

**INTERNETTING AND FEMALE UNDERGRADUATE DANCERS:
EMBODIED COGNITION, DANCE EDUCATION, AND THE
EXTENDED TECHNOLOGICAL SELF**

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Heads down, silence, and shoulders slumped forward as thumbs move and type: this is what I observe as I watch students before and after class. I teach dance theory courses at the college level, and, over the years, I've seen the chatter, laughter, and interaction among students dwindle. Instead, students use their handheld mobile phone internet devices with intensity and focus, in isolation. And for some, internet use during class time is difficult to prevent.

Since 2009, I have watched smartphone use rise significantly and online platforms become more integrated with everyday life. In 2010, when I asked students to put away their handheld internet devices during class, I watched an eye-widening silent panic ensue. Students' faces would turn quite grave when they understood that I was serious. I began to wonder if this anxiety was the result of an addiction or if this technological tether was something more. I asked students impromptu questions after class about their technology use, such as why they wanted to get to their phones so quickly, and a variety of answers were given as they frantically searched for their phones at the bottoms of their bags. Some seemed to be anticipating a reply from someone and stated, "I just can't

stand not knowing if she texted me back” or “I want to see who liked my photo on Facebook.” Sometimes they would simply reply, “I don’t know, but I can’t stand not having it where I can see it.” Most strikingly, one student stated, “It feels like you are asking me to put myself away when you say I can’t have my phone.”

These surprising responses from students provoked significant questions for me about students’ internet activities and the connections of these activities to students’ personal identities. Might there be an extended sense of self that resides in technological spaces? Might these extended spaces feel as real to these students as the face-to-face spaces in which they presented their physical selves? If these conjectures were true, how might an extended technological identity be a part of the collegiate experience that affects how students learn, what they learn, and from whom they learn? Situating these questions within an undergraduate dance education—an environment in which these young students’ burgeoning senses of themselves, their dance skill development, and their dance education as a whole all collide—led me to think about the relationship between how we as dance pedagogues teach and who we think we are teaching. Imagining that the individuals I was teaching included parts that could be placed into their backpacks during class time was exciting to consider.

In this paper, I summarize my findings after interviewing 16 undergraduate female dance majors in 2013. I then share the main themes that arose and discuss the connections between these students’ descriptions of their experiences in relationship to posthumanism and extended cognition research. Particularly important to this study are the ideas of the body sensing, moving,

thinking, and extending into online spaces and students' perceptions of creating and becoming through online interactions. The goal of this paper is to bring forward student voices in an effort to understand better their educative experiences in a hybrid tech world. Further research will seek to outline teaching practices and learning strategies for the dance classroom in relationship to these findings.

Definitions

Internet. This study refers to the global computer network that links smaller networks and devices worldwide as the *internet*. The participants in this study use the word *internet* to refer to the connected system with which they are able to access social media websites and applications, public and private networks and websites, and texting applications via their computers and handheld devices. I have chosen to not capitalize *internet* because it has become clear to me that this is not a proper noun; rather, it is a common noun as understood and used by the participants in this study and thus similar to words like *ocean*, *air*, and *land*. Many describe the internet as a common and diverse place of residing, existing, and being that is constantly shifting and changing rather than as a proper and specific location.

Internetting. I have created the verb *internetting* for this study to describe the activities one performs with applications and websites from the internet. I also use this word to move away from the delineation between "online" and "offline" and to instead denote one's internetting actions as a kind of sewing or knitting together of online activities with face-to-face reality.

Methodology

This qualitative analysis of data from 16 interviews with female undergraduate dance majors encouraged interpretations and theory generation to emerge. At the center of this study are the student voices that drove the analysis process. My intent was to gather young women's descriptions of experiences that illustrate their identities as dancers and students via perceptions of their online activities. By sharing these lived experiences, I hope to contribute to larger conversations about dance pedagogy, pedagogical practices, and experiences of technological hybridity.

This research focused on dance majors from three universities in different locations within the United States: Texas Woman's University, a racially diverse public university with predominantly female students; Johnson C. Smith University, an historically black college in North Carolina; and University of California, Santa Barbara, a California university with a student population that is predominantly white and economically privileged. Sixteen participants were gathered from the dance programs of these three universities in an effort to collect stories from socially and economically diverse locations.

Although these universities are different from each other in terms of geographic location, types of students served, and economic and racial demographics, I did not seek to compare and contrast students. Rather, my goal was to recruit a varied pool of participants to make the study more diverse and expansive in its detail. The analysis of the interviews focuses on language,

experiences, and stories told. Cross-comparison and the grouping of participants according to demographics are not part of this study.

I also gathered stories from young female dancers to bring forward descriptions of experiences and voices that are not often heard in national conversations about technology and to simplify and address one identifiable group. In “Women In IT: The Facts,” Ashcraft and Blithe assert that women account for only 6% of chief executives at the top 100 technology companies. This disparity is a symptom of the underrepresentation of women in computing discussions, development, and technological innovation worldwide and at all levels of technology development and research. Consequently, women are also left out of the economic earning potential associated with careers in technology. The “NCWIT Fact Sheet” created by the National Center for Women and Information Technology declares that the “people who build technology should represent the people who use it.” Although this study does not specifically investigate women’s roles in technology careers, it does investigate the experiences of young women in technological and online environments, specifically through their use of handheld computing. Clearly the voices of women are needed in technology research.

The field of dance research is well populated with studies of technology use in the dance classroom, online learning, and the integration of technology with new approaches to choreography and performance. Beyond studies that investigate young women’s sexuality and sexualization through social media, research that examines dance students’ connection to and experience with the

internet and its connection to personal identity is scarce. Within the broader fields of education, communications, psychology, and sociology, there are many studies that look at undergraduate students' use of social media in connection with sexuality, gender, identity, safety, health, and education. However, there have been no studies that bring to the forefront young women's experiences as they relate to their perceived identities and their perceptions of their dance educations.

Interview Process

Each interview was approximately 2 hours long and held on the participant's home campus. The interview questions were organized to separate the interview itself into three sections:

1. The participant's history with dance: childhood experiences, dance idols, and what dance meant to her in the past
2. The participant's current experience with collegiate dance education: classes, knowledge gained, thoughts about her collegiate dance education, ideas about her future career, and her identity as a dancer
3. The participant's online activities: websites and social media used, the importance of social media activities, in-depth descriptions and explanations of what she does online and why, and her perceptions of her online identity

I borrowed sociologist Marianne Paget's approach to interviewing, which she outlined in "Experience and Knowledge." She proposes the full disclosure of the research topic, and she suggests "that the researcher share the concerns

that animate the research, so that the conversation can unfold as a collaborative moment of making knowledge” (181). In some interviews, this proved to be quite fruitful, with the participant’s ideas and questions pushing the concepts and inquiry forward as our conversation unfolded.

I employed diverse coding methods, including computerized word counts, analysis of word usage patterns, interpretation of long passages of talk, categorization of participant ideas and descriptions, and detailed memoing notes. During the organization process, I worked to be clear about how I was identifying the themes and theories that arose from the participants in relationship to my understanding of the differing theoretical insights of authors who write about technological hybridity.

Themes

Listed here are the main themes that arose in this study across all interviews. I follow this list with the theoretical frame used to analyze the ideas found within the interview transcripts.

Using Embodied Internetting Language

After I worked with the participants to make a list of the websites and online applications that they used and after they estimated how many times per day they “checked” each site and how long they engaged with each online platform, participants were asked the question, “What is it that you are ‘doing’ when you are on this site?” Participants tried to explain the interactive processes they were engaged in when scrolling, checking, and sharing via social media. If participants answered “Facebooking” or “Instagramming” in response to this

question, they would be asked to explain what those actions meant for them personally: “But, what is it you are actually doing when you are Facebooking?” Sometimes participants would have trouble explaining the processes in which they were engaged, and many would resort to using words that evoked images of movement (going from place to place, searching, creeping, hiding, and digging), touch (keeping in touch, connecting, staying close, reaching out), and sight (searching, seeing, looking, and checking).

For example, a participant named Brittany describes her actions within internet spaces as involving a kind of creeping movement:

I scroll down my newsfeed, kind of see what everyone’s doing. I check my notifications, check my friend requests, check my messages, I creep on people (laughs), um, not as much as I used to. When I look over [their newsfeed] it’s either because I’m bored and not doing anything, or I can just click and catch up with people, without having to contact them.

Although the word *creeping* is used here to refer to a kind of “stalking” in online spaces, the visual image of a creeping full body movement coupled with the conceptual metaphor of knowing someone as seeing him or her highlights a common way that participants described their internet experiences via language derived from bodily movement. These kinds of descriptions bring to life the idea that, to understand one’s environment, one has to “act it out” with bodily self-movement; the participants’ understanding is bodily based, even when they are sitting and exploring the internet via a handheld smartphone.

Another participant, Hannah, shared her insight into how she feels she is connecting, being heard, being seen, and reaching out to touch others through

Facebook. She brings forward the idea of support and connection through witnessing:

Hannah: I would say [when I'm on Facebook] I'm connecting with my family, sharing things with my family that . . . because they don't see me, they don't get the opportunity to witness.

Researcher: What does connecting mean to you?

Hannah: . . . I know I've connected when people comment or "like" my posts, when people take the time to read what I have to say. They are letting me know that they're there, or they are supporting me . . .

A participant named Jennifer also describes a type of touch that occurs through online connections and the way it makes her feel to "reach out" to others:

. . . I can't physically be there, so I'm going to do this, and reach out to them. One of my best friends, I don't really see him very often, but I like to make sure that I comment on his statuses or "like" his stuff.

When Jennifer says that her onlineness involves being connected with someone or demonstrates a way to "reach out to them," she uses her experience of actually touching someone and being physically connected to explain the way she feels about her online experiences. She is not actually in the physical presence of these other individuals, but one of the ways that she can explain the experience and meaning of her internetting actions is to call upon a metaphor of bodily movement and action.

Languaging to an Alien From Outer Space

When discussing social media use, I asked participants how they would describe to an alien from outer space their engagement with internet sites and applications. This question pushed the participants to search for words to describe the activities they were engaged in and why they were drawn to certain

websites and to interacting with others through these sites. This question proved to be highly useful: the interviewees began to describe the social, personal, and community processes of engaging in these spaces.

The processes described in the examples below fit into two categories: 1) processes of information retrieval and sharing; and 2) processes that speak to personal and shared memory, identity, and subjectivity. Both of these processes involve a reliance on a sensing and thinking body merging with a shifting, changing, and always composing internet.

Learning other people's interests and life situations, and community information. Also informing people [about] my life, ideas or feelings, thoughts, concerns . . . this is the place where I receive information.
—*Rocio*

Gathering information . . . Connects me to people . . . I am always in a situation where I need a vast amount of knowledge. And it's very nice to be prepared for a lot of different types of things. It's preparedness . . . And [online] we're intellectually connected, and we have access to each other's memories. I am giving you access to my life. I give a limited amount of information on who I am, just enough to know who I am, and I can choose to have access to someone else's memories, and I'm making that important. When I'm online, I'm saying that I think it's important to know who they are. —*Stephanie*

Online I feel knowledgeable, in control, and globally connected to everyone. It gives me a sense of being technologically aware . . . I've basically grown up with it all my life, so I wouldn't know what to do if I didn't have it.
—*Angel*

Imagining the Internet as Being Gone

Participants were asked to describe what they would lose if the internet disappeared in order to try and understand more deeply their connections with their internetting behaviors. This question sometimes brought forward raw emotions. Some participants touched their faces or covered their mouths in

shock, whereas others crossed their arms and held their shoulders tight to comfort themselves; for many, wide-eyed disbelief was the facial expression of choice. At the opposite end of the spectrum were a handful of participants who reacted with claims that losing the internet “would not be an issue” and that they would in effect lose nothing at all. Overall, the participants’ answers brought to light the ways in which they perceived their senses of themselves and different forms of expression, thinking, connection, and completeness of themselves as intertwined with their internet use.

I would lose . . . probably . . . a perception of myself that people have. And maybe I would lose a couple friendships. Not like, like, “Oh my gosh, we’re not friends anymore,” but the closeness I have with a couple friends would be a lot less just because I wouldn’t be able to talk to them. So I guess it just would make things harder. The Internet, to me, is my ability to put myself out there. And, being on Facebook, I can express myself better and I am better understood.

—*Jennifer*

I think I’d lose . . . current ideas . . . and it’d just be hard to know what information is out there, and what is being said, and what’s being used and not used in dance. With the Internet I feel . . . (laughs) . . . I feel complete. And without the internet, I would feel anxious.

—*Rocio*

Without the internet, I would just feel very disconnected from the world, and . . . *everything*. I don’t know, I wouldn’t even know. (hesitant croak) Because . . . I’m like, young, and I’ve always grown up with the internet, and so I think that I would not know how to make plans with someone or do anything . . . I don’t know, I feel like I rely very heavily on the internet.

—*Katrina*

Describing the Importance of Internet Use to the Education Process

When asked about the ways in which they used the internet for their education, many students described internetting as essential to their success in college. In addition, many described certain ways in which the internet supported

their educative goals and filled in perceived gaps in their education. The majority of participants said that the internet allowed them to put classroom lessons into context, because they could watch a plethora of historical dances and dances from other countries online. Many also stated that they were able to learn what kinds of dances “were out there in the real world” instead of relying on their professors’ personal experiences. Many said that they were beginning to network with dancers in different cities and learning about jobs in a way that their education did not offer. However, they did not describe any ways in which they worked to determine whether the information they learned about dance or dance networking was good or reliable.

I think—maybe not on Facebook, or that sort of website, but—it’s cool because you can see so many videos and go on different websites and learn about what’s going on in dance right now. And I really like to watch dance videos—just like, random ones that I find on YouTube—of companies or just random people. It’s fun for me to get to do that, so I think it kind of influences in that way how I can know a little bit about what’s out there.

—*Rebecca*

Well, Netflix alone is not just another way to watch TV. I have learned there are a mass of dance things that I can use. I learn about space from looking at certain shows. I learn how to use space, and in dance there’s just a lot of things I’ve read and information that I’ve pulled from watching online. And then also, I see what other people are doing, so if I see my friends are taking these workshops and instead of being upset or jealous, I’m like, “Shoot, that’s out there! OK, let me make a note.” Like, I could go do this, too.

Also, when I meet dance people in person I add them on Facebook, but more of my supporters are non-dancers that I may or may not know . . . um, that I just met through Twitter or met through Instagram or something like that, and they are always “liking” my stuff, always supporting me by taking note of, “Oh, she has a dance video up. Let me watch it. I like that. Let me comment.” I think it will help me be successful.

—*Stephanie*

My [dance collegiate] education flows and intertwines with what I look at online. Because of what I learn online about dancers, dancing, and lots of dance companies, it gives me an idea of what I can do and where I can go in dance. Without this, I wouldn't know what I could do.
—Rocio

The Body, Technology, and Extended Cognition

The analysis and exploration of the ways in which body, experience, and identity merge with technological use and spaces are established through many philosophical areas of focus. For this study, I situated the analysis of the interviews within particular posthumanism theoretical work and within embodied and extended cognition research that investigates the ways in which our language and sensory and cognitive awarenesses are intertwined with or extended through technological assist. Theoretical analysis in these areas lends itself well to students' descriptions of their personal lives, which are deeply embedded with internet spaces. Here I present some voices that are investigating this type of hybridity as a context for thinking about the themes that arose from the participant interviews.

The Body as Becoming With Active Environments

In *A Thousand Plateaus: Capitalism and Schizophrenia*, collaborative psychoanalytic and postmodern philosophers Gilles Deleuze and Felix Guattari insist that what and who we are is in a constant act of becoming with our environment. They identify a rhizomatic interconnectivity between the body and multiple worlds and state that a "rhizome has no beginning or end; it is always in the middle, between things, interbeing, intermezzo" (27). This perspective helps one to imagine the body as being catapulted into motion and in bloom with its

environment; it precludes the notion of the body and identity as being static or fixed in place.

Feminist philosopher Elizabeth Grosz opens up this idea further in *The Nick of Time: Politics, Evolution, and the Untimely*. She states:

[W]e need to rethink the terms in which the body is understood. We need to understand its open-ended connections with space and time, its place in dynamic natural and cultural systems, and its mutating, self-changing relations with natural and social networks. In short, we need to understand the body, not as an organism or entity in itself, but as a system, or series of open-ended systems (3).

The idea of the body as becoming with its environment and Grosz's reconceptualization of the body as an open-ended system assist one with imagining the edges of the body expanding as it merges with differing aspects of its environment. Internetting can be cast as a kind of process of movement and blooming rather than as a sedentary activity that occurs on a computer screen. This idea of the body in bloom and as merging with its surroundings is also salient in current dance philosophies that deal with the connections among perception, dance making, and the environment.

British dancer and choreographer Wayne McGregor—in collaboration with the Distributed Creative Cognition research group at the University of California, San Diego—recently shared the results of a decade of research on the subject of distributed cognition on his website, Random Dance. In this project, entitled “Thinking with the Body,” McGregor and his research partners found that group cognitive processes exist through shared memory, gesture, and language. They describe in their analysis that shared cognitive processes in dance can be understood in the way that bodies cue each other and how they are relationally

positioned in space. These multimodal ways of cooperating and coordinating as a group, specifically within choreographic processes, extend dancers' cognitions and senses of the body to include their environments and the movements and creative instincts of the dancers with whom they are working. The mapping of the edges of a dancer's body to include the bodies of other dancers is another example of how the body itself can become a thinking, feeling, and sensing entity that is more than just its personal, physical self.

In "A Life Between Us," Michael Parmenter, a choreographer and dancer from New Zealand, outlines the changes that have occurred over time with regard to theories of choreographic process. He addresses how more current choreographic phenomenology looks toward processual relationships between the environment and the body:

If we now understand life, particularly human life, as being qualified by an instability consequent upon a constantly changing relationship with alterity, then we would have to admit the presence of incomplete corporeal identities and couplings that are primary, not supplementary, modes of physical being (8).

It is Parmenter's admission of incomplete corporeality—or what I would identify as extended corporeality for dancers and dance students—that is important to this study. Rather than creativity being seen as an inner voice, extended corporeality for dance can be seen as the ways in which creativity connects dancers to the environments in which they move. Parmenter suggests that "we need to ask ourselves if we could conceive of a contemporary dance training that is founded initially on the notion of dance as the desiring gestures of a body that is already and always outside itself" (9). His ideas add to the

conversation a discussion of how one can begin to perceive the dancing body as an incomplete corporeality that merges and couples itself with differing dance environments. They also address the ways in which an incomplete corporeality can merge with not only a “brick and mortar” world but also with the technological worlds and environments associated with internetting.

Metaphors of Touch: Internetting as a Touch Experience

In *Metaphors We Live By*, professor of cognitive science and linguistics George Lakoff and philosopher Mark Johnson consider metaphors to be evidence of the conceptual system that we humans use to perceive the world in which we live. They define the essence of the metaphor as “understanding and experiencing one kind of thing in terms of another” (3). In the present study, I found that participants used metaphors to describe the body and online spaces interchangeably. For example, when a participant says that her onlineness involves being connected with someone or “keeping in touch,” she is using her experience of actually touching and being physically connected to explain the way she feels about her online experiences. One of the ways that she can explain the experience and meaning of her internetting actions is to call upon a metaphor of bodily movement and action.

Lakoff and Johnson also clarify how a specific type of metaphor can be expanded to create a system of metaphorical concepts. They explain how the metaphor and the actual experience affect one another equally (5). When we use the idea of touching to explain what we do online, we begin to conceptually understand our onlineness as a kind of sensorial touch experience. These

metaphors extend systematically as we develop new ways of interpreting online experience by reiterating and extending the idea of touch. These new sensorial understandings then begin to shift how internetting may open new possibilities for languaging online experiences that take shape as experience unfolds.

This extended/embodied metaphor was used to analyze the participants' concept of touch when they employed language such as "staying close," "reaching out," "always in contact," "being with," and being "connected." Conversely, as outlined by Lakoff and Johnson, an embodied metaphor of touch and touching through internetting can affect how participants move through and experience the materiality of these internet spaces by considering them to be locations in which one touches others. I posit that, to understand cognition within internet spaces and internetting experiences in general, it is important to investigate these embodied metaphors that structure perception, memory, action, and communication.

Cyborg Cognition and Meaningless Edges of the Skin

Professor of philosophy and logic Andy Clark, who writes about cognitive science, adds to the conversation about metaphor, cognition, and an ecosystem of existence with technology. In *Natural-Born Cyborgs: Minds, Technologies, and Future Intelligence*, he considers the way cell phones have become extensions of the hand and a part of the cyborg self. I am reminded of students who were frustrated by putting away their phones during class and of one in particular who became teary-eyed at the thought of not using her phone again. Clark refers to

such relationships with technology as our body extensions or our “mindware upgrades” (10).

Clark’s approach to thinking about cognition requires understanding what he calls the “extended mind” (33) or how the way the mind and the environment interact truly *is* our cognition. For example, he conceptualizes the pen and paper that are used to figure out a math problem as extended cognition (78). As a result of our interactions with our environment as a means of extended cognition, we are able to figure out a math problem by extending our body and mind to include the paper and pen. Similarly, he proposes that the actions we take online—sharing, posting, and looking up information—in reality are another form of extended cognition. Clark concludes that the boundaries of the skin are meaningless: we are “creatures whose minds are special precisely because they are tailor made for multiple mergers and coalitions” (8). He asks that we begin to think of humans who interact deeply and often with internet technology as bodies that are merged with internet actions and environments without wires, silicon chips, or computer implants—in other words, “modern and naked cyborgs” (3).

Although I use Clark’s approach as part of a theoretical framework for analysis in this study, I am not keen on the idea of separating the mind and body as suggested by the language he uses to articulate his theories. Although Clark writes primarily about the mind, I do acknowledge that he works to include the body as a part of the experiential thinking system (189). He calls the relationship between the mind, the body, and the environment *cognition*, and he refers to the “mind-body-scaffolding” (11). Clark shares Lakoff and Johnson’s idea that, as we

create our environments, our environments create us; this is particularly evident when he investigates the ways in which we bond further with our technologies.

Another philosopher contributing to the area of the mind-body-environment continuum and its relation to cognition is Alva Noë. In *Out of Our Heads: Why You Are Not Your Brain, and Other Lessons from the Biology of Consciousness*, Noë investigates consciousness. His philosophical argument rests heavily on the idea that our consciousness encompasses our whole self—the mind and the body—in relation to the environment. In fact, Noë posits that consciousness is not the brain's interpretation of the environment; rather, he suggests that consciousness arises out of our interaction with our environment (*Out of Our Heads* 24). He too wants to wipe away the idea of a sensing, feeling body as a barrier to the environment. Instead, Noë wants to reorient thinking about the body schema—the edges of the skin—to include the parts of the environment with which we merge. The process of interaction with the environment is important to Noë, and he concludes that perception and consciousness are things that exist only in relation to the environment (*Out of Our Heads* 1).

In “Précis of *Action in Perception*,” Noë argues the following:

. . . all perception is touch-like in this way: perceptual experience acquires content thanks to our possession of bodily skills. What we perceive is determined by what we do (or what we know how to do); it is determined by what we are ready to do. In ways I try to make precise, we enact our perceptual experience; we act it out. (1)

Noë's approach further extends the idea of metaphors of touch. He believes that these metaphors corroborate the idea that perception and cognition

are embodied while at the same time providing more clues about perception (“*Précis of Action in Perception*” 20).

It is Noë’s postulation that perception *is* movement or what he calls “self-movement,” and he urges cognitive scientists to include proprioception (one’s own perception of the position of his or her body during movement) as a perceptual mode of self-awareness and to abandon the idea that perception is something of the brain alone (“*Précis of Action in Perception*” 2). He gives an example of a blind man who uses a cane to find his way. The cane does not have the ability to feel; however, in the hand of the man, the cane is used to sense, to feel, to move, and to perceive (“*Précis of Action in Perception*” 12). With the use of the cane, the man makes “use of [his] *sensorimotor knowledge*” by extending his body schema to include the cane (“*Précis of Action in Perception*” 13). Thus, the man’s connection with his environment, via the cane or otherwise, allows the edge of his body to become extended. As part of this merger, perception arises from self-movement. The pairing of the ideas of Clark and Noë provides more opportunities for connecting movements and mergers between the body and the environment; it also supports the idea of a sensing-thinking body as a means of perception and cognition, thereby further discrediting the idea of the body, the mind, and the environment as separate entities.

Assembling the Posthuman

The next concept important to this study is the relationship between the body, cognition, and the ever-changing materiality of the internet. Is the internet

only an embodied object? Is it an extension of the body schema through which individuals have sensory experiences? Or is it something more in its propensity for constant change? Is there an assemblage within which the body, experience, interaction, cognition, embodiment, sensory awareness, subjectivity, and internet advancement all create together?

I add the concept of the posthuman from critical theory to this study (as opposed to the posthuman concept proposed by science fiction of a futuristic being with capabilities that supersede those of our current idea of the human being). Posthuman philosophy views humans as moving beyond our previous understanding of what humans are capable of; it sees the posthuman as able to take on multiple identities, and it identifies the posthuman's reliance on personal perspective within context rather than as reflecting a universal objectivity. This philosophy investigates what it means to be human in an ever-changing environment, and it views the body and identity as in creation with or unfolding and composing together within multiple environments.

The Body as Becoming and Potential Unfolding

Taking into account an unfolding composition of the body, identity, and perception lays an important foundation for the analysis of the participants' interview responses. Many participants describe themselves as in passage or assemblage and undergoing an unfolding with their changing technological and educative dance environments. Their ideas about the ways they are creating themselves and their futures with the internet shimmer with possibility and

becoming that are reliant upon internetting, the culmination of which will further extend the edges of their body and their senses of existence.

Brian Massumi, a current social theorist, shares Deleuze and Guattari's idea of the body as becoming and further defines the body as having an "incorporeal dimension of *the body* . . . [r]eal, material, but incorporeal" (5). In *Parables for the Virtual: Movement, Affect, and Sensation (Post-Contemporary Interventions)*, Massumi writes, "[i]n motion, a body is in an immediate, unfolding relation to its own non-present potential to vary. That relation . . . is real but abstract" (4). Here, he speaks to the virtual, incorporeal aspects of the body that are not of the flesh but rather *are* the body as well as the potential that exists forever in the body's passage as it moves. In other words, the body is an indeterminate potential that is beside itself; it is an intensity of shimmer and spark on the edges of an always-almost becoming.

It is my desire to take this concept of the virtual and apply it to the data obtained during this study, in which students describe a virtual existence. Although Massumi's concept of the virtual body can speak to onlineness, he is referring to a virtual incorporeality of ourselves that exists with or without technology. The potential to vary, change, and unfold is the virtual aspect of the body that exists alongside or in the atmosphere of our corporeal existence: it is a continuing reality of not-yet or always-almost that unfolds with the passage and movement of the body.

In the foreword to *Becoming Beside Ourselves: The Alphabet, Ghosts, and Distributed Human Being*, science and technology philosopher Timothy

Lenoir discusses the notion of potential that accompanies oneself. He writes about the need to engage with the “distributed multiples”—the “para-selves beside ourselves” in our ever-increasing electronically mediated environments (Lenoir as qtd. by Rotman xxix). This approach asks the reader to consider the process of “becoming beside ourselves” and helps one to see the iterations of self made possible through technological endeavors.

These iterations of self were described by some interviewees in this study as a process of becoming with internet technology over time rather than a notion of multiple selves with specific locations that were “online” or “offline.” Lenoir’s idea of “beside” is a bit different than Massumi’s idea of extended edges of the body, but together they allow for new ways of imagining ourselves as unfolding and composing with technology and becoming something that encompasses more than our physical bodies.

Katherine Hayles—a much cited theorist on the subjects of posthumanism, technology, and literature—proposes the self as being co-produced alongside technology and suggests that computing actions propose new concepts of the body. In *My Mother Was a Computer*, Hayles identifies computing as a part of the self and sees “no essential differences or absolute demarcations between bodily existence and computer simulation” (3). She categorizes those who interact with computing activities as “posthuman,” and she further discusses this state of posthumanity through a deconstruction of the 20th-century dichotomy between computer information and the body. Hayles’s postulations attempt to “put back into the picture the flesh that continues to be erased in contemporary

discussions about cybernetic subjects” (*How We Became Posthuman* 5). Hayles extends what it means to be human to involve the digitization of the flesh and expands the concepts of the space and time locations that our bodies inhabit. Her ideas scaffold corporeality and cognition and put into motion the ability to position oneself in multiple places at multiple times simultaneously with the assistance of internetting. At the heart of her concept is the idea that one can interact online via multiple platforms during internetting while simultaneously having face-to-face interactions and perceiving both as real bodily experiences.

Hayles also analyzes the ways that language is used in online and offline experiences. She calls for abolishing language that labels actions as embodied or disembodied in relationship to technology, thereby motivating her to search for the threshold of the “entanglement of boundaries” related to such terms. She considers what meaningful and permeable boundaries exist when individuals describe their experiences with technology and computing and what these permeable boundaries may reveal about subjectivity and the human self (*My Mother Was a Computer* 4). Instead of focusing on a duality between online/offline, computer/body, and virtual/real, Hayles considers what human existence truly is and where the edges of the body can reside.

Blooming Space: Body, Experience, and Internetting

In light of internet technology and posthuman theories, it may be possible to sense connections between the body, experience, cognition, and subjectivity as things that bloom together rather than concepts that are separated into discrete categories. I call on the visual image of a bloom space for this study—a

concept used in affect theory by some posthuman philosophers, and, in the below quote from an online Australian performance advertisement flier that illustrates the approach behind artist Lisa Harms's installation that melds physicality, sound design, and video screens—to describe a way of thinking about how the environment, subjectivity, and human experience may all be in bloom together. The flier describes this idea as follows:

A bloom is a kind of space that is created in encounter. It comes into being when bodies come into contact. It rises and entangles out of in-between-ness; between people, between objects, between things . . . There is potential in this moment to be affected, for bodies to act on each other. Bloom here is to be read as a verb, as an active component . . . The space is blooming, and in doing so is producing further blooms one after another; they transpose and connect yet remain autonomous and discrete. They are shifting and variable relationships. As a dance does to a song, blooms respond to the refrain, to the rhythm, through the tracing out of a space in movements, relations and times. (Ananda et al., "bloom-space")

This definition of bloom space articulates one way to describe humanity's relationship with technology as a kind of blooming that shifts and creates in its entanglements and potential for action. This metaphor animates the body to act and become within and as a part of this bloom space.

When a student refers to what she does online as "going from place to place" and further iterates that she is "always" in these places while simultaneously and physically taking class, are the edges of the body extending and blooming with her internetting as a constant kind of morphing? For dance educators, how might these notions of blooming provide insights into future pedagogical tools? How might the dance class become a place for the 21st-century posthuman student who is acting and reacting to shifting possibilities as he or she networks and computes with internet technologies?

The shimmers of this in-between-ness help me to imagine a bloom space of potential for students in general. This bloom space could include new concepts of space, time, and body composition for those who are deeply connected with their internetting. Although the image of a bloom space can bring to mind ideas of flowers and positive experiences in general, a bloom space can also lead to outcomes with more negative connotations. These less beneficial aspects must also be considered as dance education moves into the future.

Conclusions to Consider

Three conclusions arose during my analysis of student descriptions in relationship to theoretical work in the areas of posthumanism and embodied and extended cognition. Students described themselves as moving, sensing, and thinking with and through many internet spaces. In addition to these ideas of movement, many talked about ways in which they were creating multiple identities and future selves in dance, all while gathering and supplementing their education. The three conclusions drawn below help me to see students as being involved in a kind of self-creation of educational inquiry rather than as simply distracted by their cell phones. This is not to say that distraction does not happen, but, from the students' descriptions, I can see new formulations of the body as sensing, thinking, and moving with technological assist.

1. Envisioning embodiment as a multidimensional space of

engagement and perception. Embodiment in this way blooms outward as it merges with its environment, its experiences, and new technologies. Inherent to this approach is the idea that this vision of embodiment

produces a bloom space that is understood by its propensity for constant change and consistent merging. This theory further upholds the idea that the human is no longer defined by its universal objectivity but rather by its ability to take on multiple identities and personal perspectives within its coalition with ever-changing environments.

Many students experience a sense of embodiment in multiple places at multiple times. For example, they may think of themselves as being in a physical ballet class while simultaneously touching someone on Facebook with their comment and having a video of their choreography being shared and commented on. Each place and each interaction is simultaneously lived and experienced, with equal importance to the student's sense of self and identity.

- 2. Considering cognition to exist within systems of thinking and sensing that result from mergers with one's environment.** This decentering of the human as a brainy body that is privileged over its environment honors a human's imbrication with technological networks and educational settings. These environmental systems of engagement are not just scaffolds that "help" with thinking; they are extended capacities for thinking systematically through one's engagement with multiple and overlapping environments and people. Knowledge is shared in new ways through internet interactions, and it becomes part of participants' cognition.

When students use their phones to research choreography and share their choreography online while also experiencing an online video of a dance performance, these activities *are* their thinking, perception, and deep knowledge of dance. Their merger with online environments results in experiences—both face-to-face and virtual, neither of which is considered more important or more real—that become part of their scaffold cognition. These simultaneous mergings of multiple environments *become* cognition and perception.

- 3. Understanding that what constitutes the body is the body's potential and virtual composition in its passage and becoming.** Posthuman philosophy views the concept of the body as being always in process. This approach disregards the strict delineation of the edges of the body and attempts to define what a body is. It places the body as beyond definition and views it as a processual unfolding that is in bloom with its environment. The body is an in-the-making form that is in passage and in relationship to its virtual self, living within multiple worlds. The term *virtual* here refers not to a virtual body that lives in internet spaces but rather to the sense that the body's unfolding exists in relationship to its virtual potential: a potential in the making and a possibility of bodily capability that is constantly shifting with changing environments.

The participants in this study describe a sense of self that exists beyond the flesh, and they do not describe it as “extra” or “not themselves.” In dance at the collegiate level, what might happen if we think about the

dancing, thinking, sensing body as moving and creating as something that is in formation with technological assist and its multiple locations? What the body is and what it can become are dependent on the environments with which it is in passage.

In light of these conclusions, I no longer ban cell phone use in my classes. I now ask students to use their phones as cognition, as part of their sight, and as part of their knowing. I look for what they create online and include it in my concept of who they are, and I imagine their movements, words, and photographs as new edges of their dancing bodies. For those in the field of dance education who have a student-centered philosophy and who desire to meet students where they are, my hope is that these student voices can elucidate who our students are, where they exist, and how we can more effectively teach those who are deeply embedded with online technology.

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