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It's a Touchy Subject: How Connection is (Re)Imagined in a Global Pandemic

Brittani Klindworth

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Brittani Klindworth

Communication Studies Department, University of Portland

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Abstract

The Coronavirus pandemic presents a unique and unavoidable context to study haptic communication because of the ways that individuals have adapted to this new reality and how haptic, or touch, behaviors pose health and safety concerns. Touch has major benefits that influence individuals in physiological and psychological ways (e.g. increased self-value and relationship quality) that are felt both immediately and well into their future. At a time when touch seems most needed yet discouraged, there is concern that the lack of touch will cause both physiological and psychological impairments as the literature shows. This makes this time, specifically, a crucial moment and calls us to expand haptic communication research on the effects of the lack of touch and its influence on an individual's well-being and communicative ability. Therefore, guided by the discouraged nature and new hypersensitivity of touch, this study aims to establish an understanding of the ways touch has changed within a novel context, learn how individuals are fulfilling their need for connection, and interpret how they have been navigating the "lack of touch" reality of a global pandemic. Results showed that the use of touch had experienced significant change based on a new negative perception of the form of communication, heightened awareness of comfortability and interaction partners, and spurred the development of both successful and unsuccessful compensating connective behaviors.

Introduction

For many people, a hug, high-five, or reassuring touch on the shoulder from someone they are close to is a powerful and potentially positive message of support and connection. These physical "touch points" may serve as both short-term connections as well as have a cumulative effect over time. However, in the midst of a global pandemic where touch is not only discouraged but also a means by which an individual's health can be compromised, the potential power and positive benefits of physical connection and touch appear to be less available. The Coronavirus, or COVID-19, pandemic has affected individuals, communities, and countries in countless ways and, in response, new methods of navigating the world have developed. People have quickly adapted to the new language, routines, and guidelines that have been provided by government agencies, local directives, and personal experiences (De Klerk, 2020). Gone are the familiar "touch points" as people navigate the challenges of communicating and connecting at this time.

Facial masks and physical distancing are among the many new practices that guide day-to-day interactions. It is not shocking that many were able to adapt so quickly as when a person's health or safety is threatened, a natural response is to minimize that threat (Katila, Gan, & Goodwin, 2020). Despite the many changes and challenges, humans continue to seek opportunities to connect with others. Humans are, by nature, social creatures and strive for connection in varying degrees. Research from a variety of disciplines and perspective show evidence that a central aspect of social interactions is touch (Katila, Gan, & Goodwin, 2020; Kinnunen & Kolehmainen, 2019; Suvilehto, Glerean, Dunbar, Har, & Nummenmaa, 2015). It is an intimate form of communication that indicates proximity and suggests closeness (Jakubiak & Feeney, 2019). Touch is not only a fundamental tool for understanding our surrounding world

but also a powerful form of nonverbal communication and method for managing interpersonal relationships.

While powerful, touch or haptic communication, has an ambiguous nature, and, therefore, it can be easily misunderstood and be interpreted negatively. However, while this study acknowledges that touch can be used in negative ways (e.g., enforcing power dynamics, harassment, sexual assault), the positive use and implications haptic communication behaviors and their role within interpersonal connection will remain at the forefront of this study. The physiological and psychological effects of touch support it being one of the most powerful ways to convey messages. Now, we are seemingly without that method of communication, or, at least, strongly discouraged from utilizing it. The power of human-human touch has been seen and measured down to our biological level. Many scientists argue that we are wired for touch and benefits are felt both immediately and later in life (Ebisch, Ferri, Romani, & Gallese, 2014; Saunders, Riesel, Klawohn, & Inzlicht, 2018; Strauss, et al., 2019) and this has been linked to stronger neural activity, decreased stress, increased emotional well-being, and increased cognitive control. The closer the relationship, the more positive the effects of touch are typically for an individual (Bebler, Bendas, Sailer, & Croy, 2020). In conjunction with the benefits of touch, there is evidence that the lack of touch is linked to negative trends in adulthood especially related to mental health and decreased well-being (Bebler, Bendas, Sailer, & Croy, 2020; Jakubiak & Feeney, 2019). At a time when a hug, high five, reassuring touch and other forms of touch seem most needed, individuals ideally are adjusting their communication and haptic practices, behaviors, and preferences in order to still meet or satisfy their needs of social connection.

Prior to this time of adjustment, it was rare in research to consider the materialistic aspect of the human body and how it influences our communication practices and behaviors (Katila, Gan, & Goodwin, 2020). With the current heightened health and safety concerns, it is unavoidable. Touch, with its implied proximity and intimacy, has a never-before experienced sense of danger and can increase those concerns. Now individuals are having to reinvent or reimagine how they connect through touch as their usual and familiar methods of doing so (e.g., hugs and high fives) have now been deemed "unsafe."

Haptic communication, in particular, is not a highly researched field; however, the research has been expanding (Gallace & Spence, 2010). Contexts including education, medical, and marketing have been major foci of haptic communication and its benefits in these respective contexts. The new context of a global pandemic presents both a unique and unavoidable context and area of exploration for haptic communication researchers. Research has established several positive effects of touch and haptic behavior and highlights the negative effects of the lack of touch (e.g., negative mental health and general impairments in well-being). In a new pandemic-centered and extremely touch-sensitive reality, understanding how individuals are navigating this new reality and adapting their communication and haptic practices, behavior, and preferences is the focus of this study.

The "sender" will be at the center of that focus and the study will analyze how that individual (sender) is leveraging (or not) haptics during the Coronavirus pandemic. This research project will analyze how individuals' communicative behaviors have been influenced by the restrictions of a global pandemic and how they are engaging in connective touch whether that is in familiar or innovative ways. Undergraduate students, graduate students, and professional live-in staff members at a liberal arts university located in the Pacific Northwest were asked to

complete an online survey. Survey will include both quantitative- and qualitative-based questions that will focus on the individual's personal preferences and haptic behaviors.

Literature Review

Foundations of Haptic Communication

Human skin, which contains all the necessary connections, wiring, and sensors for touch communication, covers humans from their earliest days and throughout adulthood. Through our skin and the connection of touch, people begin to communicate and interact with the world. Touch is the first "input" of information about the world, people, and individual interactions with both (Punyanunt-Carter & Wrench, 2009). Some researchers conclude that, hypothetically, touch, as a form of communication, predates verbal language and, therefore, is arguably the most fundamental tool that humans possess (Bebler, Bendas, Sailer, & Croy, 2020). While research uses their own phrasing, there is clear evidence regarding the importance and the power that touch plays in the lives of the human being.

Despite its importance and power, as a form of nonverbal communication, touch is often overlooked and taken for granted. Most of the tactile behaviors that we enact throughout our daily interactions are done subconsciously (Kinnunen & Kolehmainen, 2019). While its power is not fully understood, touch is recognized as an effective and stronger form of communication compared to its verbal counterpart (Gallace & Spence, 2010; Manusov & Patterson, 2006). Touch effectively communicates affection, closeness, and a variety of other emotions (Burgoon, 2009; Saunders, Riesel, Klawohn, & Inzlicht, 2018; Webb & Peck, 2015). Effectively communicating such emotions through affectionate (or non-threatening) touch promotes close contact, social and emotional development, collaboration, and reproduction of social practices (Ebisch, Ferri, Romani, & Gallese, 2014). This reflects the understanding that we were built to

connect with others through touch and, similar to other forms of communication, that connection is assessed and managed based on a variety of variables.

To understand the several influential variables of touch, two concepts—equifinality and equipotentiality—are important to keep in mind. These two concepts were defined by Hertenstein & Weiss (2011) and refer to the ideas that the same touch message can be conveyed in different ways and the same touch behavior can be assigned different meanings depending on intent and context, respectively. That method, meaning, and even frequency of touch can be influenced by the gender, relationship status, preferences, interaction partner, and context that the initiator and receiver find themselves a part of (Bebler, Bendas, Sailer, & Croy, 2020; Gallace & Spence, 2010; Hertenstein & Keltner, 2011). These variables are at the center of social interaction, and touch has been shown to be essential to the maintenance of an individual's well-being and relationships. For purposes of this study, the immediacy and intimate nature of touch and importance of contextual factors will be the focal variables.

Immediacy and Intimacy of Touch

In the works of Montagu (1971), he emphasizes that an individual cannot touch without being touched themselves. This phrase highlights the immediate nature of haptic communication. Whether it is physical or psychological, research consistently shows that touch is a potent behavior that affects our well-being down to a biological and neurological level. For example, one study showed that interpersonal touch triggers the release of oxytocin which is known to produce positive feelings (e.g. warmth, love) (Hertenstein & Weiss, 2011, p. 353). Additionally, through fMRI scans, interpersonal touch has been shown to trigger strong neural activity, somatosensory processes, and influence cognitive control (Ebisch, Ferri, Romani, & Gallese, 2014; Saunders, Riesel, Klawohn, & Inzlicht, 2018). Each of these studies emphasize the idea

that humans are wired with the necessary receptor systems and innate capacity to understanding touch (Keshmiri, Shiomi, Sumioka, Minato, & Ishiguro, 2020; Strauss, et al., 2019). Touch is not simply a form of nonverbal communication, it is an embodied, physical experience and a tool we were designed to use.

People use touch and consult it as a communication channel frequently for purposes of connection so they can manage their social relationships. As briefly highlighted earlier, certain aspects of a relationship influence touch behaviors. This influence is felt both ways—by sender and initiator—as touch is bidirectional in nature (Hertenstein & Weiss, 2011, p. 301). Touch behaviors are considered the most immediate because it involves the reduction of interpersonal distance or close proximity between the sender and initiator (Andersen, 2009). The immediacy of touch is built on the elements of proximity and intimacy—two principles that touch indicates (Jakubiak & Feeney, 2019). For touch to occur, the involved individuals must be in close contact physically, and such behavior suggests that the sender and receiver have a more intimate relationship compared to others. While there are different types of intimacy (e.g. close, imposed, and functional), within low-contact cultures, like in North America, touch is reserved for the most close relationships and the continued maintenance such relationships (Gallace & Spence, 2010; Jakubiak & Feeney, 2019; Schroeder, Fishbach, Schein, & Gray, 2017). This further explains the dual nature of touch: this closeness can be defined as both physically (i.e., reduced physical distance) and psychologically (i.e., emotional connection).

Furthermore, emotional closeness with an interaction partner determines the area of a person's body is allowed to be touched: the higher the emotional connection, the higher total body area allowed (Bebler, Bendas, Sailer, & Croy, 2020). The intimate and physical nature of this form of communication was defined as "intercorporeality" by Merleau-Ponty (1968) to

explain that nature of haptic communication. Intercorporeality emphasizes the innate nature within us and how we seek out ways to connect and co-exist with others.

Humans are social creatures at the core and touch is vital to that human socializing and bonding. In recent studies, it has been theorized and shown that touch and relationship quality are correlated which further emphasizes that affectionate touch supports connection (Enfield, 2009; Jakubiak & Feeney, 2019; Lapp & Croy, 2020). Fulkerson (2012) expands on that relationship to say that touch is not simply a "contact sense" but a "connection sense." It is more than the physical experience and is a form of tacit body symbolism that enables us to manage the variety of relationships in our lives intimately and effectively. As previously stated, touch is a physical, immediate, and intimate form of communication that can be influenced by any number of internal and external variables. It is a potent tool for physiological and psychological well-being. However, when the health and safety of an individual is threatened, the minimizing of that threat takes priority.

Pandemic Context

The Coronavirus, or COVID-19, pandemic has influenced the world and people in a variety of ways. Society and social rules were rather quickly restructured to accommodate the new reality (De Klerk, 2020; Katila, Gan, & Goodwin, 2020). The vehicle of touch is our body and the body's material nature make it vulnerable to the virus. Touch and other bodily interactions have become discouraged and restricted in order to protect the materialistic nature of our body. Within previous research, it is uncommon for the body's materiality to be considered. However, given recent events, researchers have begun to incorporate this consideration into their work; especially in regard to communication and social interactions (Katila, Gan, & Goodwin,

2020). This new context has prompted new abilities, behaviors, and interactional norms to be developed.

When a novel context or situation is engaged in, a person relies on preexisting experiences and behaviors to navigate (Lazarus & Folkman, 1984). However, the new restrictions and social norms do not encourage nor allow people to rely on familiar touch behaviors to convey messages and maintain their relationships in the same ways. In order to still meet the physiological and psychological needs, familiar and preexisting haptic communication behaviors would need to be adapted. According to Interaction Adaption Theory, people feel pressured to adapt to each other in social interactions based on consistency and awareness of the behavior of the other person (Hubbard, 2009). For example, if a person who was previously comfortable receiving a hug is no longer comfortable with that type of haptic behavior and communicates that preference either verbally or nonverbally, the initiator would adapt and not perform the hug behavior in future interactions. The same theory also concludes that we tend to seek synchronicity with others on a biological level except when safety becomes concern.

Safety concerns during the time of COVID pose the biggest challenge our natural response. When adults experience a threat or heighten concern, the natural human response is to seek closeness with others. Seeking proximity and support during times of stress is instinctive and has been shown to effectively reduce stress, enhance self-esteem, and promote feelings of ability to overcome the stressor (Jakubiak & Feeney, 2019). However, now when someone attempts to enact a form of haptic behavior, they are more likely to be encounter resistance, refusal, and/or apologies (Katila, Gan, & Goodwin, 2020). Touch is decreasing in use and while the power of touch is clear, the consequences of the lack of touch are not.

If haptic communication and touch is not a highly researched topic, the research on the lack of it is even less. What research does suggest is that even pre-pandemic, people were experiencing touch deprivation (Gallace & Spence, 2010). Touch deprivation is defined as the mismatch between perceived touch longing and frequency of touch that occurs in a person's life. The more the individual feels that they are deprived of interpersonal touch, the more they long for it (Punyanunt-Carter & Wrench, 2009). In general, previous haptic communication research reports that there are gender differences in initiation, receiving, and perception of touch (Guerrero & Andersen, 1994; Hertenstein & Keltner, 2011; Lewis, et al., 1995). However, in the case of longing for touch, there are no gender differences: both women and men report similar longing for touch (Bebler, Bendas, Sailer, & Croy, 2020). Further research suggests that, from a psychological perspective, the lack of touch is related to increased depression, decreased self-esteem, aggression, and communication problems (Bebler, Bendas, Sailer, & Croy, 2020; Punyanunt-Carter & Wrench, 2009). Therefore, in order to maintain their well-being and relationships, it is not surprising that an individual's desire for touch heavily influences behavior (Strauss, et al., 2019).

Tahhan (2013) offers some hope as he redefines touch beyond the assumed and familiar physical sense and that there are ways to "touch in depth" without violating physical restrictions. In a recent study, researchers observed how interaction partners would engage in distant intimacy (e.g. waves, gestures, video calls) when touch was not available (Katila, Gan, & Goodwin, 2020). That particular study suggested that new behaviors and practices appear to be embodying the concept of touching at depth in order to share affection, connection, and other messages commonly associated with haptic behaviors and touch. However, that study was conducted early during the pandemic. Since then, restrictions have gotten stricter, and people have likely become

both more hyperaware and restless. It will interesting to see if people have continued to rely on "touch at depth" based and new behaviors or reverted back to the familiar and traditional uses of touch. This study will aim to understand how people are navigating touch within a context that discourages that very behavior.

Present Study

This research study is built on the strong link between the material nature of our bodies and the connection that we communicate in our lives through touch. Among the several methods of communicating, haptic or touch communication is an overlooked form both in our daily interactions and within communication research. Much of our haptic communication is conducted and interpreted subconsciously so its effects are not always apparent (Kinnunen & Kolehmainen, 2019). However, its influence is immediate and lasting. The physicality of touch, specifically, is important early and later in life as it promotes positive connection at critical points in a person's development (Bobby, 2014; Gallace & Spence, 2010; Thrasher & Grossman, 2019). Haptic or touch communication is an important form of interaction with the world and with others that is innate and familiar and fits well with our social nature. However, in the current novel and unavoidable context of a pandemic, these familiar behaviors are not the most reliable nor the safest. This makes expanding the field of haptic communication, specifically in regard to this new context, even more important. Therefore, this study aims to analyze the way that a global pandemic has shaped the way that touch has been utilized to connect with others both in physical and non-physical manners from the perspective of individuals who live in close community.

The community of university residence halls, dormitories, or other university-owned housing options, presents students a unique opportunity to be away from home and live, grow,

and connect with their peers. The particular population that will be analyzed in this study will include a high number of first-year college students. While college is hallmarked by increased independence for all students, first-year students are particularly vulnerable to the stressors of that transition towards independence (Burke, Ruppel, & Dinsmore, 2016). As they adapt and adjust to their new environment, students rely on friendships and other peer relationships as those are the people who are on the same journey through college and can easily relate to the challenges that they face daily (McEwan & Guerrero, 2012). Touch, as the literature shows, supports both coping with stress and relational maintenance. Therefore, it will be interesting to see how individuals in a community-based setting have reimagined their haptic behaviors in order to meet their needs while be restricted in many ways by a pandemic.

In some ways, all these restrictions have created a sort of irony related to touch: the very thing that has been shown to promote positive well-being and health is the very thing that can compromise our health and the health of others. The previously unquestionable habit of positive touch is now being questioned and discouraged in the midst of a pandemic. However, given individual preferences, engagement with touch will likely still vary from person to person. This likelihood poses the first research question:

RQ1: How has the perception of touch changed within the context of the current Coronavirus pandemic?

Previous research emphasizes that perception of touch behaviors is highly subjective, influential, and contextual (Dolin & Booth-Butterfield, 1993; Hall, 1996; Kelly, et al., 2020). Understanding the perception of its use will guide this study to focus on and analyze specific haptic behaviors and their respective uses and poses the next research questions:

RQ2: Given the challenges of COVID-19 imposes on touch, how have individuals reported engaging in touch?

Despite the restrictions that this global pandemic has caused, the use of touch behaviors will depend on individual preferences and relationship types even within this context. Ideally, individuals have adapted their communication behaviors within the guidelines of restrictions that many communities have put in place and thus leads to the last research question:

RQ3: How have individuals re-imagined their connective touch behaviors to accommodate the new restrictions of the pandemic?

It is natural for people, especially when their health is threatened, to adapt their behavior, but specifically how they have done so in this pandemic has yet to be fully explored (Fry & Prentice-Dunn, 2005; Katila, Gan, & Goodwin, 2020). The study conducted by Katila, Gan, and Goodwin (2020) builds off previous research on the use of haptic communication as crucial to the maintenance of relationships and applies to the context of the pandemic. This present study will expand on haptic communication within that context as the pandemic has continued to develop since that study was conducted and analyze the possible ill-effects of not being able to engage in haptic behaviors for the third research question.

Methods

This study proposed a mixed method consisting of an online survey that contained measures, scales, and opened-end questions followed by quantitative and qualitative analysis including *t*-tests, correlations, and axial and content analyses. Both quantitative and qualitative methods were included in this study in order to promote a rich and holistic understanding of the participants' experiences. The measures and scales provided a way to quantify the changes

related to the use of touch while the qualitative responses complimented the quantitative tests and understandings by providing personal depth from participant experiences.

Participants

Participants consisted of 18-years and older members living in university-owned housing at a mid-sized liberal arts university in the Pacific Northwest, including undergraduate students, graduate students, and live-in professional staff members (N = 915), where many of the community members were expected to participate in surveillance COVID testing and to follow COVID-specific policies (e.g., mask wearing while on campus, no visiting other halls). Participants were recruited through a standardized recruitment email available through university residence life department (see Appendix A for letter of support for access to this complete email list) and through follow-up emails to remind for participation. Data collection began at the start of the spring semester in March 2021 through an online survey. Of the 915 students and professional staff, 177 of them responded (approximately a 19% response rate).

At the end of the data collection period, 177 responses were recorded. Some surveys were not fully completed, and, in order to have as many of the scale scores included in the analysis, any survey that was less than 75% completed was excluded from analysis. Of the remaining 111 responses, some data was recorded as missing data for relevant tests.

Of the 111 participants, 47 are first-years (42.7%), 28 are sophomores (25.5%), 15 are juniors (13.6%), 13 are seniors (11.8%), 4 are graduate students (3.6%), and 3 are professional live-in staff members (2.7%). One participant did not indicate university classification. 22 identified as male (19.8%), 84 identified as female (75.7%), 3 identified as nonbinary (2.7%), 1 identified as other (0.9%), and 1 participant preferred not to answer (0.9%). 80 identified as Caucasian (72.1%), 6 as Latino or Hispanic (5.4%), 10 as Asian (9.0%), 3 as Native Hawaiian or

Pacific Islander (2.7%), 9 identified as two or more (8.1%), 1 indicated other (0.9%), and 2 participants preferred not to answer (1.8%). See Table 1.

Procedure

Given the health and safety concerns related to this research and current circumstances, all communication was conducted virtually through the use of online methods. Communication regarding participation and scheduling interviews was conducted through email using the university provided emails from the roster provided by the university's housing department. And survey was conducted through the Qualtrics online platform and link was included in each email to participants.

This research project utilized purposeful convenience sampling in order to understand and analyze how haptic communication is being used during a global pandemic. A complete roster of all current students living in university-owned housing at the university for the spring 2021 semester was created including undergraduate students, graduate students, and live-in professional staff. An email invitation with information regarding project details, participation, and online survey was sent to all individuals on the roster in a blind batch email at the beginning of the semester in early March (see Appendix B). Survey responses were collected for approximately three weeks. To promote project and survey completion, reminder emails were sent in the same manner (a blind batch email to individuals on roster) approximately halfway through and in the final days leading up to the end of the data collection period. At the end of the data collection period, the online survey was closed and all responses—both completed and in-progress—were saved as is.

Each participant was asked to complete the same online survey with all questions in the same standard order. Survey responses were anonymous and no identifying information was collected. See below for full overview of materials that were used for this research project.

Materials

Participants were asked to complete a 15-minute survey created on Qualtrics that was optimized for both computer and smartphone displays. Survey contained a series of Likert-scale, open-ended questions, and demographic questions that collected no identifying information. When participants first began the survey, they were asked to read a paragraph about informed consent (see Appendix C) and indicated their participation if they clicked the "next" arrow.

Online Survey

Each participant was asked to complete a self-report online survey that takes approximately 15 minutes to complete. Participants were first asked to complete the Touch Deprivation Scale and then the CIT Scale (Punyanunt-Carter & Wrench, 2009; Webb & Peck, 2015). Following those measures, participants were asked a set of Likert questions to measure their haptic or touch behavior engagement and how those behaviors have been re-imagined during the COVID-19 pandemic. See Appendix D for complete interview form.

Online Survey Measures

Within the online survey, see Appendix D, each participant was asked to complete two self-report measures—the Touch Deprivation Scale (TDS) and the Comfort with Interpersonal Touch (CIT) Scale—to assess their current perception and preferences of haptic behaviors (Punyanunt-Carter & Wrench, 2009; Webb & Peck, 2015). The TDS was designed and included to specifically measure to what degree a participant perceived the lack of haptic communication or touch in their lives (Punyanunt-Carter & Wrench, 2009). The CIT Scale was designed and

included to measure tendencies and preferences of the individual participants related to the degree which they were comfortable with intentional touch (Webb & Peck, 2015). These scores for both scales—TDS and CIT Scale—would later be compared to previous research in order to set a baseline of how the current Coronavirus pandemic influenced the participants.

The Touch Deprivation Scale (TDS) was used to measure current perception of the absence of and longing for touch for each participant. The original scale consists of 16 statements that are organized by absence of touch, longing for touch, and touch through sexual contact. For the purpose of this study, the 8 statements for measuring absence of touch and the four statements measuring longing for touch were included, and the four statements measuring touch through sexual contact were excluded. The revised TDS is a 12-item measure that asked participants to use a 5-point Likert scale (strongly disagree to strongly agree) to rate their agreement to a variety of statements including "I receive a normal, healthy amount. Of touch from people," "I often go for days without being touched by someone," and "I often wish I could get more hugs from others" (Punyanunt-Carter & Wrench, 2009). For absence of touch, the lower the score the more the participant perceives touch as absent from their lives. For longing for touch, the higher the score the more the more the participant longs for touch in their lives. For the purpose of this study, TDS scores were calculated by summing the responses from the appropriate statements and then averaging them to put them back in the same 1 to 5 scale. The TDS has been shown to have good reliability and validity including factorial, predictive, and criterion (Punyanunt-Carter & Wrench, 2009).

The Comfort with Interpersonal Touch (CIT) Scale was used to measure current touch preferences of each participant; specifically, how comfortable the individual was initiating and receiving touch. The CIT Scale is a 6-item measure that asked participants to use a 7-point Likert

scale (strongly disagree to strongly agree) to rate their agreement to the following statements: "I consider myself to be a more 'touchy' person than most of my friends," "I feel more comfortable initiating touch than most people," "when talking to people I often touch them on the arm, I don't mind if someone touches my arm," "during conversations I don't mind if people touch me," and "I typically don't mind receiving touch from another person." The first three questions measured initiating touch, and the last three questions measured receiving touch. Scores for initiation and receiving were the sum of the three respective questions' ratings. The higher the score, the higher need for touch in the form of initiating it or receiving it. CIT Scale has good predictive validity, known-group validity, and reliability ($\alpha = 0.84$) (Webb & Peck, 2015). These scales were followed by a statement that allows the participant to expand on how COVID restrictions have affected them: "Please describe specifically how COVID restrictions has impacted your use of touch during the average day."

Following the predetermined measures, a 5-point Likert scale (never to always) asked participants to indicate their frequency of specific haptic behaviors in their social interactions including hugs, handshakes, and high-fives. Second, participants were asked to indicate how the frequency of those specific haptic behaviors has changed during COVID-19 using a 5-point Likert scale (a lot less to a lot more). Next, participants are asked to indicate who they are comfortable engaging touch behaviors with using a 5-point Likert scale (strongly disagree to strongly agree). Each statement started with "I am comfortable engaging in touch behaviors with" and was completed by each of the following: my family, my significant other, my friends, my strangers, and anyone.

This was followed by a question that asked participants to indicate their frequency that they engage in touch behaviors with the previously specified individuals on a 5-point Likert scale

(never to always) with a sixth option of "not applicable." Similar to the previous question, each statement started with "I engage in touch behaviors with" and was completed by family, my significant other, friends, and strangers. For this question, the final statement was "I limit my touch behaviors in all relationships and situations." These questions were followed by two statements that encouraged participants to expand on their above responses: "Describe why you feel comfortable (or not) comfortable engaging in touch behaviors with others" and "Describe how your relationships have changed because of the proposed physical restrictions of the pandemic."

Next, participants were asked to describe how the COVID-19 pandemic has influenced their haptic behaviors through responses to a 5-point Likert scale (strongly disagree to strongly agree) and an open-ended question. The scale included the statements "I am engaging in touch behaviors the same as I did before the pandemic, "I rely on touch to communicate with others", and. "I feel misunderstood because my touch behaviors are restricted." The following question was: "What changes have you noticed about your touch behavior during the pandemic?"

The final formal questions of the survey were included to measure how individuals were connecting beyond the use of touch and compensating for its possible absence. Participants were asked to indicate how the frequency of certain behaviors—spending time with others in-person, texting, calling, and video calling—had changed during the pandemic on a 5-point Likert scale (a lot less to a lot more). This scale was followed by two opened ended questions: "Please describe other methods of connection that you are using to maintain your relationships during the pandemic" and "What do you think is the biggest thing missing from your connections during the pandemic? How are you compensating for that feeling?"

The survey concluded with demographic questions that asked about the participants university classification (first-year, sophomore, junior, senior, graduate student, or professional live-in staff member), gender, and ethnicity. This demographic information was used in specific analyses to see how the results compared to previous research to provide insight on how a global pandemic may be influencing communicative behaviors.

Qualitative Analysis

All qualitative responses were gathered and sorted by question. Content analysis and axial coding techniques were used to establish themes, concepts, codes, and categories. First round of the coding process included highlighting references to specific variables including interaction partner, health and safety, and perception of touch. Second round of the coding process included reviewing any repeating references and noting general themes including reasons for justification and use of specific behaviors. Final round of the coding process combined the references and noted themes and categorized them into major themes and sub-themes.

From this analysis, four major themes—Changes in Touch, Context Matters, No Touch Influences, and New Behaviors—and 10 sub-themes—Perceived Longing and Absence, Negative Perception, Relationship, COVID Safety, Comfortability, Negative Impact, Lacking Connection, Hesitation, Virtual, and In-Person—were identified. See Table 2 and results section for full explanation and coding of the themes.

Results

RQ1: Touch Within COVID Context

Touch Deprivation Scale. For the TDS measure, 111 participants completed the measure. On average, there was a higher degree of longing for touch (N = 111, M = 3.73, SD =

1.05) than perceived absence of touch (N = 111, M = 3.02, SD = 0.44). See Table 3. Participants indicated an above average absence of touch specifically as it related to touch not being a daily occurrence (N = 111, M = 3.46, SD = 1.45) and going for days without being touched (N = 111, M = 3.46, SD = 1.54). See Table 4 for full statistics for each absence of touch statement. While participants indicated an above average for longing across all statements, desire for hugs ranked the highest (N = 111, M = 4.18, SD = 1.10). See Table 4 for full statistics for each longing for touch statement. For the purpose further analysis, TDS scores were categorized by high or low absence and longing. Based on a median split of 3.00, 68 were categorized as having high level of absence (61.3%) and 43 as low level of absence (38.7%). Based on a media split of 4.00, 60 as high level of longing for touch (54.1%) and 51 as low level of longing for touch (45.9%). See Table 5 for full details.

Comfort with Interpersonal Touch Scale. For the CIT Scale, 111 participants fully completed the scale. On average, participants indicated a higher degree of comfort with receiving touch (N = 111, M = 4.96, SD = 1.59) than with initiating touch (N = 111, M = 3.35, SD = 1.72). See Table 2. Results for initiating are very close or below average for initiating with perceiving self to be a "touchy" person as the highest average (N = 111, M = 3.57, SD = 1.94). See Table 6 for full statistics for each comfort with initiating touch statement. In contrast, results for receiving are above average with the general reception of touch being the highest (N = 111, M = 5.14, SD = 1.57). See Table 6 for full statistics for each comfort with receiving touch statement. Similar to the TDS scores, initiating and receiving scores were categorized as high and low for further analysis. Based on a median split of 3.00, 61 participants were categorized as high comfort with initiating (55.0%) and 50 as low comfort with initiating. Based on a median split of

5.33, 61 participants were categorized as high comfort with receiving (55.0%) and 50 as low comfort with receiving (45.0%). See Table 5 for full details.

Compared to previous research. In order to see how the novel context influence touch, one-sample t-tests were conducted to compare current study results to previous research and results. For the purpose of this analysis, TDS scores were not averaged, and the sum of the appropriate statements were utilized so that it matched the previous study's format. Current TDS absence of touch (M = 24.15) and longing for touch (M = 14.90) averages were compared to results from Punyanunt-Carter and Wrench's study (2009). Test values were 16.71 (SD = 5.15, α = 0.85) and 9.97 (SD = 3.47, α = 0.77) for absence and longing, respectively. There was a significant difference between the current and previous scores for absence of touch, $t(110) = 22.48$, $p < 0.001$, and for longing of touch, $t(110) = 12.36$, $p < 0.001$. Current CIT scores for initiating (M = 3.35) and receiving (M = 4.96) were compared to results from Webb and Peck's study of a similar population (2015). Test values were 3.65 (SD = 1.27, α = 0.80) and 4.78 (SD = 1.08, α = 0.86) for initiating and receiving, respectively. There was no significant difference in the scores for initiating, $t(110) = -1.81$, $p = 0.07$, and receiving, $t(11) = 1.20$, $p = 0.23$.

Perception and comfortability. Across several of the qualitative responses, there were 155 occurrences of perceived longing and absence of touch, 65 occurrences of negative perceptions of touch, and 103 occurrences of comfortability as a justification of touch during the pandemic. The sub-theme of "Perceived Longing and Absences" included indication of less reception, less initiation, and less opportunities for touch, in general. "Negative Perception" was based on negative association including fear, uncertainty, and sense of behavior being discouraged. Lastly, "Comfortability" was categorized as any indication of the participants

comfort with touch or the participant considering the comfort of others. See Table 2 for complete data.

RQ2: Haptic Behavior Engagement

Touch behaviors. One hundred and eleven participants indicated the frequency of their behaviors during the pandemic. Most frequencies for the indicated haptic behaviors were below average: hugs (N = 111, M = 2.64, SD = 1.01), handshakes (N = 111, M = 2.29, SD = 1.07), high fives (N = 111, M = 2.67, SD = 1.29), hand holding (N = 111, M = 1.99, SD = 1.07), and reaching out to touch others (N = 111, M = 2.30, SD = 1.08). Additionally, all forms of haptic behaviors were reported to be used less during the pandemic compared to before with high fives (N = 111, M = 0.82, SD = 0.47), hand holding (N = 111, M = 0.77, SD = 0.46), and reaching out to touch others (N = 111, M = 0.85, SD = 0.39) experiencing the most change. See Table 7 for full details.

Independent-samples *t*-tests were conducted to compare CIT initiating and receiving levels (high and low) with the touch behavior frequencies and changes. While no significant difference regarding the change in any of the behaviors between the different levels, for both initiating and receiving, there were several significant differences for use of the behaviors. See Table 8 and Table 9 for full details regarding comparison of comfort and behavior frequency changes. For initiating, significant differences were found for all behaviors except handshakes. The higher the comfort level, the more perceived use of the particular touch behaviors. See Table 10 for full details. For receiving, significant differences were found for all behaviors. The more comfortable a participant was with receiving the touch behavior, the more frequent the behavior was perceived in the participant's life. See Table 11 for full details.

Independent-samples *t*-tests were conducted to compare TDS absence of touch and longing for touch levels (high and low) with the touch behavior frequencies and changes. Tests revealed significant differences between the levels of absence for each of the behaviors use but no significant differences between the levels of absence for the change in behavior. The less frequently each behavior was perceived as being present in the participants life, the more absence of touch they perceived. See Table 12 and Table 13 for full comparison details regarding absence of touch. Inversely, for longing for touch levels, tests revealed no significant difference in use of behaviors and significant differences in changes of all behaviors. The more a participant experienced change in the touch behavior, the more the participant longed for it. See Table 14 and Table 15 for full comparison details regarding longing for touch.

Interaction partners. One hundred and eleven participants indicated comfort and frequency change in their behavior with specific individuals and relationships with a few missing data points. Participants indicated the highest comfortability with family (N = 111, M = 4.18, SD = 1.03), significant other (N = 111, M = 4.23, SD = 0.98), and friends (N = 111, M = 3.67, SD = 1.08). Significant other (N = 111, M = 1.98, SD = 2.23) and strangers (N = 111, M = 1.34, SD = 0.58) experienced the least engagement, while family (N = 109, M = 3.39, SD = 1.08) and all situations (N = 108, M = 3.47, SD = 1.23), in general, experienced the most engagement. See Table 16 for full statistics for interaction partner comfort and engagement in behavior with each relationship.

Independent-samples *t*-tests were conducted to compare CIT initiating and receiving levels (high and low) with interaction partner comfort and change in behavior with interaction partners. Results indicate significant differences between initiating levels and comfort with interaction partners. The higher the comfort initiating level, the more likely the participant was to

initiate touch with that particular interaction partner or relationship. See Table 17 for full details. Significant differences resulted between initiating levels and engagement frequency with interaction partners except no significant difference for significant other. The more comfortable the participant was, the more engaged with touch with that interaction partner. Specifically, for all relationships and situations, the lower their comfort the more they limited their touch behavior: $t(106) = -2.74$, $p = 0.01$. See Table 18 for full details. Similar results were found for receiving levels. The further outside the participants "bubble" and less intimate the relationship was, the less likely they were to be comfortable receiving touch. Results indicated significant results for most interaction partners and relationships for receiving levels for comfort and change in behavior. See Table 19 and Table 20 for full details.

Independent-samples *t*-tests were conducted to compare TDS absence and longing levels with interaction partner comfort and engagement frequency with interaction partners. For absence levels, significant differences were found for all interaction partners for both comfort and engagement in behavior except for comfort in all relationships and situations. Less perceived absence indicated more comfort and more touch engagement within those interactions. See Table 21 and Table 22 for full details. For longing levels, results indicated no significant differences for comfort with interaction partners. However, results indicated significant differences between the longing levels and certain interaction partners including significant other, $t(109) = -1.99$, $p = 0.05$, strangers, $t(109) = -2.19$, $p = 0.03$, and limiting touch in all relationships, $t(106) = 2.35$, $p. = 0.02$. See Table 23 and Table 24 for full details.

Across several of the qualitative responses, relationship served as the highest contextual variable or theme (N = 183). Justification of touch within the context of the pandemic included indication of type of interaction partner, who was included in the participants "bubble," and the

level of trust between the participant and the specific interaction partner. See Table 6 for complete data.

RQ3: Reimagination Within Restrictions

Health and safety. Correlation tests were conducted to analyze relationship between health and safety maintenance and use of touch behaviors. The statement "I communicate differently to maintain physical and health safety" was significantly correlated with all touch behaviors so that the higher a participant rated in response to that question, the less they used the behavior (i.e., hugs, handshakes, high fives, hand holding, and reaching out). See Table 25 for full details. There was a steady increase in correlation strength between safety maintenance and interaction partner as the relationship got less intimate. Significant correlations were found with interaction partner comfort especially for strangers, $r = -0.29$, $p = 0.00$, and all relationships, $r = -0.23$, $p = 0.02$. The stranger or less intimate a relationship was the more it was correlated with safety maintenance. See Table 26 for full details. Lastly, while there was no significant correlation between safety maintenance and the virtual connective behaviors, there was a strong correlation between safety maintenance and in-person connective behavior: $r =. -0.35$, $p < 0.001$. See Table 27 for full details for all connection behaviors.

New compensating behaviors. One hundred and eleven participants completed this portion of the survey and indicated information on COVID influences and frequency of non-haptic connective behaviors. On average, participants agreed that they had come up with new ways to connect (M = 2.93, SD = 1.14), apologized more for engaging in touch (M = 3.00, SD = 1.27), indicated an increased awareness of the touch they do engage in (M = 4.14, SD = 0.88), rely on touch to communicate (M = 2.36, SD = 1.23), and had noticed their touch behaviors were not the same as before (M = 1.72, SD = 1.03). See Table 28 for full details. Due to this change in

behavior, there were several indications of the negative impact of no touch (N = 99) including increased sense of loneliness, decreased mental health, and belief of inability to compensate for the loss of touch. Whether that be because of loss of normalcy, security, or ability to see people, in general, there was a loss of connection as participants were discouraged to not use touch (N = 128). See Table 6 for full details.

The loss of connection led to an overall change in haptic behavior. Hesitation (N = 29) was a prominent barrier to touch throughout this pandemic as participants indicated an avoidance of, apologies for, and seeking validation as they attempted to engage with touch. See Table 6 for full details. Reaching out, $r = 0.24$, $p = 0.01$, and hugs, $r = 0.20$, $p = 0.04$, were most correlated with no reciprocation. While qualitative analysis showed a heightened awareness of touch in general, only hugs were significantly correlated with awareness of touch behaviors, $r = 0.23$, $p = 0.02$. See Table 29 for full correlation data. This hesitation promotes the use of non-haptic connective behaviors. From least to most frequent, participants used in-person methods (M = 1.72, SD = 0.89), texting or messaging (M = 3.72, SD = 1.10), phone calls (M = 3.95, SD = 0.98), and video calls (M = 4.28, SD 0.97) to connect with each other through the pandemic. See Table 30 for full details. Further indication of reliance on virtual methods was evident in thematic analysis as virtual behaviors were the most indicated form of connective behavior (N = 144) compared to in-person forms (N = 23). These forms of virtual or digital connection included social media, video calls, and even online gaming message boards while in-person forms included outdoors and distanced hangouts. See Table 6 for full thematic details.

Discussion

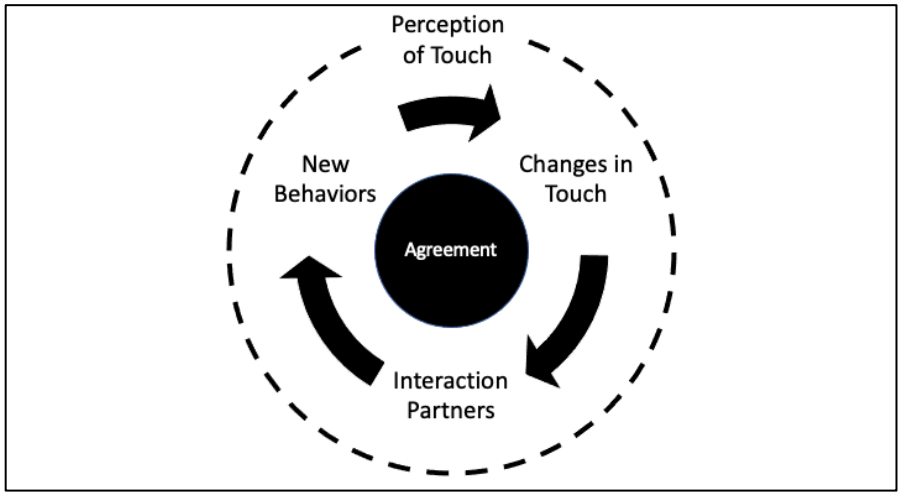
Living in and through a global pandemic has influenced individuals in numerous ways. The results of this study may further elucidate how touch has been changed and highlights the

impact that change has had on members of a university student community. Across the results, a circular relationship was discovered based on the themes of changes in use of touch behaviors, considerations that people managed as they navigated interactions with others, and the new behaviors implemented in response to the touch-restricted reality. As the use of touch changed, the way an individual decided *who* to engage in touch with if they decided to do so at all. In response, they attempted to combat the consequences of the touchless reality with compensating behaviors in order to stay connected with others. Depending on the success of these behaviors, the individual adapted their touch behaviors.

At the center of this relationship was this spoken and unspoken agreement to not engage in touch. The agreement contaminated the familiarity of touch and promoted its absence in the lives of many of the participants. That agreement in addition the changes in touch, interactions with others, and new behaviors was surrounded by the new negative perception of touch. This perception encouraged the changes in touch, determined who touch was appropriate with, and necessary behaviors that would support an individual's ability to connect and remain in touch with others. See Figure 1 for visual of relationship.

Figure 1

Relationships within Results



RQ1: Touch Within COVID Context

The changes that participants felt regarding their touch was felt from specific touch behaviors to the overall comfort with this form of connection. It became evident that those feelings were felt, and participants engaged in touch to varying degrees. Across all indicators, participants indicated below average comfort with initiating touch. Evidence showed that the accepted practices and behaviors discouraged touch, so initiating was not appropriate: "It just feels odd trying to initiate any forms of touch because of how cautious everyone is with each other" (Anonymous, 2021). However, in contrast, there was an increased comfort with receiving. This was a fascinating discrepancy. One explanation is that because people want touch but could not receive it due to the increased discomfort of initiation. Therefore, despite the growing desire, not enough people were willing to initiate and fulfill that need: "it definitely has limited my chances of receiving touch" (Anonymous, 2021). This explanation is supported by the level of touch deprivation displayed by participants.

Prior to the pandemic, there was already a "normal" level of perceived absence of and longing for touch. However, throughout the pandemic, that perception has significantly increased. This was not entirely surprising given the general agreement and consistent reminders to not engage in touch. The opportunities to engage in this behavior, even if safely, were limited: "COVID restrictions have impacted my use of touch by taking away many opportunities for me to give and receive it" (Anonymous, 2021). This idea of loss of opportunity could explain not only the general increase in touch deprivation—absence and longing—but also the discrepancy between receiving and initiation. The increased longing could explain why participants expressed increased comfort with reception compared to previous research (Webb & Peck, 2015). On the other hand, the discrepancy between comfort with initiating and receiving could be explained by

individuals preferring others to take the responsibility of initiating or the heightened selectiveness of interaction partners during this pandemic.

Throughout the results, certain non-significant results showed an agreement to not use touch (e.g., no significant relationship between change in behavior and comfort with initiating, comfort with receiving, and absence of touch). Interaction Adaptation Theory provides an explanation as it emphasizes the way that individuals will seek synchronicity especially in light of safety concerns: "I do not feel comfortable because the world has made us feel like we are all contaminated and I do not want to be the reason someone gets the virus" (Anonymous, 2021). The discouragement has reframed touch with a rather negative perception: "COVID has created this cloud of discomfort associated with touch that didn't use to be there" (Anonymous, 2021). Even the simplest and accidental interactions were now associated with this cloud: "The other day at a coffee shop the barista handed me my drink and our fingers touched and it felt illegal" (Anonymous, 2021). Research consistently promotes and encourages positive touch for a variety of benefits. However, the combination of an overwhelming agreement and negative perception has changed even the positivity of touch: "It's like a simple hug is considered a deadly weapon" (Anonymous, 2021). Whether due to discomfort or health and safety reasons, touch has been changed. Not only in its perception, but also in its overall use.

RQ2: Haptic Behavior Engagement

Touch behaviors. While there was a general agreement to decrease the use of touch, the use of specific behaviors varied. For example, hugs, specifically, were the most longed for behavior. As individuals described the impact that the COVID-19 pandemic had on their lives, several of them specifically mentioned hugs: "I don't hug people I wish I could, and regret it when they're gone" (Anonymous, 2021). No other touch behavior had such desire associated

with it. However, despite the longing for it in both the measures and qualitative responses, hugs remained a frequently used touch behavior. People are likely only interacting within the safety of their "bubble" and the comfortability with hugging those individuals remained. Therefore, the frequency was still there despite being considered the most physical and intimate form of touch and appropriately discouraged. In a similar manner, high fives were also used frequently. Being on the other end of the intimate spectrum, high fives require minimal physical contact and most often short touches compared to hugs. Due to those considerations, there was a level of comfort associated with using such a quick form of touch: "I think high-fives and fist bumps are pretty low risk in light of COVID" (Anonymous, 2021). Unfortunately, for some the quick touches were not enough and when a person indicated a strong desire or longing for hug during this pandemic, they were unable to compensate for the behavior: "I miss hugs and high fives and I miss seeing people's smiles. I'm not compensating for that feeling" (Anonymous, 2021).

In contrast, handshakes and handholding were behaviors that occurred the least frequently according to participants. Handshakes are often associated and used with strangers during an initial meeting: "When meeting new people and professors, a handshake is now out of the question. Something that was once drilled into me as being polite and professional now creates an awkward, uncomfortable situation" (Anonymous, 2021). With the decreased comfort with strangers, the behavior was not surprisingly used less frequently. Handholding was shown to have a similar change. As a rather intimate form of touch and connection, it was the least frequently used behavior. Because handholding implies a more continuous or longer-lasting physical contact with another individual, this type of behavior was reserved for very specific relationships: "there is a difference in my friend group…I cannot hold their hand just because"

(Anonymous, 2021). This could also be because there was not a close enough relationship that warranted this type of behavior.

Comfortability. When the opportunities arose and individuals actually engaged in touch, as previously indicated, comfortability played a role in justifying the use of touch. In general, the more comfort they had in receiving touch, the more the behavior appeared and was perceived in their life. However, while the CIT scale measured individual comfort levels, participants indicated intentionality with the comfort of not only themselves but also the comfort of others. This intentionality could be an additional explanation of the discrepancy between the comfort with initiating and receiving levels. Interaction Adaption Theory supports this study's results and the explanation of this pattern of behavior. Although the study focused primarily on the sender, the theory and the participants highlight the bidirectional nature of touch as they considered the comfort of the receiver/other person (Hertenstein & Weiss, 2011). In order to maintain any kind of consistency within social interactions, people needed to be aware and conscious of the comfort of the other person and adapt appropriately: "Because of the pandemic I am wary of who and what I touch to protect myself, and I am less likely to touch another person in order to protect them" (Anonymous, 2021). This behavior is consistent with previous research as the close proximity required for touch to occur also requires a level of agreement regarding the comfort between both the sender and receiver (Andersen, 2009).

Interaction partner. In a similar manner as comfortability and in line with previous research, interaction partner remains a major influencer of level of touch engagement (Bebler, Bendas, Sailer, & Croy, 2020; Gallace & Spence, 2010; Hertenstein & Weiss, 2011). While the results of this study show a high degree of general discomfort and agreement to minimize touch in all relationships and situations, as it relates to interaction partners, the results of this study

align with that previous understanding. The highest comfortability was associated with what previous research would consider "close" relationships (e.g., family, significant others, and friends): "Touch is almost completely nonexistent outside of the house and close circle of friends" (Anonymous, 2021).

Specifically, family was a common source of touch for many participants. It was interesting to see, however, that despite the high comfortability with family and level of engagement, several participants expressed a connection between family and a lack of touch in their lives. This is likely a specific consequence for the study's particular population. For many of the students living on campus and in other forms of university-owned housing, they left home where they could engage with touch and relocated to a living environment with strict guidelines and instructions to not touch: "Touch is such an important part of my life, and now that I live on campus where I can't see my family and I have to distance myself from my friends, I need touch more than ever" (Anonymous, 2021). On the other end of the spectrum, touch with strangers changed the least out of all interaction partners/groups. While this may seem surprising, there is an already established discomfort with engaging in touch with strangers before the pandemic and current participants expressed a general discomfort with engaging with strangers in that way.

While strangers could be easily excluded, the inclusion of the other relationships within an individual's "bubble" varied. The concept of a bubble, as it relates to this study and the current pandemic-reality, can be defined as the select group of individuals that the participant indicated comfort engaging with in more ways than just touch. How individuals became considered part of that select group was often based on trust and knowledge of how the other people were behaving: "the people that I choose to touch are more trusted, 'clean' in a way because I know what sort of precautions they are taking" (Anonymous, 2021). Therefore, family

and significant others remained fairly consistent and experienced the least absence of touch and longing for touch within those relationships. However, friends and strangers had the strongest difference for most perceived absence: "With the people I am in a bubble with (my family and significant other) I have started wanting physical touch a lot more and have become a little dependent on it. With my friends and strangers, I now don't want them anywhere near me or touching me" (Anonymous, 2021). The already established practice of touch being reserved for the closest relationships is more important now (Gallace & Spence, 2010; Jakubiak & Feeney, 2019; Schroeder, Fishbach, Schein, & Gray, 2017).

Interestingly, while there was a significant level of perceived absence of touch across all interaction partners related to both comfort and change, there was only significant relationships between longing and change in significant other, strangers, and all relationships. For significant other the comparison, while significant, was weak, and, therefore, could be paired with family and friends as an explanation that participants did not long for touch in those relationships because they were occurring due to inclusion in their "bubble. For strangers and all relationships, there may have been a stronger longing for it because of the desire for normalcy. The desire to simply have the option to engage in touch was not there and, therefore, may have caused participants to long for it more: "Being able to feel normal, not being scared to get too close to someone…Not being able to get close to someone makes conversations less engaging, less personal, and more awkward" (Anonymous, 2021).

Health and safety maintenance. The last major influencer, and likely the most prevalent, is how participants utilized health and safety justifications to either engage or, more often, to not engage in touch. The results related to the maintenance of health and safety were not surprising as minimizing threat to personal health and safety is regarded as a natural response

(Katila, Gan, & Goodwin, 2020). All touch behaviors were strongly correlated with health and safety maintenance which continues to emphasize not only the general agreement related to touch but also the heightened health risks associated with it. The concept of intercorporeality is important to understanding the response of individuals at this time. Intercorporeality bridges the emotional and physical intimate natures of touch as our bodies are the physical vehicle of touch (Merleau-Ponty, 1968). Similar to how this study considered the materialistic body within the communication context, participants did as well: "I feel like the only thing I truly own is my body and I am very protective over it" (Anonymous, 2021). The results of this study cannot be holistically understood without considering the materialist nature of the body and how engaging in touch puts that nature at risk: "now when there is a risk associated with the pandemic I don't want people to be physically close to me, must less touch me" (Anonymous, 2021; Katila, Gan, & Goodwin, 2020). This risk associated with touch created fear and supported the negative perception of touch: "my greatest fear has become passing the virus onto people in my life" (Anonymous, 2021). For many, this experience has introduced a never before experienced sense of danger and led to the reimagination of their connections.

RQ3: Reimagination Within Restrictions

As hoped for by the researcher, in an ideal situation, people are able to adjust their communication and touch behaviors so that they are able to meet their needs of social connection at this time when it seems to be most needed. Because of the increased longing for touch, it was not a surprise that people not only continued to engage in touch to some degree but also sought out ways to maintain connection with others. This desire was a likely motivator according to previous research and the results of this study support the reimagination that occurred (Strauss, et al., 2019). What lead to the reimagination, other than a desire, was the new behaviors that were

natural consequences of the touch-restricted reality; especially, for this population as they were constantly surrounded by reminders and policies.

A previous study conducted in the earlier months of the pandemic established a pattern of behavior including resistance, refusal, and apologies when individuals engaged in touch (Katila, Gan, & Goodwin, 2020). This study showed that that pattern of behavior persisted as the pandemic continues. Of those new behaviors indicated by this study, participants described and indicated a heightened awareness of their touch behaviors and hesitation to enact them in general. Of all the changed behavior, awareness of touch was the highest indicated change. In support of that, participants described being more apologetic if engaging in touch and seeking clarification of comfort prior to doing so in addition to an overall avoidance: "I went from touching people occasionally to avoiding any form of contact" (Anonymous, 2021). Even when they did engage, some experienced less or no reciprocation. Hugs and reaching out to touch someone were the behaviors that were most associated with no reciprocation. As previously emphasized, hugs are considered the most physical form of touch given the level of physical contact. While reaching out does not necessarily imply high levels of physical contact, it does occur more casually and subconsciously. Therefore, in order to maintain health and safety, individuals would have developed a better awareness for these subconscious behaviors.

Even those small casual touch points can convey powerful messages. Unfortunately, an additional consequence was the loss of the positive messages often associated with touch. Participants missed the comforting touch of others and the emotions that could be conveyed, but now without touch those feelings are somewhat lacking: "I don't feel loved" (Anonymous, 2021). Research has shown the strong positive effects of touch in psychological, physiological, and communicative ways: "Touch is a big part of who I am. It's comforting, it's validating, it's a

way for me to connect with others when I don't have the words to express what I feel" (Anonymous, 2021, Bebler, Bendas, Sailer, & Croy, 2020). Current data aligns with previous research that suggests that the lack of touch influences an individual's mental health and well-being in negative ways (Bebler, Bendas, Sailer, & Croy, 2020; Jakubiak & Feeney, 2019). Additionally, this study supports the idea that touch is more than a contact sense and is an embodied way that we connect with others (Enfield, 2009; Fulkerson, 2012; Jakubiak & Feeney, 2019; Lapp & Croy, 2020). As people felt the loss of the "good things" from touch they began to see how much they relied on it and attempted to compensate with other behaviors: "I am missing something I didn't know I needed. I never truly realized how much I relied on the touch of others to feel satisfied in my friendships until we weren't allowed to do it" (Anonymous, 2021).

New behaviors. We are wired as social creatures, but we could not rely on a fundamental tool or preexisting behaviors (Lazarus & Folkman, 1984). In other words, we could not rely on our natural experience: "Humans have engaged in 'touch behaviors' out entire history. It is hard-wired into us and its incredibly important" (Anonymous, 2021). One participant described the experience of not being able to utilize touch as not being able to be themselves: "I just feel like I'm not being myself" (Anonymous, 2021). Touch is central to social interactions and now people had to come up with new ways to remain in touch with each other and to be themselves.

Throughout their responses, participants enacted the concept of equifinality (Hertenstein & Weiss, 2011). They attempted to find new ways to connect with others in order to convey similar but lost messages. What used to be a hug or gentle touch on the arm is now an encouraging text or thoughtful letter in the mail. One person specifically described how they missed casual welcoming touches of fist bumps and hugs when greetings. Now, they compensated "by waving and using non-touch gestures to share people the same level of care"

(Anonymous, 2021). Instead of physical contact, others turned to words to supplement and more directly convey lost messages from hugs, high fives, other touch behaviors: "High fives and fist bumps don't have the same effect, but sometimes words will do" (Anonymous, 2021). Additionally, if the individual was not comfortable with physical touch, they tended to rely on non-physical and "touch at depth" based behaviors like texting, phone calls, and similar virtual methods: "Not being physically near people. I compensate by texting/calling/facetiming more" (Anonymous, 2021).

Through those more virtually-based connection methods, individuals moved beyond the physical sense to a more "touch in depth" approach in order to not violate the health and safety guidelines in place, just as Tahhan (2013) suggested was possible with touch: "I am not good at replying to text and communicating with others over the phone, but because of the pandemic I have had to get much better with my social media habits" (Anonymous, 2021). As seen at the beginning of the pandemic, similar behaviors continued as people engaged in "touch in depth" behaviors in order to meet their needs for connection in the forms of messaging, phone calls, and more: "Discord, zoom, Instagram, snap chat have been major ways of maintaining relationships and establishing new ones" (Anonymous, 2021; Katila, Gan, & Goodwin, 2020). For this particular study, participants indicated the use of calls and video calls over the other connection methods. The more use of these methods may be because these options give individuals a more immediate interaction with others and includes the ability to interpret tones, see facial expressions, and experience a more personable interaction. However, for some it was not working: "We call and text, but online methods of communication are never really enough" (Anonymous, 2021).

The concept of ill-compensation was an unanticipated result of the study. As noted earlier, ideally, people were changing their behavior to meet their connective needs. While the initial focus or concern of the study was to understand *how* an individual was compensating for the lack of touch and anticipated negative consequences of the lack of touch as previous research suggested, participants included their success and failures regarding that compensation for the lacking feelings: "We do the huge family zoom call on Sundays, but I hardly feel like that replaces the warmth and comfort that comes from a loving hug" (Anonymous, 2021). Other than some indication of feeling "misunderstood" because their touch was restricted, no quantitative data specifically captured this result. What the qualitative data did show was not only a struggle with compensating but also the belief that there was not a worthy replacement for touch and inability to compensate at all: "I think that I am just trying to accept that I may or may not be capable of connections" (Anonymous, 2021). Even video calls, which participants displayed an increased use for because of its more personable capabilities, only served as a reminder that people were far way for some: "I only ever see a lot of friends through a screen, which makes it feel like I'm alone a lot more often" (Anonymous, 2021).

New focus. In other ways, participants showed a degree of focus not on new behaviors but on select relationships. Similar to how participants showed a selectiveness for particular interaction partners as they navigated use of touch, participants also showed purposeful engagement in the relationships available to them: "I miss being able to freely gather without worrying if someone is possibly sick. I just spend more time with my bubble" (Anonymous, 2021). Rather than reinvent new touch or connective behaviors, people sought out more time and touch from the people that were immediately available to them: "I try to just spend more time with the friends I have" (Anonymous, 2021). The ability to focus on fewer friendships with more

intentionality, although possibly guided by a growing desire for touch and connection, could be a positive outcome of the many recent changes.

No matter an individual's preferences, interaction partner, or method of connection, this research shows that touch has changed, we have become very selective in our touch behaviors if we utilize them, and new behaviors have been introduced in order to remain connected, it has also shown that even the best reimagination may not be a worthy replacement for the power of touch: "Verbal affirmations are somewhat helpful but I feel like nothing can truly replace the physical touch aspect" (Anonymous, 2021).

Conclusion

Before the pandemic, it was natural for humans to rely on touch and its power to connect with others in ways that words could not. Like many things in our lives, we do not realize their importance until it is gone. In the new reality of a global pandemic, the once powerful and positive form of nonverbal communication is now gone, and, in its absence, we have seen loss of connection, more desire for it, and negative effects on well-being.

This particular study picked up where one left off and answered a call to see how things had progressed. The pandemic continues to be a present struggle in the lives of individuals across the world and research should continue to assess its progress and how it is impacting all aspects of the human experience. This study focused on the impact from a communication standpoint. Although highly associated with words and languages, touch shows that sometimes the most powerful messages can be conveyed without words. This innate ability that we have to not only engage in touch but to understand it supports our social nature as human beings. However, in light of this global pandemic and a significant shift to the virtual realm, our social nature may not be best suited for a pure digital way of interacting. The needs of the participants were not entirely

being met. This study only began to understand the success and failures of the new compensating behaviors. Future research should continue to consider how the needs of individuals are not being met and support an understanding of how to combat it.

Additionally, future research should further analyze the budding tension between relational maintenance and growth as it pertains to connection. Previous research shows that touch is a connective behavior that supports the relational reality that people form on a daily basis. However, this study only began to uncover the concerns regarding the lack of opportunities to connect with others. It will be pertinent of future research to establish an understanding as the circle of connection shrinks around an individual and how it may affect the outer circle of connections that still remain even if we choose not to touch or connect with them directly. Haptic communication or touch can be a tool for both current relationship maintenance and for the growth of connection beyond an individual's "bubble." Further research should continue to and expand on the consideration of touch as a connective tool that bridges the emotional and physical aspects— intercorporeality —rather than simply a physical behavior.

Finally, despite still living in the pandemic, the thought of what will things look like after is something not only on the mind of the researcher. If things are to return to "normal," we will have to build up our comfort with touch and redefine the perception of touch together. because touch involves more than just one person. Future studies should consider either approaching touch from the receiver's perspective, in contrast to this study, or analyze the bidirectional nature of touch more closely.

In addition to primarily focusing on the sender, this study used self-reporting methods of data collection from a population that consisted of mostly college-aged individuals. While this research supports the lack of research regarding touch at this particular time in an individual's

development, it is difficult to generalize to the entire population. Apart from a large female and Caucasian identifying participant pool, this particular university created an environment that constantly promoted no-touch behaviors with strict consequences for engaging in "unsafe" behavior. This kind of environment likely influenced the results and increased the likelihood of the identified natural consequences occurring. These limitations should be considered when applying the understanding of these results. While they may not be able to be generalized to a larger population efficiently, they can certainly be utilized by higher education institutions as they prepare to support their communities in returning to "normal."

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Table 1
Participant Descriptive Statistics

Variable	N	%
University Classification		
First-year	47	42.7%
Sophomore	28	25.5%
Junior	15	13.6%
Senior	13	11.8%
Graduate Student	4	3.6%
Professional Live-In Staff Member	3	2.7%
Total	**110**	**100.0%**
Gender		
Male	22	19.8%
Female	84	75.7%
Nonbinary	3	2.7%
Other	1	0.9%
Prefer not to answer	1	0.9%
Total	**111**	**100.0%**
Ethnicity		
Caucasian	80	72.1%
Latino or Hispanic	6	5.4%
Asian	10	9.0%
Native Hawaiian or Pacific Islander	3	2.7%
Two or More	9	8.1%
Other/Unknown	1	0.9%
Prefer not to answer	2	1.8%
Total	**111**	**100.0%**

Table 2
Thematic Analysis

Theme	Sub-Theme	N	Examples

Changes in Touch	Perceived Longing and Absence	155	Less reception, less initiation
	Negative Perception	65	Fear, deadly, uncertainty
Context Matters	Relationship	183	Family, bubble, trust
	COVID Safety	99	Risk, testing, protection
	Comfortability	103	Boundaries, appropriateness
No Touch Influences	Negative Impact	99	Lonely, no compensation
	Lacking Connection	128	Security, people, normalcy
New Behaviors	Hesitation	29	Avoid, apologies, ask first
	Virtual	144	Social media, video calls, text
	In-Person	23	Outdoors, distanced hangouts

Table 3
Predetermined Measure Descriptive Statistics

Variable	N	M	SD
Touch Deprivation Scale[a]			
Absence of Touch	111	3.02	0.44
Longing for Touch	111	3.73	1.05
Comfort with Interpersonal Touch[b]			
Initiating	111	3.35	1.72
Receiving	111	4.96	1.59

[a]Touch Deprivation Scale was measured using a continuous ordinal scale (1=strongly disagree, 2=somewhat disagree, 3=neither agree nor disagree, 4=somewhat agree, 5=strongly agree). Scores were then averaged.
[b]Comfort with Interpersonal Touch was measured using a continuous ordinal scale (1=strongly disagree, 2=disagree, 3=somewhat disagree, 4=neither agree nor disagree, 5=somewhat agree, 6=agree, 7=strongly agree). Scores were then averaged.

Table 4
Touch Deprivation Scale Responses

Variable	N	M	SD
Absence of Touch[a]			
I do not receive as much touch in my life as normal people.	111	3.54	1.21

I receive a normal, healthy amount of touch from people.	111	2.87	1.22
Human touch is not a daily occurrence in my life.	111	3.46	1.45
Touch from other people is a very common and natural part of my daily life.	111	2.61	1.42
I often go for days without being touched by someone.	111	3.46	1.54
I often feel like I'm untouchable by someone.	111	2.52	1.34
I receive a variety of forms of touch from a variety of different people.	111	2.40	1.34
I can go long periods of time without being touched by another person.	111	3.29	1.36
Longing of Touch[b]			
There are days where I would do anything just to be touched by someone.	111	3.30	1.39
I have longed for the touch of another person, any person.	111	3.57	1.28
Some days I long to be held but have no one to hold me.	111	3.86	1.31
I often wish I could get more hugs from others.	111	4.18	1.10

[a]Absence of Touch was measured using a continuous ordinal scale (1=strongly disagree, 2=somewhat disagree, 3=neither agree nor disagree, 4=somewhat agree, 5=strongly agree).
[b]Longing for Touch was using a continuous ordinal scale (1=strongly disagree, 2=somewhat disagree, 3=neither agree nor disagree, 4=somewhat agree, 5=strongly agree).

Table 5
Median Split for Touch Preferences

Variable	N	%
Absence of Touch[a]		
High	68	61.3%
Low	43	38.7%
Total	**111**	**100.0%**

Longing for Touch[b]		
High	60	54.1%
Low	51	45.9%
Total	**111**	**100.0%**
Comfort with Initiating Touch[c]		
High	61	55.0%
Low	50	45.0%
Total	**111**	**100.0%**
Comfort with Receiving Touch[d]		
High	61	55.0%
Low	50	45.0%
Total	**111**	**100.0%**
Interaction Partner Comfort Level[e]		
High	67	60.4%
Low	44	39.6%
Total	**111**	**100.0%**

[a]High was categorized as 3.00 and above and Low was categorized as everything else.
[b]High was categorized as 4.00 and above and Low was categorized as everything else.
[c]High was categorized as 3.00 and above and Low was categorized as everything else.
[d]High was categorized as 5.33 and above and Low was categorized as everything else.
[e]Interaction Partner Comfort Score was calculated by the sum of comfort with interaction partners. High was categorized as 15.00 and above and Low was categorized as everything else.

Table 6
Comfort with Interpersonal Touch Responses

Variable	N	M	SD
Initiating[a]			
I consider myself to be a more "touchy" person than most of my friends.	111	3.57	1.94
I feel more comfortable initiating touch than most people.	111	3.44	1.99
When talking to people, I often touch them on the arm.	111	3.05	1.85

Receiving[b]			
I don't mind if someone touches my arm.	111	5.00	1.70
During conversations, I don't mind if people touch me.	111	4.75	1.79
I typically don't mind receiving touch from another person.	111	5.14	1.57

[a]Initiating was measured using a continuous ordinal scale (1=strongly disagree, 2=disagree, 3=somewhat disagree, 4=neither agree nor disagree, 5=somewhat agree, 6=agree, 7=strongly agree).
[b]Receiving was measured using a continuous ordinal scale (1=strongly disagree, 2=disagree, 3=somewhat disagree, 4=neither agree nor disagree, 5=somewhat agree, 6=agree, 7=strongly agree).

Table 7
Touch Behaviors

Variable	N	M	SD
Behavior Frequency[a]			
Hugs	111	2.64	1.01
Handshakes	111	2.29	1.07
High Fives	111	2.67	1.29
Hand Holding	111	1.99	1.07
Reaching out to touch others	111	2.30	1.08
Frequency Change[b]			
Hugs	111	0.9	0.30
Handshakes	111	0.9	0.33
High Fives	111	0.82	0.47
Hand Holding	111	0.77	0.46
Reaching out to touch others	111	0.85	0.39

[a]Behavior Frequency was measured using a continuous ordinal scale (1=never, 2=rarely, 3=sometimes, 4=often, 5=always).
[b]Frequency Change was measured using a continuous ordinal scale (1=a lot less, 2=less, 3=no change, 4=more, 5=a lot more)

Table 8
t-Test Results Comparing Comfort Initiating and Touch Behaviors Changes

Touch Behavior	Initiating Comfort Level*	N	M	SD	t	df	*p*
Hugs	High	61	1.49	0.60	-0.37	109	0.71
	Low	50	1.54	0.76			
Handshakes	High	61	1.44	0.72	0.31	109	0.76
	Low	50	1.40	0.73			
High Fives	High	61	1.85	1.01	0.83	109	0.41
	Low	50	1.70	0.91			
Handholding	High	61	1.75	0.87	0.43	109	0.67
	Low	50	1.68	0.94			
Reaching Out	High	61	1.74	0.77	1.87	109	0.07
	Low	50	1.46	0.79			

*High was categorized as 3.00 and above and Low was categorized as everything else.

Table 9
t-Test Results Comparing Comfort Receiving and Touch Behaviors Changes

Touch Behavior	Receiving Comfort Level*	N	M	SD	t	df	*p*
Hugs	High	61	1.51	0.67	-0.09	109	0.93
	Low	50	1.52	0.68			
Handshakes	High	61	1.56	0.83	2.20	109	0.03
	Low	50	1.26	0.53			
High Fives	High	61	1.89	1.07	1.22	109	0.22
	Low	50	1.66	0.82			
Handholding	High	61	1.82	0.89	1.29	109	0.20
	Low	50	1.60	0.90			
Reaching Out	High	61	1.72	0.86	1.62	109	0.11
	Low	50	1.48	0.68			

*High was categorized as 5.33 and above and Low was categorized as everything else.

Table 10
t-Test Results Comparing Comfort Initiating and Touch Behaviors

Touch Behavior	Initiating Comfort Level*	N	M	SD	t	df	*p*

Hugs	High	61	3.00	0.95	4.52	109	<0.001
	Low	50	2.20	0.90			
Handshakes	High	61	2.41	1.06	1.32	109	0.19
	Low	50	2.14	1.09			
High Fives	High	61	2.93	1.26	2.47	109	0.02
	Low	50	2.34	1.26			
Handholding	High	61	2.25	1.15	2.85	109	0.01
	Low	50	1.68	0.89			
Reaching Out	High	61	2.85	1.01	7.30	109	<0.001
	Low	50	1.62	0.70			

*High was categorized as 3.00 and above and Low was categorized as everything else.

Table 11
t-Test Results Comparing Comfort Receiving and Touch Behaviors

Touch Behavior	Receiving Comfort Level*	N	M	SD	t	df	*p*
Hugs	High	61	2.89	1.05	2.93	109	0.00
	Low	50	2.34	0.87			
Handshakes	High	61	2.54	1.10	2.83	109	0.01
	Low	50	1.98	0.96			
High Fives	High	61	2.97	1.28	2.80	109	0.01
	Low	50	2.39	1.22			
Handholding	High	61	2.30	1.16	3.45	109	0.00
	Low	50	1.62	0.83			
Reaching Out	High	61	2.66	1.12	4.16	109	<0.001
	Low	50	1.86	0.83			

*High was categorized as 5.33 and above and Low was categorized as everything else.

Table 12
t-Test Results Comparing Absence of Touch and Touch Behaviors

Touch Behavior	Absence of Touch Level*	N	M	SD	t	df	*p*
Hugs	High	68	2.24	0.85	-6.14	109	<0.001
	Low	43	3.28	0.91			

Handshakes	High	68	2.07	1.06	-2.73	109	0.01
	Low	43	2.63	1.02			
High Fives	High	68	2.37	1.27	-3.20	109	0.00
	Low	43	3.14	1.19			
Handholding	High	68	1.79	1.05	-2.48	109	0.02
	Low	43	2.30	1.06			
Reaching Out	High	68	1.93	0.95	-5.05	109	<0.001
	Low	43	2.88	1.01			

*High was categorized as 3.00 and above and Low was categorized as everything else.

Table 13
t-Test Results Comparing Absence of Touch and Touch Behaviors Changes

Touch Behavior	Absence of Touch Level*	N	M	SD	t	df	*p*
Hugs	High	68	1.46	0.68	-1.14	109	0.26
	Low	43	1.60	0.66			
Handshakes	High	68	1.34	0.68	-1.58	109	0.12
	Low	43	1.56	0.77			
High Fives	High	68	1.68	0.97	-1.48	109	0.14
	Low	43	1.95	0.95			
Handholding	High	68	1.60	0.87	-1.76	109	0.08
	Low	43	1.91	0.92			
Reaching Out	High	68	1.49	0.74	-2.18	109	0.03
	Low	43	1.81	0.82			

*High was categorized as 3.00 and above and Low was categorized as everything else.

Table 14
t-Test Results Comparing Longing for Touch and Touch Behaviors

Touch Behavior	Longing for Touch Level*	N	M	SD	t	df	*p*
Hugs	High	60	2.50	0.98	-1.60	109	0.11
	Low	51	2.80	1.02			
Handshakes	High	60	2.15	1.06	-1.48	109	0.14
	Low	51	2.45	1.08			

High Fives	High	60	2.67	1.24	<0.001	109	1.00
	Low	51	2.67	1.35			
Handholding	High	60	2.00	1.04	0.10	109	0.92
	Low	51	1.98	1.12			
Reaching Out	High	60	2.27	1.06	-0.32	109	0.75
	Low	51	2.33	1.11			

*High was categorized as 4.00 and above and Low was categorized as everything else.

Table 15
t-Test Results Comparing Longing for Touch and Touch Behaviors Change

Touch Behavior	Longing for Touch Level*	N	M	SD	t	df	*p*
Hugs	High	60	1.27	0.48	-4.40	82.77	<0.001
	Low	51	1.80	0.75			
Handshakes	High	60	1.27	0.66	-2.55	109	0.01
	Low	51	1.61	0.75			
High Fives	High	60	1.53	0.89	-3.07	109	0.00
	Low	51	2.08	0.98			
Handholding	High	60	1.38	0.72	-4.70	109	<0.001
	Low	51	2.12	0.93			
Reaching Out	High	60	1.38	0.64	-3.49	109	0.00
	Low	51	1.88	0.86			

*High was categorized as 4.00 and above and Low was categorized as everything else.

Table 16
Interaction Partner

Variable	N	M	SD
Engagement Comfort[a]			
Family	111	4.18	1.03
Significant Other	111	4.23	0.98
Friends	111	3.67	1.08
Strangers	111	1.61	0.97
All Relationships/Situations	111	1.79	0.94

Engagement Frequency[b]			
Family	109	3.39	1.08
Significant Other	111	1.98	2.23
Friends	111	2.80	1.00
Strangers	111	1.34	0.58
All Relationships/Situations	108	3.47	1.23

[a]Engagement Comfort was measured using a continuous ordinal scale (1=strongly disagree, 2=somewhat disagree, 3=neither agree nor disagree, 4=somewhat agree, 5=strongly agree).
[b]Engagement Frequency was using a continuous ordinal scale (1=never, 2=rarely, 3=sometimes, 4=often, 5=always, 6=not applicable).

Table 17
t-Test Results Comparing Comfort Initiating and Interaction Partner Comfort

Interaction Partner[a]	Initiating Comfort Level[b]	N	M	SD	t	df	*p*
Family	High	61	4.36	0.88	2.07	109	0.04
	Low	50	3.96	1.16			
Significant Other	High	61	4.48	0.85	3.09	109	0.00
	Low	50	3.92	1.05			
Friends	High	61	4.02	1.04	4.01	109	<0.001
	Low	50	3.24	0.98			
Strangers	High	61	1.85	1.12	3.00	109	0.00
	Low	50	1.32	0.65			
All Relationships / Situations	High	61	1.95	0.99	1.99	109	0.05
	Low	50	1.60	0.83			

[a]Engagement Comfort was measured using a continuous ordinal scale (1=strongly disagree, 2=somewhat disagree, 3=neither agree nor disagree, 4=somewhat agree, 5=strongly agree).
[b]High was categorized as 3.00 and above and Low was categorized as everything else.

Table 18
t-Test Results Comparing Comfort Initiating and Interaction Partner Engagement

Interaction Partner[a]	Initiating Comfort Level[b]	N	M	SD	t	df	*p*
Family	High	60	3.70	1.12	3.43	107	0.00
	Low	49	3.02	0.90			

Significant Other	High	61	2.34	2.24	1.92	109	0.06
	Low	50	1.54	2.15			
Friends	High	61	3.13	0.97	4.11	109	<0.001
	Low	50	2.40	0.88			
Strangers	High	61	1.51	0.65	3.65	102.26	<0.001
	Low	50	1.14	0.41			
All Relationships / Situations[c]	High	59	3.19	1.24	-2.74	106	0.01
	Low	49	3.82	1.13			

[a]Engagement Frequency was using a continuous ordinal scale (1=never, 2=rarely, 3=sometimes, 4=often, 5=always, 6=not applicable).
[b]High was categorized as 3.00 and above and Low was categorized as everything else.
[c]This statement is reversed so negative t-value is anticipated

Table 19
t-Test Results Comparing Comfort Receiving and Interaction Partner Comfort

Interaction Partner[a]	Receiving Comfort Level[b]	N	M	SD	t	df	*p*
Family	High	61	4.33	0.93	1.69	109	0.1
	Low	50	4.00	1.13			
Significant Other	High	61	4.43	0.90	2.44	109	0.02
	Low	50	3.98	1.02			
Friends	High	61	4.05	0.90	4.37	94.13	<0.001
	Low	50	3.20	1.11			
Strangers	High	61	1.87	1.12	3.22	109	0.00
	Low	50	1.30	0.61			
All Relationships / Situations	High	61	2.11	1.02	4.32	109	<0.001
	Low	50	1.40	0.64			

[a]Engagement Comfort was measured using a continuous ordinal scale (1=strongly disagree, 2=somewhat disagree, 3=neither agree nor disagree, 4=somewhat agree, 5=strongly agree).
[b]High was categorized as 5.33and above and Low was categorized as everything else.

Table 20
t-Test Results Comparing Comfort Receiving and Interaction Partner Engagement

Interaction Partner[a]	Receiving Comfort Level[b]	N	M	SD	t	df	*p*

Family	High	59	3.63	1.10	2.50	107	0.01
	Low	50	3.12	1.00			
Significant Other	High	61	2.33	2.29	1.83	109	0.07
	Low	50	1.56	2.09			
Friends	High	61	3.15	0.98	4.35	109	<0.001
	Low	50	2.38	0.86			
Strangers	High	61	1.51	0.67	3.70	93.65	<0.001
	Low	50	1.14	0.35			
All Relationships / Situations[c]	High	59	3.17	1.18	-2.91	106	0.00
	Low	49	3.84	1.20			

[a]Engagement Frequency was using a continuous ordinal scale (1=never, 2=rarely, 3=sometimes, 4=often, 5=always, 6=not applicable).
[b]High was categorized as 5.33 and above and Low was categorized as everything else.
[c]This statement is reversed so negative t-value is anticipated

Table 21
t-Test Results Comparing Absence of Touch and Interaction Partner Comfort

Interaction Partner[a]	Absence of Touch Level[b]	N	M	SD	t	df	*p*
Family	High	68	4.00	1.09	-2.37	109	0.02
	Low	43	4.47	0.86			
Significant Other	High	68	4.06	1.04	-2.30	109	0.02
	Low	43	4.49	0.83			
Friends	High	68	3.37	1.05	-3.89	109	<0.001
	Low	43	4.14	0.97			
Strangers	High	68	1.38	0.71	-3.30	109	0.00
	Low	43	1.98	1.19			
All Relationships / Situations	High	68	1.69	0.85	-1.45	109	0.15
	Low	43	1.95	1.05			

[a]Engagement Comfort was measured using a continuous ordinal scale (1=strongly disagree, 2=somewhat disagree, 3=neither agree nor disagree, 4=somewhat agree, 5=strongly agree).
[b]High was categorized as 3.00 and above and Low was categorized as everything else.

Table 22

t-Test Results Comparing Absence of Touch and Interaction Partner Engagement

Interaction Partner[a]	Absence of Touch Level[b]	N	M	SD	t	df	*p*
Family	High	68	3.03	0.91	-5.03	107	<0.001
	Low	41	4.00	1.07			
Significant Other	High	68	1.47	2.06	-3.16	109	0.00
	Low	43	2.79	2.26			
Friends	High	68	2.53	0.92	-3.83	109	<0.001
	Low	43	3.23	0.97			
Strangers	High	68	1.22	0.45	-2.61	64.15	0.01
	Low	43	1.53	0.70			
All Relationships / Situations[c]	High	66	3.79	1.12	3.53	106	0.00
	Low	42	2.98	1.24			

[a]Engagement Frequency was using a continuous ordinal scale (1=never, 2=rarely, 3=sometimes, 4=often, 5=always, 6=not applicable).
[b]High was categorized as 3.00 and above and Low was categorized as everything else.
[c]This statement is reversed so positive t-value is anticipated

Table 23
t-Test Results Comparing Longing for Touch and Interaction Partner Comfort

Interaction Partner[a]	Longing for Touch Level[b]	N	M	SD	t	df	*p*
Family	High	60	4.17	1.06	-0.15	109	0.88
	Low	51	4.20	1.00			
Significant Other	High	60	4.32	0.93	1.07	109	0.29
	Low	51	4.12	1.03			
Friends	High	60	3.57	1.18	-1.06	109	0.29
	Low	51	3.78	0.95			
Strangers	High	60	1.50	0.91	-1.34	109	0.18
	Low	51	1.75	1.02			
All Relationships / Situations	High	60	1.82	0.95	0.29	109	0.77
	Low	51	1.76	0.93			

[a]Engagement Comfort was measured using a continuous ordinal scale (1=strongly disagree, 2=somewhat disagree, 3=neither agree nor disagree, 4=somewhat agree, 5=strongly agree).
[b]High was categorized as 4.00 and above and Low was categorized as everything else.

Table 24
t-Test Comparing Longing for Touch and Interaction Partner Engagement

Interaction Partner[a]	Longing for Touch Level[b]	N	M	SD	t	df	*p*
Family	High	60	3.22	1.12	-1.93	107	0.06
	Low	49	3.61	1.00			
Significant Other	High	60	1.60	2.05	-1.99	109	0.05
	Low	51	2.43	2.36			
Friends	High	60	2.68	1.05	-1.36	109	0.18
	Low	51	2.94	0.93			
Strangers	High	60	1.23	0.50	-2.19	109	0.03
	Low	51	1.47	0.64			
All Relationships / Situations[c]	High	58	3.72	1.17	2.35	106	0.02
	Low	50	3.18	1.24			

[a]Engagement Frequency was using a continuous ordinal scale (1=never, 2=rarely, 3=sometimes, 4=often, 5=always, 6=not applicable).
[b]High was categorized as 3.00 and above and Low was categorized as everything else.
[c]This statement is reversed so positive t-value is anticipated

Table 25
Correlations for Safety and Touch Behavior Changes

Variable	1	2	3	4	5	6
1. Health and Safety Maintenance	-	-0.35**	-0.31**	-0.26**	-0.40**	-0.28**
2. Hugs	-0.35**	-	0.24*	0.38**	0.57**	0.60**
3. Handshakes	-0.31**	0.24*	-	0.54**	0.44**	0.31**
4. High Fives	-0.26**	0.38**	0.54**	-	0.51**	0.61**
5. Hand Holding	-0.40**	0.57**	0.44**	0.51**	-	0.71**
6. Reaching Out	-0.28**	0.60**	0.31**	0.61**	0.71**	-

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

Table 26
Correlations for Safety and Interaction Partner Comfort

Variable	1	2	3	4	5	6

1. Health and Safety Maintenance	-	-0.02	0.09	-0.12	-0.29**	-0.23*
2. Family	-0.02	-	0.15	0.16	0.14	0.00
3. Significant Other	0.09	0.15	-	0.24*	0.11	0.07
4. Friends	-0.12	0.16	0.24*	-	0.43**	0.35**
5. Strangers	-0.29**	0.14	0.11	0.43**	-	0.73**
6. Anyone	-0.23*	0.00	0.07	0.35**	0.73**	-

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

Table 27
Correlations for Safety and Connection Behaviors

Variable	1	2	3	4	5
1. Health and Safety Maintenance	-	-0.35**	0.05	0.15	0.18
2. In-Person	-0.35**	-	0.13	-0.02	0.02
3. Texting	0.05	0.13	-	0.69**	0.52**
4. Calling	0.15	-0.02	0.69**	-	0.7**
5. Video Calling	0.18	0.02	0.52**	0.7**	-

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

Table 28
COVID Influences on Touch

Variable	N	M	SD
Changed Touch Behavior[a]			
I've come up with new ways of demonstrating my physical connection with others.	111	2.93	1.14
I initiate touch but it is not reciprocated.	111	1.96	1.01
I apologize for engaging in touch.	111	3.00	1.27
I am aware of the touch behaviors that I engage in.	111	4.14	0.88
My touch behaviors have not changed.	111	2.04	1.12

Pandemic Influence[b]			
I am engaging in touch behaviors the same amount as I did before the pandemic.	111	1.72	1.03
I rely touch to communicate with others.	111	2.36	1.23
I communicate differently to maintain physical and health safety.	111	3.97	1.02
I find it difficult to show someone I care because physical connection is discouraged.	110	3.02	1.38
I feel misunderstood because my touch behaviors are restricted.	110	2.58	1.37

[a]Changed Touch Behavior was measured using a continuous ordinal scale (1=strongly disagree, 2=somewhat disagree, 3=neither agree nor disagree, 4=somewhat agree, 5=strongly agree).
[b]Pandemic Influence was using a continuous ordinal scale (1=strongly disagree, 2=somewhat disagree, 3=neither agree nor disagree, 4=somewhat agree, 5=strongly agree).

Table 29
Correlations for Pandemic Touch Behaviors

Variable	1	2	3	4	5	6	7	8	9	10
1. Change in Hugs	-	0.08	0.13	0.3**	0.5**	0.17	0.20*	0.07	0.23*	-0.34**
2. Change in Handshakes	0.08	-	0.47**	0.39*	0.24*	0.15	0.13	0.26**	-0.08	-0.26**
3. Change in High Fives	0.13	0.47**	-	0.31**	0.35**	0.06	0.06	0.32**	0.09	-0.40**
4. Change in Hand Holding	0.30**	0.39**	0.31**	-	0.47**	0.06	0.04	0.13	-0.01	-0.30**
5. Change in Touch	0.50**	0.24*	0.35**	0.47**	-	0.12	0.27**	0.24*	-0.02	-0.45**
6. New Ways	0.17	0.15	0.06	0.06	0.12	-	0.37**	0.09	0.12	-0.13
7. No Reciprocation	0.2*	0.13	0.06	0.04	0.27**	0.37**	-	0.3**	-0.00	-0.17
8. Apologies	0.07	0.26**	0.32*	0.13	0.24*	0.09	0.3**	-	0.03	-0.26**
9. Awareness	0.23*	-0.08	0.09	-0.01	-0.02	0.12	-0.00	0.03	-	-0.24*
10. No change	-0.34**	-0.26**	-0.40**	-0.30**	-0.45**	-0.13	-0.17	-0.26**	-0.24*	-

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

Table 30
Connection Behavior Descriptive Statistics

Variable*	N	M	SD
In-Person	111	1.72	0.89
Text	111	3.72	1.10
Call	111	3.95	0.98
Video Call	111	4.28	0.97

*All variables were measured using a continues ordinal scale (1=a lot less, 2=less, 3=no change, 4=more, 5=a lot more).

Appendix A
Support of Access Emails

Initial Outreach:

Wednesday, November 25, 2020 at 23:43:47 Pacific Standard Time

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Subject: Inquiry for thesis project
Date: Thursday, October 22, 2020 at 1:38:29 PM Pacific Daylight Time
From: Lovejoy, Jennette
To: Weingarten, Andrew
CC: Klindworth, Brittani

Dear Andrew,

Thinking of you with this fall term and sending best wishes for your Autumn stride going well.

I'm advising a stellar graduate student-Brittani Klindworth (cc'd here) on her graduate thesis for her Masters in Communication. She has spent most of her graduate students researching and thinking about the role of haptic communication (physical communication) and has subsequently decided to conduct her thesis work in this area.

It is her intent (through my advising and support) that she is able to use our University of Portland on-campus college population to investigate how college students are adapting, innovating, and perceiving current behaviors and experiences of haptic communication, given COVID-19 parameters. (Her thesis prospectus is below to aid you in understanding her research project.).

I'm emailing to inquire if you would please be supportive of allowing her to email out our UP college students living on campus in spring term in order to collect data on this topic.

Of course she would go through the necessary IRB steps to gain approval and your involvement would be minimal, just an approval that she email out the survey. We believe this wouldn't put undue burden on the students and that participation would be both anonymous and completely voluntary and participants could stop the survey at any time. Her work with on campus residents is evident of her expertise in this area and this would be valuable and insightful data to have for residence life moving forward.

Please let me know your thoughts or if you have any questions so that we can move forward with the IRB process.

Thank you so much for your time and consideration, we/I am so hopeful that this would be possible for her.

Warmly,
Jennette

Approval Response:

Monday, November 23, 2020 at 13:13:01 Pacific Standard Time

Subject: RE: Inquiry for thesis project
Date: Friday, October 23, 2020 at 12:41:10 AM Pacific Daylight Time
From: Weingarten, Andrew
To: Lovejoy, Jennette
CC: Klindworth, Brittani
Attachments: image001.png

Hello Jennette,

Thank you so much for asking. I think it is a great idea. I am supportive of allowing Brittani to email out our SP21 residents to gather data. I will be ready to help when the time is right.

Andrew

Appendix B
Emails to Participants

Initial Contact Email

Hello On-Campus Community,

My name is Brittani Klindworth, and I am a graduate Communication student here at the University of Portland. In my final year of my graduate program, I am conducting a thesis research project: "It's a Touchy Subject: How Connection is (Re)Imagined in a Global Pandemic" (IRB # 2021010).

I would appreciate your assistance with this communication research project that will focus on how haptic communication, or touch, is being utilized within the context of a global pandemic. I hope to examine how members of an on-campus residential community are perceiving and re-imagining haptic behaviors.

The results of this communication research without any individual names will be put in a graduate thesis paper and results may be presented at a research conference or published. The hope is that this study will further knowledge and research in the field of communication, specifically in haptic communication, and your participation would be instrumental in doing so.

Your participation is voluntary, anonymous, and will not affect your housing or status at the University.

If you decide to participate, you would be asked to complete a survey that will only take approximately 15 minutes. You may exit the study at any time.

To participate, follow this LINK (or copy and paste this URL https://uportland.qualtrics.com/jfe/form/SV_20iUkyaDdpWM4lf)

If you have any questions about this project, please reply to this email.

Sincerely,

Brittani Klindworth
Graduate Student – Communication, MA
University of Portland
klindwor@up.edu

IRB Approval
"It's a Touchy Subject: How Connection is (Re)Imagined in a Global Pandemic"
(IRB # 2021010)

Reminder Email

Hello Pilot Community,

My name is Brittani Klindworth, and I am a graduate Communication student here at the University of Portland.

This email is an invitation for you to participate in a communication research project ("It's a Touchy Subject: How Connection is (Re)Imagined in a Global Pandemic") that will focus on how haptic communication, or touch, is being utilized within the context of a global pandemic. I would appreciate your assistance with this project.

If you decide to participate, you would be asked to complete a survey that should take approximately 15 minutes. You may exit the study at any time.

The final day to complete the survey is on DATE [to be determined].

To participate, follow this LINK (or copy and paste this URL https://uportland.qualtrics.com/jfe/form/SV_20iUkyaDdpWM4lf)

For those who have completed the survey thank you so much for your time and contribution to this project. I greatly appreciate it.

If you have any questions about this project, please reply to this email.

Sincerely,

Brittani Klindworth
Graduate Student – Communication, MA
University of Portland
klindwor@up.edu

IRB Approval
"It's a Touchy Subject: How Connection is (Re)Imagined in a Global Pandemic"
(IRB # 2021010)

Interview Scheduling Email

Hello,

Thank you so much for completing the survey and for opting into the interview portion of this study.

All interviews will be conducted over Zoom. Per your survey response, you indicated that you would prefer a [INSERT PREFERENCE] style interview. Please let me know if that preference has changed.

At this time, I am scheduling interviews [DAYS] between [TIME FRAME]. Please reply to this email with your time and I will send you a calendar invite with the Zoom meeting details.

If you would prefer to not partake in the interview, please reply to this email indicating your decision.

Thank you again and I look forward connecting with you.

Sincerely,

Brittani Klindworth
Graduate Student – Communication, MA
University of Portland
klindwor@up.edu

IRB Approval
"It's a Touchy Subject: How Connection is (Re)Imagined in a Global Pandemic"
(IRB # 2021010)

Appendix C
Informed Consent Document

"It's a Touchy Subject: How Connection is (Re)Imagined in a Global Pandemic"

By clicking the "next" arrow, you are agreeing to. participate in this survey. If you choose not to, please simply close the window. Thank you.

I would appreciate your assistance with a communication research project that will focus on how haptic communication, or touch, is being utilized within the context of a global pandemic; I hope to examine how people perceive and are re-imagining haptic behaviors among college students and staff living on a college campus. The aggregate results of this communication research without any individual names will be put in a graduate thesis paper and results may be presented at a research conference or published.

There are no direct benefits for participants. The hope is that this study will further knowledge and research in the field of communication, specifically in haptic communication, and your participation would be instrumental in doing so. Responses to the survey questions are completely anonymous, your name will not appear anywhere on the report. Responses will only be used for research purposes and will not affect your housing or any other status with the university.

If you decide to participate, you would be asked to complete a survey that should take approximately 15 minutes. The content in this survey may cause feelings of discomfort as the subject matter includes personal preferences and behaviors. Your participation is entirely voluntary, with consent indicated by your participation in the survey and proceeding to the next section of the survey. You may exit the survey at any time.

Upon submitting the survey, you will be invited to sign-up for an optional 15-minute interview with the primary researcher. You will be directed to a separate form to preserve the anonymity of your survey responses. This interview is an extension of the survey and will focus more in-depth on how you, as the participant, are re-imagining your haptic behaviors. This interview is optional, will only be conducted with a randomly selected group, and is separate from your survey. You may exit the interview at any time.

If you have any questions regarding this thesis research project (IRB # 2021010), you can contact the primary researcher, Brittani Klindworth (klindwor@up.edu), or the academic advisor for this project: Dr. Jennette Lovejoy (lovejoy@up.edu). If you have any questions regarding the rights of research participants, you can contact the Institutional Review Board at the University of Portland: irb@up.edu.

Thank you very much for your help.

Appendix D
Complete Survey

Question 1:
Read the following statements and select the answer that corresponds with your perception of your engagement with touch during the COVID-19 pandemic. Do not be concerned if some of the items appear similar.

1-Strongly disagree, 2-Somewhat disagree, 3-Neither agree nor disagree, 4-Somewhat agree, 5-Strongly agree

1. I do not receive as much touch in my life as normal people.
2. I receive a normal, healthy amount of touch from people.
3. Human touch is not a daily occurrence in my life.
4. Touch from other people is a very common and natural part of my daily life.
5. I often go for days without being touched by someone.
6. I often feel like I'm untouchable because of the lack of touch from others in my life.
7. I receive a variety of forms of touch from a variety of different people.
8. I can go long periods of time without being touched by another person.
9. There are days where I would do anything just to be touched by someone.
10. I have longed for the touch of another person, any person.
11. Some days I long to be held but have no one to hold me.
12. I often wish I could get more hugs from others.

Question 2:
Read the following statements and select the answer that corresponds with your perception of your comfort with touch during the COVID-19 pandemic.

1-Strongly disagree, 2-Somewhat disagree, 3-Disagree, 4-Neutral, 5-Agree, 6-Somewhat agree, 7-Strongly disagree

1. I consider myself to be a more "touchy" person than most of my friends.
2. I feel more comfortable initiating touch than most people.
3. When talking to people, I often touch them on the arm.
4. I don't mind if someone touches my arm.
5. During conversations, I don't mind if people touch me.
6. I typically don't mind receiving touch from another person.

Question 3:
Please describe specifically how COVID restrictions has impacted your use of touch during the average day.

Question 4:
Read the following statements and select the answer that corresponds with your perception of how frequently you engage in haptic or touch behaviors in your social interactions during the COVID-19 pandemic.

1-Never, 2-Rarely, 3-Sometimes, 4-Often, 5-Always

1. I give and receive hugs.
2. I give and receive handshakes.
3. I give and receive high fives.
4. I hold hands with others.
5. I reach out and touch others.

Question 5:
Read the following statements and select the answer that corresponds with your perception of how the frequency of touch has changed during the COVID-19 pandemic.

1-A Lot Less, 2-Less, 3-No Change, 4-More, 5-A Lot More

1. I give hugs…
2. I give handshakes…
3. I give high fives…
4. I hold hands with others…
5. I reach out and touch others…

Question 6:
Read the following statements and select the answer that corresponds with your perception of comfort engaging in touch within the following relationships during the COVID-19 pandemic.

1-Strongly disagree, 2-Somewhat disagree, 3-Neither agree nor disagree, 4-Somewhat agree, 5-Strongly agree

1. I am comfortable engaging in touch behaviors with my **family**.
2. I am comfortable engaging in touch behaviors with my **significant other**.
3. I am comfortable engaging in touch behaviors with my **friends**.
4. I am comfortable engaging in touch behaviors with my **strangers**.
5. I am comfortable engaging in touch behaviors with **anyone**.

Question 7:
Read the following statements and select the answer that corresponds with your perception of how frequently you engage in touch behaviors within these specific relationships during the COVID-19 pandemic.

1-Never, 2-Rarely, 3-Sometimes, 4-Often, 5-Always, 6-Not Applicable

1. I engage in touch behaviors with family.
2. I engage in touch behaviors with my significant other.
3. I engage in touch behaviors with friends.
4. I engage in touch behaviors with strangers.
5. I limit my touch behaviors in all relationships and situations.

Question 8:
Describe *why* you feel comfortable (or not) engaging in touch behaviors with others.

Question 9:
Describe how your relationships have changed because of the proposed physical restrictions of the pandemic.

Questions 10:
Read the following statements and select the answer that corresponds with your perception of how your touch behaviors have changed during the COVID-19 pandemic.

1-Strongly disagree, 2-Somewhat disagree, 3-Neither agree nor disagree, 4-Somewhat agree, 5-Strongly agree

1. I've come up with new ways of demonstrating my physical connection with others.
2. I initiate touch but it is not reciprocated.
3. I apologize for engaging in touch.
4. I am aware of the touch behaviors that I engage in.
5. My touch behaviors have not changed.

Question 11:
Read the following statements and select the answer that corresponds with your perception of how the COVID-19 pandemic has influenced your haptic or touch communication practices.

1-Strongly disagree, 2-Somewhat disagree, 3-Neither agree nor disagree, 4-Somewhat agree, 5-Strongly agree

1. I am engaging in touch behaviors the same amount as I did before the pandemic.
2. I rely on touch to communicate with others.
3. I communicate differently to maintain physical and health safety.
4. I find it difficult to show someone I care because physical connection is discouraged.
5. I feel misunderstood because my touch behaviors are restricted.

Questions 12:
What changes have you noticed about your touch behavior during the pandemic?

Question 13:
Read the following statements and select the answer that corresponds with your perception of how the frequency of the following behaviors has changed during the COVID-19 pandemic.

1-A Lot Less, 2-Less, 3-No Change, 4-More, 5-A Lot More

1. I spend time **in-person** with others…
2. I **text** others…
3. I **call** others…
4. I **video call** others…

Question 14:
Please describe other methods of connection that you are using to maintain your relationships during the pandemic.

Question 15:
What do you think is the biggest thing missing from your connections during the pandemic? How are you compensating for that feeling?

Demographic Questions:
Please select the classification that best describes you:

- First-year/Freshman
- Sophomore
- Junior
- Senior
- Graduate Student
- Professional Live-In Staff Member

What gender do you identify as?

- Male
- Female
- Nonbinary
- Other, please specify: [text option]
- Prefer not to answer

Please specify your ethnicity.

- Caucasian
- African-American
- Latino or Hispanic
- Asian
- Native American
- Native Hawaiian or Pacific Islander
- Two or more
- Other/Unknown
- Prefer not to say

End of Survey Message:
Thank you for your participation in my survey.

If you are interested in participating in a 15-minute in-depth interview regarding your haptic or touch practices and how you have re-imagined those practices, please continue reading. Of the individuals who opt-in, 15 individuals will be randomly selected to be interviewed.

To keep your responses anonymous, please click this LINK and complete the separate form to provide your contact information to the primary researcher, Brittani Klindworth. All communication will be done through email and all interviews will be conducted over Zoom.

If you have any questions regarding this survey, interview, or research project (IRB # 2021010), you can contact the primary researcher, Brittani Klindworth (klindwor@up.edu), or the academic advisor for this project: Dr. Jennette Lovejoy (lovejoy@up.edu). If you have any questions regarding the rights of research participants, you can contact the Institutional Review Board at the University of Portland: irb@up.edu.

Thank you again for your help.