ensure that navigation and finding information is more intuitive. To ensure a positive experience, first-year students could be used in website testing or, in the very least, they could be surveyed to find specific areas of concern and potential improvement. Furthermore, with the benefits of SNSs being clear, the institution could consider ways in which the website could support the students' use of the networks. For example, students could be given the opportunity to have their SNS profiles linked to student profiles within the learning management system, increasing the likelihood and ease of connection for first-year students. Another opportunity here would be to incorporate instant messaging (e.g., Facebook's Messenger) into the website's support system so that students could receive one-to-one support from UBC staff, rather than scouring the website for information

DIGITAL BELONGING

they're potentially struggling to find. Changes like these put the students' experience first, ultimately supporting their sense of belonging and their overall success.

Relational Development Process

A final aspect of the online learning environment that would benefit from a deeper integration with SNSs is the relational development process that the students in this study alluded to. As students in the online environment are somewhat restricted to online spaces (especially within the restricted context of a pandemic or if the students do not live in the same area), the various mediums involved (e.g., Zoom, SNSs, the learning management system, etc.) become the facilitators of first impressions and relationship development. Whether it started with learning about someone through their online mannerisms (e.g., what they share or how they share it) or by noticing a shared interest via photos posted on Instagram, the students in this study all outlined a process through which they would recognize or vet the potential for a relationship, initiate contact, and try to develop a relationship. Moving through that process usually involved a variety of mediums, generally starting with text-only communications (e.g., commenting on a post) and progressing to an audio call or Facetime video chat, ultimately leading to an in-person interaction (i.e., the goal or best way for long-lasting relationships to develop, according to the students). This unspoken process naturally occurs within the online learning environment and would be supported by the integration of SNSs with all areas of the environment itself. For example, if the SNS profiles of students were easily found within the institution's learning management system, it would be easy for students to contact one another. Platforms such as Instagram would be very helpful in this case as its more visual nature (i.e., photo and video posts) allows students to see each other, more easily finding those with whom they have something in common (e.g., a shared

DIGITAL BELONGING

interest or personal style). Furthermore, by actively using SNSs in ways that involved and engaged students (e.g., student-facilitated Facebook live events), they could create opportunities for several positive outcomes. With an event hosted on a SNS, for example, the institution would create the opportunity for increased student interaction and, if the event was student-facilitated (i.e., increasing the likelihood that the students may find the event interesting or valuable), the institution would also be supporting the students' perceptions of and connection to the institution itself, supporting their sense of belonging. Ultimately, this integration of SNSs with the online learning environment is a way of putting the needs of the student first and, since this relational development process appears to be a natural aspect of the online context, it is an obvious area of opportunity for institutions to support the students' sense of belonging.

Conclusion

Understanding the first-year students' experience—and using that understanding as the guiding principle behind institutional decisions—is paramount in supporting the students' sense of belonging and, subsequently, their motivation, success, and overall experience with the institution. Facebook and Instagram (as well as other SNSs) can play a role in that support since they are platforms the students have widely adopted where they connect with and learn about each other, share experiences together, and remain connected to the friendships that pre-date their university experience. To fully take advantage of the opportunities for student support provided by SNSs, institutions can integrate the platforms into the online learning environment and use them in creative ways to engage with and encourage interaction among first-year students. In doing so, institutions and students alike should recognize the challenge of presence unique to the online environment and adapt accordingly. For both parties, this involves a

DIGITAL BELONGING

conscious effort to be fully present in the online interactions. For the institutions, specifically, the fundamental lack of presence in the online learning environment requires additional efforts to connect with and support the students socially and academically; support that SNSs can play a role in providing. When that support exists, students are more likely to experience a sense of belonging at the institution, leading to increased motivation, academic success, and a positive overall experience; outcomes that benefit both students and universities alike.

In considering the results of this study several limitations should be considered. First, this study focused on male, first-year students (aged 18-to-20) at a relatively large institution. The students in this study registered for in-person courses but were limited to an online experience because of the COVID-19 pandemic. This unexpected shift impacted areas of the student experience such as expectations and level of preparedness; impacts that would not normally exist for students who choose to enroll in online-only programming. This demographic choice also limited consideration of the roles played by student age, gender, and ethnicity. Additionally, the sample size was small given the size of the institution (i.e., 44 survey respondents or less than 1% of total first-year students), limiting generalization of the study's results. Second, this study relied upon retrospective, self-report data, collected from singular, rather than ongoing, interactions with the students (i.e., one survey or one interview). Finally, my experience as an online-only student during the pandemic impacted the research process. Although it supported convenient data retrieval (e.g., giving me something in common with the interviewees, guiding the survey and interview questions), it also impacted the ways in which that data was interpreted.

Future studies surrounding sense of belonging among first-year students could benefit by deviating from this study in areas of timeline and data collection, as well as demographic choice

DIGITAL BELONGING

and sample size. First, longitudinal studies with multiple data collection points over an extended period (i.e., no less than a full school year) would provide a more comprehensive look into the complex nature of belonging in the online learning environment. This type of study would likely be able to draw stronger connections between university strategies and student outcomes as well as insight into how the students' need for belonging changes over time. Also, the multiple data collection points could be reviewed for trends and patterns in responses over time, bolstering the reliability of the self-reported data itself. Second, an extended demographic and larger sample size would allow for an understanding of other factors that likely impact the students' experience and sense of belonging (e.g., gender, age, ethnicity) and allow for broader applicability. As this study was limited to 18-to-20-year-old males at a fairly large institution, its findings cannot be easily applied to different demographics and contexts. In short, the need for belonging among first-year students within the online learning environment is complex, involving an array of variables. To better understand it, future studies would benefit from a broader focus over an extended period of time, allowing for a more in-depth look at the complexities of the need and how the environment affects its fulfillment.

References

Aagaard, J. (2016). Mobile devices, interaction, and distraction: A qualitative exploration of absent presence. *Ai & Society*, *31*(2), 223–231. <https://doi.org/10.1007/s00146-015-0638->

DIGITAL BELONGING

- Aalbers, G., McNally, R. J., Heeren, A., de Wit, S., & Fried, E. I. (2019). Social media and depression symptoms: A network perspective. *Journal of Experimental Psychology: General*, *148*(8), 1454–1462. <https://doi.org/10.1037/xge0000528>
- Abeebe, M. M. P. V., Antheunis, M. L., & Schouten, A. P. (2016). The effect of mobile messaging during a conversation on impression formation and interaction quality. *Computers in Human Behavior*, *62*, 562–569. <https://doi.org/10.1016/j.chb.2016.04.005>
- Ahn, M. Y., & Davis, H. H. (2020). Four domains of students' sense of belonging to university. *Studies in Higher Education*, *45*(3), 622–634. <https://doi.org/10.1080/03075079.2018.1564902>
- Aktipis, A., Whitaker, R., & Ayers, J. D. (2020). Do smartphones create a coordination problem for face-to-face interaction? Leveraging game theory to understand and solve the smartphone dilemma. *BioEssays*, *42*(4), 1800261. <https://doi.org/10.1002/bies.201800261>
- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, *55*(5), 469–480. <https://doi.org/10.1037/0003-066X.55.5.469>
- Arnett, J. J. (2007). Emerging adulthood: What is it, and what is it good for? *Child Development Perspectives*, *1*(2), 68–73. <https://doi.org/10.1111/j.1750-8606.2007.00016.x>
- Arslan, G. (2021). Loneliness, college belongingness, subjective vitality, and psychological adjustment during coronavirus pandemic: Development of the College Belongingness Questionnaire. *Journal of Positive School Psychology*, *5*(1), 17–31. <https://doi.org/10.47602/jpsp.v5i1.240>

DIGITAL BELONGING

- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*(3), 497–529.
- Boyd, D. (2014). *It's complicated: The social lives of networked teens*. Yale University Press.
- Brown, G., Manago, A. M., & Trimble, J. E. (2016). Tempted to text: College students' mobile phone use during a face-to-face interaction with a close friend. *Emerging Adulthood*, *4*(6), 440–443. <https://doi.org/10.1177/2167696816630086>
- Bryant, J., & Oliver, M. B. (Eds.). (2009). *Media effects: Advances in theory and research* (Third Edition). Routledge.
- Campbell, S. (2008). Mobile technology and the body: Apparatus, fashion, and function. In J. E. Katz (Ed.), *Handbook of Mobile Communication Studies* (pp. 153–164). The MIT Press.
<http://mitpress.universitypressscholarship.com/view/10.7551/mitpress/9780262113120.001.0001/upso-9780262113120-chapter-12>
- Carr, N. (2010). *The shallows: How the internet is changing the way we think, read, and remember*. W. W. Norton and Company, Inc.
- CBC. (2020, May 12). *Some Canadian universities say fall classes will be offered primarily online*. <https://www.cbc.ca/news/canada/covid-universities-online-1.5565810>
- CDC. (2020, July 28). *Global COVID-19*. <https://www.cdc.gov/coronavirus/2019-ncov/global-covid-19/index.html>
- Davies, C. A. (2012). *Reflexive Ethnography: A Guide to Researching Selves and Others*. Routledge.

DIGITAL BELONGING

- Dwyer, R. J., Kushlev, K., & Dunn, E. W. (2018). Smartphone use undermines enjoyment of face-to-face social interactions. *Journal of Experimental Social Psychology, 78*, 233–239. <https://doi.org/10.1016/j.jesp.2017.10.007>
- Ellison, N. B., & Boyd, D. M. (2013). *Sociality Through Social Network Sites* (W. H. Dutton, Ed.; Vol. 1). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199589074.013.0008>
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The Benefits of Facebook “Friends:” Social Capital and College Students’ Use of Online Social Network Sites. *Journal of Computer-Mediated Communication, 12*(4), 1143–1168. <https://doi.org/10.1111/j.1083-6101.2007.00367.x>
- Fight The New Drug. (2019, November 22). *Instagram Has A “No Nudity” Policy, So Why Is There So Much Porn On The App?* <https://fightthenewdrug.org/if-instagram-strict-no-nudity-policy-but-still-porn/>
- Freeman, T. M., Anderman, L. H., & Jensen, J. M. (2007). Sense of belonging in college freshmen at the classroom and campus levels. *The Journal of Experimental Education, 75*(3), 203–220. <https://doi.org/10.3200/JEXE.75.3.203-220>
- Frenk, J. (2016). Why we need a “scholarship of belonging.” *The Chronicle of Higher Education, 62*(36), 8.
- Frison, E., & Eggermont, S. (2016). Exploring the Relationships Between Different Types of Facebook Use, Perceived Online Social Support, and Adolescents’ Depressed Mood. *Social Science Computer Review, 34*(2), 153–171. <https://doi.org/10.1177/0894439314567449>

DIGITAL BELONGING

- Gerson, J., Plagnol, A. C., & Corr, P. J. (2017). Passive and Active Facebook Use Measure (PAUM): Validation and relationship to the Reinforcement Sensitivity Theory. *Personality and Individual Differences, 117*, 81–90.
<https://doi.org/10.1016/j.paid.2017.05.034>
- Gopalan, M., & Brady, S. T. (2020). College Students' Sense of Belonging: A National Perspective. *Educational Researcher, 49*(2), 134–137.
<https://doi.org/10.3102/0013189X19897622>
- Government of British Columbia. (2020, September 8). *Phase 3—BC's Restart Plan*.
<https://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/covid-19-provincial-support/phase-3>
- Government of Canada. (2020, August 10). *Coronavirus disease (COVID-19): Canada's response*. <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/canadas-reponse.html>
- Gruzd, A., & Mai, P. (2020). *The state of social media in Canada 2020* (Version 5). Ryerson University Social Media Lab. <http://dx.doi.org/10.2139/ssrn.3651206>
- Hoffman, M., Richmond, J., Morrow, J., & Salomone, K. (2002). Investigating “Sense of Belonging” in First-Year College Students. *Journal of College Student Retention: Research, Theory & Practice, 4*(3), 227–256. <https://doi.org/10.2190/DRYC-CXQ9-JQ8V-HT4V>
- Joiner, R., Stewart, C., & Beaney, C. (2015). Gender digital divide. In *The Wiley handbook of psychology, technology, and society*. (pp. 74–88). John Wiley & Sons.

DIGITAL BELONGING

- Kellerman, A. (2014). The satisfaction of human needs in physical and virtual spaces. *The Professional Geographer*, 66(4), 538–546.
<https://doi.org/10.1080/00330124.2013.848760>
- Kuh, G. D., Buckely, J. A., Bridges, B. K., Kinzie, J., & Hayek, J. C. (n.d.). *Piecing Together the Student Success Puzzle: Research, Propositions, and Recommendations: ASHE Higher Education Report*. (Vol. 116). John Wiley & Sons.
- Kushlev, K., Dwyer, R., & Dunn, E. W. (2019). The social price of constant connectivity: Smartphones impose subtle costs on well-being. *Current Directions in Psychological Science*, 28(4), 347–352. <https://doi.org/10.1177/0963721419847200>
- Kushlev, K., Hunter, J. F., Proulx, J., Pressman, S. D., & Dunn, E. (2019). Smartphones reduce smiles between strangers. *Computers in Human Behavior*, 91, 12–16.
<https://doi.org/10.1016/j.chb.2018.09.023>
- Layous, K., Davis, E. M., Garcia, J., Purdie-Vaughns, V., Cook, J. E., & Cohen, G. L. (2017). Feeling left out, but affirmed: Protecting against the negative effects of low belonging in college. *Journal of Experimental Social Psychology*, 69, 227–231.
<https://doi.org/10.1016/j.jesp.2016.09.008>
- Lombard, M., & Ditton, T. (2006). At the Heart of It All: The Concept of Presence. *Journal of Computer-Mediated Communication*, 3(2), 0–0. <https://doi.org/10.1111/j.1083-6101.1997.tb00072.x>
- Mäntymäki, M., & Islam, A. K. M. N. (2016). The Janus face of Facebook: Positive and negative sides of social networking site use. *Computers in Human Behavior*, 61, 14–26.
<https://doi.org/10.1016/j.chb.2016.02.078>

DIGITAL BELONGING

- Markel, J. M., & Guo, P. J. (2020). *Designing the Future of Experiential Learning Environments for a Post-COVID World: A Preliminary Case Study*.
- Merrigan, G., Huston, C. L., & Johnston, R. (2012). *Communication research methods* (Canadian Edition). Oxford University Press.
- Mooney, C., & Becker, B. A. (2021). Investigating the Impact of the COVID-19 Pandemic on Computing Students' Sense of Belonging. *ACM Inroads*, 12(2), 38–45.
<https://doi.org/10.1145/3463408>
- Morahan-Martin, J., & Schumacher, P. (2000). Incidence and correlates of pathological Internet use among college students. *Computers in Human Behavior*, 16(1), 13–29.
[https://doi.org/10.1016/S0747-5632\(99\)00049-7](https://doi.org/10.1016/S0747-5632(99)00049-7)
- Over, H. (2016). The origins of belonging: Social motivation in infants and young children. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 371(1686).
<https://doi.org/10.1098/rstb.2015.0072>
- Palfrey, J. G., & Gasser, U. (2008). *Born digital: Understanding the first generation of digital natives*. Basic Books.
- Parent, M. C., Gobble, T. D., & Rochlen, A. (2019). Social media behavior, toxic masculinity, and depression. *Psychology of Men & Masculinities*, 20(3), 277–287.
<https://doi.org/10.1037/men0000156>
- Parkin, A., & Baldwin, N. (2009). Persistence in Post-Secondary Education in Canada: The Latest Research. *Canada Millennium Scholarship Foundation*, 17.
- Patel, V. (2020). Covid-19 Is a Pivotal Moment for Struggling Students. Can Colleges Step Up? *Chronicle of Higher Education*, 66(27).

DIGITAL BELONGING

- Peper, E., Wilson, V., Martin, M., Rosegard, E., & Harvey, R. (2021). Avoid Zoom Fatigue, Be Present and Learn. *NeuroRegulation*, 8(1), 47–56. <https://doi.org/10.15540/nr.8.1.47>
- Raacke, J., & Bonds-Raacke, J. (2015). Are students really connected? Predicting college adjustment from social network usage. *Educational Psychology*, 35(7), 819–834. <https://doi.org/10.1080/01443410.2013.814195>
- Rainie, H., & Wellman, B. (2012). *Networked: The new social operating system*. MIT Press.
- Srivastava, L. (2005a). Mobile phones and the evolution of social behaviour. *Behaviour & Information Technology*, 24(2), 111–129. <https://doi.org/10.1080/01449290512331321910>
- Srivastava, L. (2005b). Mobile phones and the evolution of social behaviour. *Behaviour & Information Technology*, 24(2), 111–129. <https://doi.org/10.1080/01449290512331321910>
- Steers, M.-L. N. (2016). ‘It’s complicated’: Facebook’s relationship with the need to belong and depression. *Current Opinion in Psychology*, 9, 22–26. <https://doi.org/10.1016/j.copsyc.2015.10.007>
- Strayhorn, T. L. (2018). *College students’ sense of belonging: A key to educational success for all students*. Routledge.
- Struthers, W. M. (2009). *Wired for intimacy: How pornography hijacks the male brain*. IVP Books.
- Sun, S., Rubin, A. M., & Haridakis, P. M. (2008). The role of motivation and media involvement in explaining Internet dependency. *Journal of Broadcasting and Electronic Media*, 52(3), 408–431.

DIGITAL BELONGING

- Swanson, J. A., & Walker, E. (2015). Academic versus non-academic emerging adult college student technology use. *Technology, Knowledge and Learning, 20*(2), 147–158. <https://doi.org/10.1007/s10758-015-9258-4>
- Taormina, R. J., & Gao, J. H. (2013). Maslow and the motivation hierarchy: Measuring satisfaction of the needs. *The American Journal of Psychology, 126*(2), 155. <https://doi.org/10.5406/amerjpsyc.126.2.0155>
- Tice, D., Baumeister, R., University of Queensland, Australia, Crawford, J., University of Tasmania, Australia, Allen, K.-A., Monash University, Australia, Percy, A., & University of Technology Sydney, Australia. (2021). Student belongingness in higher education: Lessons for Professors from the COVID-19 pandemic. *Journal of University Teaching and Learning Practice, 18*(4), 8–20. <https://doi.org/10.53761/1.18.4.2>
- Tinto, V. (1999). Taking retention seriously: Rethinking the first year of college. *NACADA Journal, 19*(2), 5–9. <https://doi.org/10.12930/0271-9517-19.2.5>
- Tinto, V. (2017). Through the eyes of students. *Journal of College Student Retention: Research, Theory & Practice, 19*(3), 254–269. <https://doi.org/10.1177/1521025115621917>
- Turkle, S. (2011). *Alone together: Why we expect more from technology and less from each other*. Basic Books.
- Turkle, S. (2015). *Reclaiming conversation: The power of talk in a digital age*. Penguin Press.
- University of British Columbia. (n.d.). *Jump Start at UBC Vancouver*. <https://you.ubc.ca/jump-start-vancouver/>

DIGITAL BELONGING

- University of British Columbia. (2017, June 8). *UBC selects Canvas as replacement for Blackboard Learn (Connect)*. <https://academic.ubc.ca/academic-community/news-announcements/news/ubc-selects-canvas-replacement-blackboard-learn-connect>
- Verduyn, P., Lee, D. S., Park, J., Shablack, H., Orvell, A., Bayer, J., Ybarra, O., Jonides, J., & Kross, E. (2015). Passive Facebook usage undermines affective well-being: Experimental and longitudinal evidence. *Journal of Experimental Psychology: General*, *144*(2), 480–488. <https://doi.org/10.1037/xge0000057>
- Verduyn, P., Ybarra, O., Résibois, M., Jonides, J., & Kross, E. (2017). Do social network sites enhance or undermine subjective well-being? A critical review. *Social Issues and Policy Review*, *11*(1), 274–302. <https://doi.org/10.1111/sipr.12033>
- Vincent, E. A. (2016). Social media as an avenue to achieving sense of belonging among college students. *Vistas Online*, 1–14.
- Williams, A. L., & Merten, M. J. (2008). A review of online social networking profiles by adolescents: Implications for future research and intervention. *Adolescence*, *43*(170), 253–274.
- Yang, C., Holden, S. M., & Carter, M. D. K. (2018). Social media social comparison of ability (but not opinion) predicts lower identity clarity: Identity processing style as a mediator. *Journal of Youth and Adolescence*, *47*(10), 2114–2128. <https://doi.org/10.1007/s10964-017-0801-6>

DIGITAL BELONGING

Appendix A

1. Do you identify as male?
 - a. Yes
 - b. No

2. Are you between the ages of 18 and 20?
 - a. Yes
 - b. No

3. Do you have a Facebook or Instagram account?
 - a. Yes
 - b. No

4. Do you consent to have your responses included in the research project entitled 'Digital Belonging'?
 - a. Yes
 - b. No

5. What faculty or school is your program apart of?

6. Do you live on campus?
 - a. Yes
 - b. No

7. How far away from the campus do you live?
 - a. Less than 10 minutes of travel
 - b. 10-30 minutes travel
 - c. 31-60 minutes travel
 - d. More than 60 minutes of travel

8. Do you participate in any UBC-related extracurricular activities or clubs?
 - a. Yes
 - b. No

DIGITAL BELONGING

9. How many UBC-related extracurricular activities or clubs do you participate in?
 - a. 1
 - b. 2
 - c. 3
 - d. More than 3

10. Do you have a Facebook account?
 - a. Yes
 - b. No

11. How much time do you spend per day on Facebook?
 - a. Less than 30 minutes
 - b. 30-60 minutes
 - c. 61-90 minutes
 - d. 91-120 minutes
 - e. More than 120 minutes

12. Do you 'Like' UBC's main Facebook page? (i.e., facebook.com/universityofbc)
 - a. Yes
 - b. No

13. Outside of UBC's main Facebook page, are there any other pages or groups related to UBC that you 'Like' or are a member of?
 - a. Yes
 - b. No

14. Please list the UBC-related Facebook pages or groups that you can think of (i.e., only those that you like or are apart of).

15. Do you have an Instagram account?
 - a. Yes
 - b. No

16. How much time do you spend per day on Instagram?
 - a. Less than 30 minutes
 - b. 30-60 minutes
 - c. 61-90 minutes
 - d. 91-120 minutes
 - e. More than 120 minutes

17. Do you follow UBC's main Instagram account? (i.e., instagram.com/universityofbc)
 - a. Yes

DIGITAL BELONGING

- b. No
18. Outside of UBC's main Instagram profile, are there any others related to UBC that you follow?
- a. Yes
 - b. No
19. Please list the UBC-related Instagram profiles that you can think of (i.e., only those that you follow).
20. Please indicate which of the following devices you own.
- a. Laptop computer
 - b. Tablet
 - c. Desktop computer
 - d. Smartphone
 - e. I don't own any of these
21. Of the devices you own, which one do you use the most to access Facebook or Instagram?
- a. Laptop computer
 - b. Tablet
 - c. Desktop computer
 - d. Smartphone
22. Of the devices you own, which one do you use the most to access UBC content or complete your course-related work?
- a. Laptop computer
 - b. Tablet
 - c. Desktop computer
 - d. Smartphone
23. On average, how much time do you spend per day on your {answer from Q21}?
- a. Less than 30 minutes
 - b. 30-60 minutes
 - c. 61-90 minutes
 - d. 91-120 minutes
 - e. More than 120 minutes
24. On average, how much time do you spend per day on your {device from Q22}?
- a. Less than 30 minutes
 - b. 30-60 minutes
 - c. 61-90 minutes
 - d. 91-120 minutes

DIGITAL BELONGING

- e. More than 120 minutes

25. How frequently do you perform the following activities when you are on Facebook or Instagram?

[Options include 30 minutes, 31-60 minutes, 61-90 minutes, 91-120 minutes, more than 120 minutes]

- a. Posting to my profile
- b. Commenting on posts
- c. Chatting in direct messages
- d. Tagging people in photos or videos
- e. Looking at friends' profiles
- f. Scrolling through the feed without commenting
- g. Watching videos
- h. Looking at profiles of people I don't know

26. Please indicate your opinion on the following statements.

[Options include strongly disagree, disagree, neither agree nor disagree, agree, strongly agree]

- a. Overall, I am satisfied with my life
- b. I feel a sense of belonging at UBC
- c. I can talk to an instructor if I have a problem
- d. My instructors are supportive
- e. I can talk to fellow students if I have a problem
- f. My fellow students are supportive
- g. I am satisfied with my university experience
- h. My program meets my expectations
- i. I am satisfied with the amount and quality of my friendships
- j. I feel motivated to succeed academically
- k. I am satisfied with my GPA

27. There are many factors that play into a person's sense of belonging. For example, I feel like I belong at work because my co-workers are helpful and friendly (so I would link 'co-workers' to my sense of belonging at work). Please write up to 10 words that come to mind when you think about your sense of belonging at UBC.

28. Are you interested in sharing more about your experience via an interview?