Nekkid: Examining Disability, identity, and Clothing in Adolescence

Megan Vaughn
Bank Street College of Education

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Nekkid:
Examining Disability, Identity, and Clothing in Adolescence
By
Megan Vaughn

Childhood General and Special Education

Mentor:
Dr. Sean O'Shea

Submitted in partial fulfillment of the requirements of the degree of
Childhood General and Special Education
Masters of Science in Education
Bank Street College of Education
2016
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Abstract
This paper is an exploration into the connections between disability, identity, and clothing. The age of adolescence is marked with remarkable transformation in the body and brain. This development changes how teens look and interact with the world. Clothing is the manifestation of shared experiences between the individual and their surrounding environment. What does this dialogue look like if your body doesn’t conform to current societal standards of normalization? What materializes when these experiences are negative? Teens with physical disabilities face such experiences through micro-aggressions. Desexualization, denial of privacy, and denial of identity are just some of the ways that disabled teens experience the world around them. In these messages the resulting aesthetic becomes one of absence. This absence results in the struggle between choosing function or choosing aesthetic. This didactic relationship with clothing leaves the wearer left without or struggling to maintain.

The result is a guide for young apparel designers that give practical applications within apparel design through considerations in pattern configuration, textiles, and trims to better meet the needs of consumers with spinal cord injuries that use wheelchairs. This is supplemented with physical artifacts of these applications tested through prototypes in a fictional line of clothing called Nekkid. Nekkid is just one company, and this document just one lens. What further research has concluded was that this information needs to stem beyond one company and further find itself within the fashion industry. This is a snapshot of that moment.
“We’re only sitting down after all”
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I. Introduction

This project began with a simple question: “Why the **** would anyone want to wear a fleece poncho?” It was 2014 and I was on the search for adaptive clothing. The scarcity of results for teens ranged from oversized toddler to premature geriatric. This quickly became a question of: “Why in the **** are there only fleece ponchos?” Over the course of the next two years I found myself asking, “What about teens?”, and more precisely: “What about teens who use wheelchairs?” I couldn’t understand how an entire demographic was left with only embroidered duck sweaters and polyester pants. My next question was, “What impact does this have on the person wearing it?” It got me thinking deeply about this universal connector: at some point today you put on the outfit I see now. Why? Then more complex questions started to fall, like “Well, why do we wear clothes?” I researched, and doodled, and reflected some more.

I felt if I could answer the “Why”, I could begin to answer my own “Why not?”: “Why not make clothes that could meet more people’s needs?” Maybe this brings up your own “whys”, like “Why does this matter?”. As you think about your own questions I need you to do something for me. Take a moment to look at what you’re wearing right now as you sit and read this. Now, on a slip of paper write down one of the articles of clothing that you’re wearing. Ok, done? Now fold the paper up and place it in your front pocket. Why? Well, this answer like those above will be found in your clothes.

My story

My own slip of paper would have said “black tee shirt”. For the past five years this has been an integral part of my closet and my own identity. Before this sans color shift, my life was an
explosion of color, texture, and pattern. In high school this became my shield; a talking point that helped me chisel out a space with “the cool kids” while still allowing for my lone wolf tendencies. Tutus, band aids, three pairs of jeans at a time; clothes gave me the ability to dictate how far outside I wanted to be. After high school I was accepted into a nationally known design program and began my life in fashion. From here I found a job as a designer for a golf company in the suburbs of Denver. The work was mind numbing. Clothes were reduced to emails, conference calls, and meetings about overseas vendors. Mediocre at design and lacking the mathematical prowess to hack it as a pattern maker, I couldn’t get by on skill; a fact that the recession made painfully clear. Out of a job, I began working as a buyer for a used clothing company. This would reinvigorate how I looked at style and help me to see the beauty in personal aesthetic. Amongst an eclectic mix of hipsters, I had found my people.

As the company expanded, there became a push for more knowledge of high end fashion. In it I found an old resistance surfacing. I still loved clothes but hated everything the industry stood for. It was more than just that though. On one hand, I just couldn’t keep up. It was overwhelming to know what was cool because that was constantly shifting. On the other hand, I was getting older. I needed something that felt more substantial than a great pair of shoes. This urge pushed me into
a classroom where I came to life truth number one: I loved something more than clothes. This set into motion going back to school, quitting my job, and moving to New York. Once I was there, I quickly found life truth number two; my clothes no longer fit my needs. Kids didn’t care if I owned a vintage Balenciaga bag, finger paint is unforgiving, and let's face it- nobody can do the hokey pokey in heels. These inconveniences didn’t completely alter my wardrobe though. Throwing out my miniskirts and boas ultimately meant throwing in the towel to live a life of mediocrity that I felt I had somehow narrowly escaped. I couldn’t be whittled down to sensible shoes and a pair of chinos. If I dressed like an “adult” I would end up as bored and lifeless as the “adults” I saw around me. And if I didn’t become bored and lifeless, what would I become? This terrified me. My clothing was so tightly ingrained into how I saw myself and how I interacted with the world that altering it would ultimately mean losing a piece of myself. In the end I replaced my wardrobe with a rotating supply of black jeans and tee shirts. It became my physical and psychological shift; my separation from clothing. The move was freeing. I felt like a blank slate, someone who was stripped of their protective barrier. My aesthetic shifted as my interactions with my environment did, corresponding to my needs in that moment.

My new wardrobe gave me the comfort and flexibility to play and explore with children. It gave me the ease to move like a hurried New Yorker. This shift in aesthetic allowed me to become the
teacher I imagined and connected me with the pieces of myself that felt most authentic in that moment. I was beginning to see a correlation to clothing and my environment, yet it wasn’t until I began working at a therapeutic nursery that I began to question the functional, expressive, and aesthetic aspects of clothing. This didn’t really hit home until I met Jake. A vibrant giggly four-year-old, Jake had come to our center like all of the other children; classified as a preschooler with disabilities. Born with a physical disability, Jake moved through the world with one arm extended only to the elbow with two fingers. While Jake could do a lot of things that required bilateral coordination, (cut paper, build with blocks, sneakily open packages of cookies), it was clothes that brought frustration, tears, and anger. The dexterity necessary to take on and off your jacket, the trunk strength needed to pull up your pants, and buttons all left this remarkably autonomous child feeling helpless. To give Jake more autonomy his parents began buying his pants and underwear two sizes too big. The dialogue between his body and his clothing was for him distracting, uncomfortable, and always present. The dialogue between Jake and his peers also began to shift. Because his oversized clothes made his already tiny body appear even smaller, Jake began to look younger. Children would refer to him as “the baby” and talk in soft, high pitched voices to him. Since Jake regularly needed help either keeping his pants up or taking them off (depending on the size) his status as “the baby” became reaffirmed in the children’s eyes. This tension between the inconsistency in his clothes and his surrounding environment only pushed Jake’s frustrations further, as he would lash out at children trying to pick him up, or teachers trying to adjust his outfit for him. Then one day, out of the blue, Jake arrived in fitted track pants. Lying snug against his body they fit him just right and with an elastic waistband he was able to easily take them on and off on his own. This not only changed how the students saw Jake, but how Jake saw himself. He was the capable and confident “big
kid” that he had always seen; now that his clothing reflected it, it was as though it made it more true.

As I began to make these connections between clothing and the environment I noticed my own relationship with clothing shift. The more emotionally taxing my work became, the more my own clothes began to encompass the physical and emotional components to my care. The floor length sweaters I wore to wrap children up like cocoons spoke as much about my pedagogy as my lesson plans. Hats and head scarves provided a physical barrier to the outside world as my own sensitivities to sound heightened and the ability to filter out environmental noises became more difficult. **My clothing was a reflection of my identity that was shaped by my environment that was in turn shaped by my clothing.** These changes came fluidly. When something worked or didn’t, the choice came not from necessity, but from preference. As with every other time in my life I could revise this image seamlessly. Jake’s dilemma presented me with a new question: “Why?” “Why didn’t his parent just buy him jackets that worked his body?” Through initial research I found the answer to that one: “Because there is nothing made for his body”. For someone that had spent the entirety of their life contemplating the expressive and aesthetic components of clothes function was entirely new ballgame. From this understanding, I asked myself: “What if you didn’t have to think about it? How would you see yourself? How would others see you?” “What if the stakes were higher?” “What if you are at a point in development where you are formulating, for the first time, your conception of yourself and the world around you?”
II. Expression

Your age, race, ethnicity, culture, sex, gender, religion, physical ability, socioeconomic status, and geographic location are fragments that shape how you see the world and interact with your environment (Sensoy, DiAngelo, 2012). The values, beliefs, and preferences that evolve from these pieces of identity are woven into the fibers of your garments, the sum of these parts encompassing you as a person (Wilson, 2015). These parts are manipulated through the energy, information, and interactions you receive from the environment. As “the vital part of the social construction of the self”, (Svendsen, 2006) clothing becomes at once both creator and creation of these social interactions. Clothing is life made visible. Yet the clothes themselves are only pieces of fabric sewn together; lifeless material objects. It’s the interaction between the body, the garment, and others that gives clothing power. This dialogue is integrated through us, around us, and by us. From propagation to pushing up daisies, this dialogue occurs as a complex dance of expressive, aesthetic, and functional components. Much like social interactions themselves these components are intertwined, each altering the next. During adolescence, this process gets shaken up and a lot of it has to do with what’s going on in the brain.

Adolescence: the brain and body

Near the base of the skull is the brainstem, the oldest part of the brain that controls waking and sleeping. Resting atop the brainstem is the limbic regions; the area responsible for balance within the body and the connections between our thoughts and feelings. Folded over the limbic regions and directly under the skull is the cerebral cortex. The cortex is responsible for the “big picture” processes of planning, perceiving, and reflecting. At the very tip of it all is the prefrontal cortex, an area integral for its ability to link the cortex, body, and the world beyond the body (Siegel, 2015).
Up until adolescence these areas of the brain work fairly separate from each other, with little interaction or influence. Before the onset of adolescence, the brain is similar to a hoarder’s house on a TLC reality show. Like collections of sandwich baggies or unopened toothbrushes, the brain has been filled to capacity with neural connections in preparation for the life to come. Over time the brain begins to do some house cleaning in the processes of pruning and myelination (Siegel, 2015). As connections are condensed through pruning, and further insulated through myelination the brain begins to run in a more efficient way. This “clearing out” allows for connections to become strengthened and a barrage of synaptic networks to occur (Darling-Kuria, 2010). This allows the cortex to connect more comprehensively with the brainstem and other functions in the body. Integration means that cognitive capacities such emotional regulation and self-perception are emerging fully for the first time (Siegel, 2015). Furthermore, Siegel adds: “This prefrontal region links input from the body itself and from other people. Energy and information from the cortex, limbic area, brainstem, body, and social world are coordinated and balanced by the prefrontal region” (Siegel, 2015). This development brings a heightened sense of self as teens grapple with new ways of examining themselves through their environment.

The Materialization of Aesthetic

One major tool through with which this examination occurs is the Internet. As nativists to this technology, teens are utilizing the Internet as a platform for discovery, change, and collaboration, redefining their space in innovative ways (Palfrey, Gasser, 2008). Through blogs and other social media sites the Internet shapes adolescent’s intersectional identities-validating, fighting back, and giving voice to their own experiences. It is through this medium that teens are forging on and working with others in a way that seems hard wired into adolescence. And in many ways,
it is. With drive and innovation teens are searching out other peers in order to find acceptance, understanding, and to help explore new ways of solving the problems around them. Siegel sees this departure from the familiar as a teen’s evolutionary tool for survival. Simply put, the old school methods to living brought about by their parents won’t hack it, and this pushes teens to find others who also search for new answers (Siegel, 2015). These answers are necessary in an age of new dialogue.

With the advent of new laws, research, and technology this dialogue is shifting. Research in brain development has expanded societal understanding of developmental variations. Yet, in 2016 we still see destructive dialogue seeped in ableist assumptions through the form of microaggressions. Desexualization, denial of privacy, and denial of identity are just some of the microaggressions that teens with marginalized identities face in today’s society. The Internet has given a push back to this, helping teens find their voice.

**Desexualization**

One environmental microaggression that occurs is desexualization. This view of sex and desirability narrows further when compounded with the intersectionality of LGBT teens (Nadal, 2008). Beyond the message that they shouldn’t or can’t be sexual comes a message of gender neutrality through the lens of asexual assumptions. In a recent tweet describing the ableist assumptions of beauty through Kylie Jenner’s controversial photoshoot, @Punkinonwheels tweeted “I’m constantly infantilized because of my wheelchair, denied even the idea of sexuality and agency let alone desirability” (Whaley, 2015). “Disabled and masculine of center women deal with many of the same stereotypes: that we only look this way because we are lazy, that we
will never be “real” women, that we’re disgusting and unclean, that we know no one will ever want us” (Carrie, 2016).

**Pushback**

In her YouTube video *Sex with Disabilities* (2014), Laci Green addresses many of these stereotypes as she speaks with Olivia, a disability activist about sexuality. The video goes in depth about stereotypes, ableist language, dating, and various methods for having sex, which could include wedges, medication, and attendants. As Olivia discusses her own experiences with disability and sex, she is honest and frank, and the video helps eradicate the common misconceptions held for disability and sex. Sites like *Autostraddle* open sexuality up for the masses, laying it bare in all forms. From personal accounts of love and relationships, to articles on the best sex toys for disabled users the site reaffirms space for sexuality.

Robyn Lambird, an eighteen-year-old with Cerebral Palsy, addresses staring and the denial of privacy as an opportunity to educate others. In her YouTube video, *Fashion, Disability, and Staring*, she speaks of the stares she gets in public and how it equates to underrepresentation within the media, the stigma of “other” and the negative perceptions of disability (Lambird, 2015). There is also Emma Orlow’s *Do Not Enter Diaries* (2013), a series of videos that document the lives of teenagers around the world through an exploration of their bedrooms. From the suburbs of Montreal to the high rises of New York her videos capture the influence of the Internet, where walls are adorned with self-made posters of the very images one could find from a site like Orlow’s own Twitter account. Through many of the videos teens talk about how images such as these inspire them to create, help describe their mood, and help them to express themselves in ways they never knew.
**Denial of Identity**

In terms of category based processing people are judged through a potential number of categories: gender, occupation, and ethnicity. However, these different social categories are not equally salient. These are perceived as *natural,* ”independent of personal choice, and perceived as inalterable and stable over time” (Rohmer and Louvet, 2009). Research found that disability can be considered a superordinate social category. The salience of category membership is more important for dominated groups occupying a lower position in the socioeconomic structure of our society.

“As most physical disabilities are immediately apparent, as persons with disability are members of a numerical minority and a devalued social group, disability could be stigmatizing. It has been hypothesized that disability is the most salient information in person perception, even more salient than gender or ethnicity. Consequently, targets with disability are less likely to be described with regard to their gender and ethnicity than targets without disability. We hypothesized that disability is the most salient information in perception of persons with visible physical disability” (Rohmer & Louvet, 2009).

Through the lens of society, disability is often viewed either through the extinction of all other components of one's identity or through invisibility. Seen only through their impairment, disabled teens may be the source of hope and inspiration. In the TedTalk: *I’m Not Your Inspiration, Thank You Very Much*” (2014), Stella Young speaks of use of “inspiration porn” and the damaging effects that it has on disability. To be applauded for seemingly mundane tasks
reduces others experiences as validation for able bodied individuals that their life could be worse (Young, 2014).

Even in an age of postmodern “diversity” where difference is the norm (YouTube neoliberal postmodern) those with disabilities have few places to see themselves, their experiences either being shared through an able bodied lens, or entirely left out. For the former we can look to movies such as *Me Before You* (2016), a romantic comedy about a woman who falls in love with the man she was hired to care for. Other current examples are Kylie Jenner’s cover of *Interview Magazine* where as an able bodied pop culture icon she is found using a wheelchair as a prop.
Here we see disability as a component of identity fall within two extremes; disability as an all-encompassing identity, or invisibility. In it disability is used to comfort, to sell, and to fetishize. Rather than give those with disabilities agency over their own experiences, an able bodied lens is used and those in the disabled community are further left invisible.

**Pushback:**

This is where one of the biggest examples of push back has been. The Internet holds creators to a certain amount of credibility, and when it is not achieved, people look to the Internet to have their experiences heard. Jenner proved to be the second Kardashian member to break the Internet as people all over the world began to protest her use of a wheelchair. This spurred countless arguments, articles, and photo recreations of the photoshoot. Others, like Louise Bruton find solidarity in reclaiming their bodies and identities through the Internet. Bruton (2016) speaks of the power to claim her selfies and redefine her visibility through the support of other disabled activists’ photos: “The importance of visibility when you are disabled. Even though I denied it for so long, being disabled is a big part of my identity”. “My wheelchair and disability would no longer be cropped out of my photos or my life” (Bruton, 2016). Others find ways to weave together their intersectional identities through blogs such as *Legless in Dublin, How I Roll*, and *Calurville* where the aspects of their identity are shaped by the authors themselves.

Access to this information and these experiences at younger and younger ages has created a deeper, more nuanced aesthetic for teens. Forums such as Tumblr allow teens like Emma Orlow to collect images from the past and present. These sites have become the scrapbooks of a new generation; ones that are shaped and consumed by a global audience (Palfrey, Gasser, 2008).

**Aesthetic**
Expression becomes an accumulative experience as 90’s advertisements are juxtaposed with 70’s porn. Sex, fear, isolation, humor, and a raw vulnerability can be found within these searches as the viewer is able to glimpse into the lives of teens.

Taking in accounts such as Orlow’s can be at once inspiring and overwhelming. Yet, this inter-generational mash up of mediums is a familiar space for teens such as Orlow who have become the voice of her generation.

**The Materialization of Aesthetic**

This collaborative stream of information materializes in an aesthetic that is fluid; from tight to billowy, form fitting pieces to tent silhouettes, these styles flow into one another. 90’s laden futuristic garb becomes an ode to the Internet’s infancy in mass consumption, tightly woven with design elements from the past.
The fluidity of fashion makes it not only an ideal platform for teens-whose reward circuits in the brain crave new and novel experiences (Siegel, 2015), but a necessary component to one’s emerging identity. Looking back to the brain and the transformations occurring within the adolescent cortex we remember that identity is a social experience (Siegel, 2015). **When identity is an accumulation of shared experiences, clothing becomes the manifestation of these experiences.**

Desexualization, denial of privacy, and denial of identity, accumulate into one consistent aesthetic: absence. Absence of clothes that reflect the sexuality you wish to expose, absence of clothes that cover all parts of your body appropriately, absence of clothes that meet your unique needs and identity. When this occurs the very act of wearing clothes becomes a message of resistance. Ndopu (2013), talks further about clothing and perception by saying: “Clothes are deeply imbued with the insidiousness of power relations when attached to the bodies wearing them. A hoodie carries the threat of violence when it clads the bodies of young black and brown male-identified and masculine of center people. In my case, sweats and clothes labeled “frumpy” engender pity (Ndopu, 2013). “I became deeply invested in the (re)construction of my aesthetic,
not because of my love for fashion, but rather because I recognized the ways in which it functioned as both a major site of resistance against ableist assumptions about my body and a repository of ableist standards of being” (Ndopu, 2013). “Controlling the way we look, even embracing the fact that we stand out, is a way of challenging this” (Smith, 2014). With a flip of her short pink hair, Robyn Lambird addresses terms of “other” with loud tee shirts, fluorescent hair, and a wheelchair covered in stickers. For her, clothing is a platform for which she uses to educate others. “My style, my look, breaks their perception of what a disabled person should look like” (Lambird, 2015). This aesthetic also pushes others to see the complexity of her identity (Lambird, 2015). Braddock (2016) in an Apparelyzed forum spoke a similar truth about the messages society relayed to him through his choice of clothes: “I never wear shorts or sweatpants, my reasoning being I want to portray myself as dignified, intelligent, and as someone to be taken seriously. I found in my early days after release that I was treated as if I was feeble, unintelligent and was pitied by people who passed by me at restaurants and while shopping. That’s not to say that, that still doesn't happen but it seems people are more receptive to my presence and refer to me directly more often”.

“Looking fierce may not transform systems that actively work against my body, but it has and continues to help me reconfigure space through self-definition. Moreover, it empowers me to unapologetically take up (and reconfigure) more space. Indeed, I am giving ableism the middle finger” (Ndopu, 2013).

The Limits of Aesthetic and Expression

Clothes are tied to our bodies-this interaction occurs all day every day. The resistance that this necessitates for disabled teens is unrealistic day in and day out. “The tremendous amount of
time, energy and level of ability that goes into looking good (whatever that means) and dressing
to the nines almost every single day takes time, energy, and ability not always accorded to my
black queer crip body” (Ndopu, 2013).

Remember that slip of paper I asked you to put in your pocket? Well, get it out. As you do think
about what your body is doing. Did you tip back in your chair slightly? Raise your shoulders?
Extend your arm? How did you slip your hand into your pocket? Did you use your other hand to
support? These questions affirm the importance of the functional aspects of clothing and how our
bodies can be restricted or freed by the garments we choose. In my own life this came in the
form of leggings, long tee shirts, and sneakers. Moving freely within the classroom, these
interactions shaped and reaffirmed my identity as a teacher.

Here’s the problem: clothing, in its most accessible state (mass produced, ready to wear
garments) is the least accessible to disabled teens. This is because clothing, as it is seen today, on
a mass scale is made for bodies that stand. This leaves consumers that use wheelchairs living
within the didactic confines of function or aesthetic. To choose clothes that are “off the rack”,
that meet their expressive and aesthetic needs in a financially viable way often leaves the wearer
tired, over-exposed, and uncomfortable. These garments can strip away autonomy and leave the
wearer feeling helpless. Clothing that is functional-that allows the wearer to move freely is often
resigned to garments such as sweats and tee shirts-garments that further reiterate the stereotypes
of pity or carelessness. Just as a curb with no ramp, the traditional framework of design renders
impairment a disability.
While disability is heterogeneous, there are anthropometric similarities that occur for consumers that have spinal cord injuries that use a wheelchair. The following section outlines the physical makeup of paralysis in those with a spinal cord injury along with brief descriptions of quadriplegia and paraplegia and the corresponding symptoms and complications that might occur. The specific garment needs due to these symptoms and complications are examined through pattern configuration, textiles, and trims that would further meet the needs of disabled consumers. While this could reach many sectors in the apparel industry, the scope of this project is presented as an introductory course for apparel designers.

IV. Paralysis

To understand how paralysis affects the body, we must first take a look into the body at the all-important control center for our thoughts, feelings, and actions: the central nervous system (CNS). The brain and spinal cord make up our central nervous system. The brain is like the control center in all of this; interpreting the world around us through all of our senses. The spinal cord communicates messages from the brain to the body and vice versa. The CNS is like the Beyoncé of systems, slaying many jobs at once. Everything from speech, walking, blinking, breathing, our thoughts, and emotions are all being run through the brain and spinal cord (Christopher & Dana Reeve Foundation, n.d.).

From top down the CNS is connected with neural pathways that align with different parts of the body. In the spinal cord this is divided into five sections: the cervical, thoracic, lumbar, sacral, and coccygeal regions. Different segments control different things, and when injured this will affect the corresponding parts of the body. Injury to the brain or the spinal cord affects the communication that occurs between the two, resulting in paralysis. If trauma occurs to the spinal
cord, only the areas below the injury are impacted. Depending on the level of injury the consumer may be Paraplegic or Quadriplegic (Christopher & Dana Reeve Foundation, n.d.).
**Paraplegia**

Paraplegia from a spinal cord injury results in impairment in motor or sensory functions below the chest with control of arms and hands “unaffected”. Depending on the segment of spinal cord that has been affected, consumers will typically still have control of the arms and hands with varying control of the trunk. Paraplegia occurring lower than L2 is called Cauda Equina Syndrome. Secondary complications that may occur are: pressure sores, blood clots, low blood pressure, autonomic dysreflexia, and pneumonia. Other complications may occur with bowel, bladder, and sexual functioning (Apparelyzed, 2015).

**Quadriplegia**

Quadriplegia is caused by injury in the cervical region of the spinal cord (C1-C8) and may conclude in partial or total loss of function in the arms and legs. Impaired functioning in the torso may result in impairment of bowel and bladder, sexual, digestive, and breathing dysfunctions (Apparelyzed, 2015). Quadriplegic symptoms will occur differently for each person, depending on the segment of the spinal cord that is injured. Injury in the uppermost cervical region (C1) that is at the base of the skull often affects functioning in the body from the neck down. Injury to the upper cervical region (C1-C4) typically affects upper limb movement, arm sensation, and respiratory conditions more so than injury to the lower cervical region (C5-C7). A spinal cord injury that occurs at a C8 may affect an individual’s functioning from the chest down with the ability to use their arms and fingers still intact (Apparelyzed, 2015). Other symptoms that may occur are: pressure sores, spasticity, frozen joints, pneumonia, and respiratory infections (Apparelyzed, 2015).
V. Function

Spinal cord injuries may result in the necessity of a wheelchair either for short periods of time or all the time depending on locale and severity of the injury. This is unique to each consumer. A common misconception about wheelchairs is that the individual is “confined” to them (Christopher & Dana Reeve Foundation). This is entirely untrue. Wheelchairs provide individuals with freedom of mobility and autonomy.

Using anthropometric databases and 3D scans of people the Instituto De Biomecanica, De Valencia was able to see how sitting in a wheelchair affects overall composition in the body. Using a replication of a human bottom-with bones and tissue to boot, a pressure sensor mat gave the pressure patterns that could occur. An in depth analysis of clothing through group interviews helped to identify key aspects of function regarding clothing for those seated in wheelchairs. From these findings the committee was able to identify key aspects of function regarding clothing for bodies seated in wheelchairs. These include: fit, usability, freedom of movement, perspiration, thermal isolation, friction, and aesthetics (Piquerás, 2013).
These aspects were addressed through the following variables: pattern configuration, textile mechanical properties, textile thermal properties, and trims (Piqueras, 2013). This became the framework for the variables considered within my own artifacts and are discussed in detail below.

**Considerations in Pattern Configuration**

**Pants Rise:** Because the majority of clothing is “designed to enhance the appearance of the wearer when standing upright” (Fatima, n.d.), the alteration of traditional pattern pieces is necessary to accommodate for the seated body. Muscle composition and body mass changes when a body is in a seated position compared to a standing position, especially in waist girth, hip
girth, and thigh length (Piquerás, 2013). Overall girth increases in the hips and buttocks when seated (Piquerás, 2013) creating a need for looser fitting bottoms. The traditional cut of pants causes pants to become misaligned when seated; the waistband slipping on the backside and “bunching at the front” (Fatima, n.d.). Irregular alignment in the spine, the natural slouch of sitting in a chair, and trunk control and limb sensation are variables that affect waistline alignment for wheelchair users (Chase and Quinn, 2003). User Supercrip.13 explains how these variables affect the alignment of her clothing: “I can’t wear skirts because my spine is curved badly, this has tilted my pelvis, and with it my waistline (I list to the left like a ship going down!) and so hemlines hang funny” (Supercrip.13, 2013). If the rise in the front of the pants is too high, it will begin to dig into the abdomen (Chase, Quinn, 2003). This increase makes pants that may have fit snug while standing begin to stretch and cause the wearer discomfort (Chase, Quinn, 2003). Irregular distribution of weight around the abdomen may make pants uncomfortable along the waistband, especially when the body is primarily seated (Apparelyzed/Chase, 2003). Extended length from the individual’s shoulder to hipline also accounts for the downward shift in the seat of the pants, leaving the wearer exposed.
**Possible Solution:** creating pants with a wider rise/ higher in the back and lower in the front to help realign the waistband

**Seams:** Seams constitute the joining point of two pieces of fabric. While seams are necessary for garment construction, the placement and style of seams are variables which can cause wheelchair users sores, where the excess fabric rubs against the skin, causing chafing, sores, and overall discomfort (Chase, 2016, Piqueras, 2013). Depending on the style of the seam, the construction of it is to ensure that the garment does not rip at that pressure point, since seams are generally considered the “weakest” area of clothing, compromising the integrity of the garment. When executed, these seams create a surplus of excess bulk that can cause the wearer discomfort if pressure is applied to the buttocks and thigh area for long periods of time. Traditional construction of pants involves two separate pieces (each pant leg) to be sewn one inside the other, with a prominent seam that goes from the waistband and circulates around the genitals and up over the buttocks, referred to as the inseam (Bubonia, 2012). For those that are primarily seated the inseam can cause discomfort to the skin, causing friction when the individual is involved in transfers and toileting occurs (Chase, 2003).

**Possible Solution:** Consideration in using thin, finished seams that lay smooth against the skin would help prevent any unnecessary bulk. Forgoing traditional pattern configuration of pants could lead the designer to create a style with a dropped waist.
**Length:** The overall length is a consideration that must be taken in pattern configuration for pants to account for the wearers bend in the knees while sitting. When sitting, pants traditionally ride up, exposing the ankles. This may cause the wearer discomfort in terms of weather or just be an inconvenience (Chase, 2016).

**Possible Solution:** increasing the length in the pants pattern from hip to ankle.

**Pockets:** Pockets consist of two components: the pocket opening and the pocket bag.

Back pockets on pants are often an unnecessary feature on clothing for individuals who primarily use wheelchairs. Front pockets when sitting may bulge out and render them useless for the wearer. Front pockets also cause an inconvenience, as the wearer must often pull their bodies back to be able to place hands into the pockets while in a seated position. For some, who are unable to move the lower half of their body, this may be impossible (Apparelyzed.com). For others with limited dexterity or diminished arm strength or hand control this may also be hard to do.
Possible Solution: Alternative placement of pockets helps to alleviate discomfort in having something in your front pockets and can be eradicated by placing pockets in a side seam or as an outer pocket attached to the thigh or calf of a pant (Chase, 2003).

Tops:
For paraplegics and quadriplegics that use manual wheelchairs consideration in the upper torso—especially along the back, shoulders, and arms must allow for optimal range of motion (Piqueras, 2013). The overall length in the upper torso becomes shortened when sitting making bulkier tops such as sweaters and jackets bunch up around the chair and the user along the backside.

Possible solutions: Eliminating excess length from the mid back to the waistline helps alleviate unnecessary bulk caused by heavier fabrics, such as outerwear. For lightweight garments such as sweaters and tee shirts patterns must be configured to account for a seated body with length being applied to the back, with a slightly higher rise in the front (Fatima, n.d.). Configuring the pattern to allow for shoulder pleats and gentler back pleats would allow for greater range of movement across the back and shoulders (Fatima, n.d.).
**Neckline:** Alterations in patterns for tops must also be considered when assessing functional aspects such as fit and freedom of movement. Most tops are designed with a circular crew neck that can be hard for an individual with limited trunk movement to pull on and off (Zeichner, n.d.). Neck openings must be large enough to accommodate donning and doffing with little manipulation (Fatima, n.d.).

**Possible Solution:** Construction of the neckline can be altered to accommodate for more ease. Boat neck shirts are one style of neckline that lies horizontally from shoulder to shoulder along the collarbone, creating a wider opening for a head to go through (Dictionary, 2014).

**Sleeves:** Imagine most tops as two separate pieces: the first is the body or bodice of a garment—this looks a lot like a tank top. The sleeves are long tubes sewn in at the shoulder (thecuttingclass, 2013). This is a common sleeve in most ready to wear apparel called a set-in sleeve. The construction of sleeves in any garment affects the overall arm movement. For those with restricted gross motor movements this traditional style of sleeve can be constricting for the wearer (Zeichner, n.d.). Length of sleeves may also cause a problem for wheelchair users, which may get caught or become soiled from the wheels of the chair (Fatima, n.d.).

**Possible Solution:** Altering the style of sleeve affects range of motion. Raglan sleeves are a style of sleeve that are sewn in with a diagonal seam from the underarm to the collarbone (Dictionary, 2014) that are reminiscent of old baseball tees. The wider opening in the armhole allows for more movement (Zeichner, n.d.). A drop shoulder sleeve is a style of sleeve that resembles the traditional set in sleeve but the actual bodice sits lower on the arm. The bodice
curves over the shoulder of the arm with the sleeve beginning lower on the arm as well.

Depending on if it is a slight drop shoulder or an oversized drop shoulder, the bodice and the sleeves are made bigger to accommodate the curve of the shoulder. This means that the armhole of the garment is bigger and allows for more movement for the wearer (thecuttingclass, 2013). Dolman sleeves forgo the traditional bodice/sleeve route entirely with a sleeve that is created as one piece with the body of the garment. A Dolman sleeve is wide at the armhole and tapers to the wrist (Dictionary, 2014). This not only allows for a wide range of motion for those with restrictive arm and trunk movements, but is also ideal for those that find underarm seams of clothing irritating to the skin (Zeichner, n.d.), allowing for less friction and a greater range of motion. The overall length of the sleeve can be reduced by creating a ¾ sleeve or by applying a tap along the sleeve line to secure the sleeve higher.

**Fibers and Yarns**

Fibers are spun into threads and threads are woven into fabrics. The fiber that is chosen to be spun dictates how a garment will eventually materialize. Fibers affect many variables within a garment including the hand, drape, durability, and price. Fibers also vary in thermal, hydrophilic, and hydrophobic capabilities which in turn alter the determined end use of a garment. Fibers can be natural, synthetic, or a blend of both. Cotton, silk, hemp, bamboo, and wool are all examples of natural fibers. Synthetic fibers are produced in textile labs and can be altered to have properties similar to natural fibers. Some synthetic fibers include: polyester, nylon, and lyocell. Two major concerns when selecting fabrics for disabled consumers is perspiration and thermal isolation (Bubonia, 2013). Other considerations for fabrics should be if the fabric is machine washable and wrinkle resistant, which create an ease in garment care and reduce the overall price (Fatima, n.d.). Stretch fabrics allow for ease in dressing and are comfortable for sitting (Fatima,
n.d.). Fabrics with a tight weave help retain shape and have minimal wrinkles (Fatima, n.d). A looser, desirable fit can also be achieved through fiber and weave configuration (Piqueras, 2013).

**Perspiration**

If the fibers worn do not allow for moisture to evaporate, sweat and drool may become trapped within the clothing. When moisture lies close to the skin it can cause the wearer to feel “damp or chilled”, which could lead to colds (Ostrover, 2002). While seated, moisture can accumulate between the chair and the garment, increasing the possibility of blisters and ulcerations from the friction that occurs between the skin and moisture (Piqueras, 2013). Increased consideration should be taken in the bottom, chest, dorsal, lumbar, neck, and abdomen areas where wheelchair users sweat the most (Piqueras, 2013).

**Possible Solution:** Natural fibers ability to breath is more adequate for perspiration problems than synthetic fibers (Ostrover, 2002). Other fabrics that breathe include terry cloth and goretex (Ostrover, 2002).

**Thermal Isolation**

Reduced thermal feeling must be taken into garment consideration, especially in lower limbs and hands for paraplegics and quadriplegics (Piqueras, 2013). Vintage spoke of her solution to newly cold legs: “I’m a newer injury and I’m experiencing muscle wasting so my leggings are starting to get really baggy in places. I may need to alter them but, I’m wary of creating seams that might dig in. Also having them cut to fit a seated body would be preferable since I can pull the front practically up to my neck” (Vintage, 2015). The effects of air and moisture are the
biggest variables when choosing fibers that will keep an individual warm. Thermal warmth is retained when air movement across body can be “reduced”, and moisture can be kept out. Moisture, from excessive perspiration and other bodily fluids can “magnify” temperatures.

**Possible Solutions:** Consideration of fibers that trap warm air while eliminating the moisture must be taken, such as fleece lined leggings which work while wearing jeans.

**Textile Properties**

When fibers are blended the properties of both combine in a “best of both worlds” sort of way. A good example of this is Cotton and Polyester. Cotton is great. It’s light, airy, and feels good to wrap your arms around. Trouble is, the moment you do ANYTHING in cotton it will wrinkle. Walking? wrinkle. Sitting for ten minutes? wrinkle. If you so much as think about coughing, cotton will wrinkle. Now take polyester. Durable and wrinkle resistant, you could roll this bad boy up into a ball at the bottom of your suitcase for a month and the moment you take it out you’ll look fresh from the launders. There’s nothing you can’t do in polyester...except feel comfortable. It’s heavy, awkward, and too stiff and scratchy to wear on its own. But when those two get together, their love child is a blend from fiber heaven, combining all the great characteristics from both. Blends help incorporate the best properties from each fiber. For example, fabrics with a 65/35 blend of Cotton and Polyester (65% Cotton/ 35% Polyester) provide the wearer with clothes that are comfortable and wrinkle resistant (Smeader, 2010).

Consideration in ease must be considered for wheelchair users in garments in the upper torso, especially along the back, shoulders, and arms (Piqueras, 2013). While this can be achieved
through pattern configuration, overall ease in movement can be provided through weave consideration (Piqueras, 2013).

**Considerations for Donning and Doffing**

When constructing pants, the designer must also take into account the physical limitations of the wearer and how this will affect donning and doffing the pants. Pulling pants on requires not only strength and dexterity in the legs and arms but also the trunk to remain stable enough to safely put on the pants. A common symptom of quadriplegia is to have or have had some kind of finger dysfunction. Consideration must be given to garment openings and trims/hardware necessary to take on and off the garment. Velcro, elastic, and zips are preferred by paraplegics, while quadriplegics prefer Velcro or elastic (Piqueras, 2013).

Other solutions would include:

- key ring
- magnetic seams/ Magna seams
- stretch materials
- using elastic thread to attach buttons
- loop- (Fatima, n.d.).
VI. Original Material: *Nekkid* Clothing Line

The Linear Design Process of the Multifunctional Hood

The following artifacts are the culmination of the information and experiences I have gathered for the past year. Using the research gathered I have begun a clothing line called *Nekkid* which will debut its initial line in the Spring of 2017. The following account is a description of the creative process involved in making the multifunctional hood.

Consumer trend and target market research was accumulated from the research gathered in the expressive and aesthetic sections of this report. Twitter, Instagram, Autostraddle, and a number of other websites where the content was created/maintained by my target market were accessed to compose my demographic data, lifestyle data, and target customer profile. An interview with the director of a senior living center was conducted to better understand general clothing needs of wheelchair users. From this information conceptual mood boards were created that
represented my target market and design elements that I wanted to replicate for the season. This board was also used to capture the mood intended for the spring collection.

As I refined my research and started to hone in on important features of function, aesthetics, and expression, this board shifted. For the hood I began to accumulate images of how I could see the hood in terms of drape and silhouette. Initial sketches were composed that explored design details such as fabrics to eliminate environmental sounds and placement of a cell phone holder. From the initial sketches further research was initiated that bridged the gap between the needs of my target market and the physical components necessary to satisfy these needs. The final sketches for the hood detail the construction, fabrication, and trims necessary to accomplish this.
To begin construction of the hood a full detail of body measurements was taken from a 21-year-old able bodied male. With measurements in hand, I headed to the garment district to purchase soft muslin, cashmere, and pre-made pattern pieces.

Other fabrics purchased included a poly wrap knitted tricot spacer fabric which was sourced from a distributor in Colorado for the initial purposes of sound reduction throughout the hood. A test muslin was created from the muslin and poly wrap to see how materials interacted with the desired silhouette.
The properties of the spacer material created a starchy appearance to the hood, making it fan out from the head. This was not only aesthetically unpleasant, but also compromised the sound reducing qualities in the overall garment. A second test muslin was created without the tricot spacer layer and overall fit was desirable. Placement of the pockets and the cellphone holder were measured out on this sample. A production sample was created in the altered fabrications with an outer lining of cashmere and an inner lining of a cotton polyester blend. Construction of the hood in the finalized fabrics found that the overall shape was still quite pointy. Alterations were drafted onto the pattern and another production sample was created along with alterations to pocket placement and overall width of the front extensions of the hood.

Final trims were purchased from large scale home appliance retailers and local hardware stores to fulfill the existing needs of the garment. Upon further consideration and experimentation, the material purchased for the cell phone holder was not functional for the purposes of this garment. Further research was done to find a fabrication that replicated the properties of the purchased items and for the final garment faux leather was used. Finalization of the production sample included finishing seams and altering the hidden pocket bag within the pocket.
Garments

The remaining artifacts contain descriptions and rationale within this clothing line through the expressive, aesthetic, and functional aspects of each garment.

Multifunctional Hood

The independent hood attachment is designed to be worn alone or in combination with several pieces from the collection. When worn over the head the hood is meant to drape over the shoulders in a loose tent silhouette past the knees. When seated, malleable straps at the thigh hold the pieces securely onto the legs as a blanket to help maintain warmth in the lower limbs (Piqueras, 2013). Contributing to the overall heaviness and warmth of the garment is an outer layer of 100% lightweight Cashmere (Fatima, n.d.). Due to its ability to transfer moisture from the skin while still trapping warm dry air, cashmere was found advantageous to keeping the head, shoulders, and legs warm. To help hold in the warmth, while still maintaining moisture wicking properties a poly-cotton knitted blend was used as the inner layer. This layer helps to retain the properties of the cashmere, but has a more desirable hand across exposed parts of the body due to the length of its fibers (Bubonia, 2012, Fatima, n.d.). The properties and tight weave structure of the cashmere allow for easy removal of surface stains, to which the wearer can scrape away most stains using an abrasive foam pad. A black air mesh polyester knitted spacer fabric was initially considered as a spacer material to be sandwiched between the outer layer and inner layer of the hood. The yarn and knit structure of the material made it a preferred choice for sound absorption (Yanping, Hu, 2010). While effectively used in automobiles, this fabric did not prove to successfully transfer to wearable materials, as the drape and hand were unfit for the hood. Post construction critiques on fit and comfort revealed that the poly lining was
uncomfortable and made little difference in sound. For this reason, it was eliminated from option two and was replaced with a heavier top fabric to help in overall heaviness, giving the wearer more sensory input across the head and shoulders and reducing environmental sounds.

Along the outer right hand extension of the garment faux leather was sewn to allow for the user to have a cellphone sit upon the thigh without it falling off. Other materials initially considered were: a plastic foam blend found in “furniture sliders”, clear PVC vinyl, and a material that is often found in cars to help hold gadgets along a dashboard. This was later replaced with faux leather; a material that held similarly sticky properties while a fraction of the weight. While faux leather doesn’t contribute to animal cruelty (as compared to real animal hides), the materials used to create faux/” vegan” leathers are extremely toxic to humans and terrible for the environment (McCutcheon, n.d.). Further research is necessary to meet the needs of my environmentally conscious target market.

An outer pocket was attached to the outer left hand extension to allow for easier access to commonly needed items (Chapstick, keys, etc.). A smaller, more inconspicuous pocket was attached within the outer pocket allowing for the wearer to carry money, condoms, and other personal items that the wearer would want to discreetly contain. A cotton/spandex blend was used for the inner pocket, giving it its ability to hold together tightly while still allow the user access.

Alternative prototypes to this garment include: a double pocket option to allow for the wearer to text while still retaining warmth in their hands and magnetic seams along the neckline to attach to various pieces within the line.
Further consideration, research, and construction is necessary for the hood to be feasible as a ready to wear garment. With an abundance of extra materials and pattern configurations, this garment is not only extremely heavy but also extremely expensive to create—thus leaving the consumer with a very expensive garment to purchase and maintain (through dry cleaning). While the intent was that the cost would be justified due to the multifunctional aspects of the garment (independently and with other garments) the author does see a need to further reduce the cost to make it viable for the ready to wear market. Future work with Garmatex would enable a simpler prototype to be created while still maintaining the added components that make this garment unique.

**Bra Top**

The bra top is 100% cotton knit, allowing for breathability and a slight stretch. A magnetic closure placed on the front of the garment provides those with a limited range of motion easier access to donning and doffing the garment (Fatima, n.d.). This garment was made in response to the many forum posts from women that talked about problems with back snap bras. This garment
is intended less for support (like a traditional bra) and more for an alternative top to be worn with
a high waisted garment.

**Pants**

The pattern is configured to match the needs of a seated body with a higher rise in the back and an increased length along hip to ankle (Fatima, n.d., Piquerás, 2013). Garment is constructed from 85% polyester/15% cotton sweatshirt fleece; a blend that will allow heat in while still eliminating moisture, providing comfort and warmth for the wearer (Fatima, n.d.). Ribbing along the waistline and ankles create a contrast and fit snug against the body allowing the wearer to pull boots over the top. The ribbing was created in a similar blend to the pants with a higher content of lyocell, which provides the stretch without the restrictive properties of elastic (Fatima,
n.d.). Front pleats along the waistband add extra dimension to the hip area and help conceal possible catheters or urinary pouches (Fatima, n.d.). This added element also provides variation to a traditional sweatpant. An opening along the waistband and side seam have been added to allow for medical tubes such as G-Tubes (Fatima, n.d.).

**Alternative Prototypes**

Alternative prototypes would include a magnetic seam from waist to mid-thigh to allow for easier removal while toileting as well as more pronounced pleats and coverage along the hips. Pants would also include oversized cargo pockets along the thigh.
Skirt

The skirt is a tubular straight silhouette skirt 3” up from the natural waistline and ending slightly above the knees. This still allows for substantial coverage of the body without enough excess fabric to get within the wheels of the chair (Fatima, n.d.). Garment is made from 80% cotton/20% lyocell. The stretch of the garment allows for the skirt to be worn tightly across the legs and abdomen, giving the wearer extra support in flattening the stomach, keeping legs together, and pulling on and off. Along the top of the skirt runs a magnetic seam, used to attach a multitude of different skirt options that lay across the lap. Skirt attachments are only half the circumference of the skirt, alleviating excess bulk along the backside. This creates ease of change whether it’s to go from a day to night look or simply to try on clothes in the morning.
**Tank**

The tank is made from a cotton-poly broadcloth. The plain weave structure of the broadcloth allows for maximum breathability. The front bodice is cut 4” higher than the back bodice, giving more coverage to the wearer’s backside while eliminating bulkiness along the front (Fatima, n.d.). Magnetic side seams have been implemented to allow the user to put the garment on lying down with minimal arm moment. Access at the side seams allows for greater autonomy when putting on and removing the top, compared to a garment with access from the back (Fatima, n.d.).

**Scarf**

The scarf is made from a poly cotton outer lining. The inner lining is made from 100% Terrycloth due to its effective ability to absorb moisture (Fatima, n.d.). This garment would help to protect the wearer from excessive wetness on the clothes, and further prevent illness (Ostrover, 2002).

**VII. Conclusion**

It was comforting to know that the “what” hadn’t changed, the universal truths to life as a teenager. Love, school, family, friends, fear, isolation, frustration it was still as fresh as when I was a teen. Teens are still lamenting, still searching, still protesting, but the “how” is unlike generations before. How we consume ideas and the rate at which we’re exposed to new ones is radically shifting. The how encompasses a global community, and this global community is creating a new dialogue with teens. In this way identity is pieced together by the world.
We will still continue to wear clothes, to need clothes. But that how is also changing.

All people will be looking for clothes to meet the needs of all people. Whether pulled by heartstrings or head counts, today's youth will expect designers to conform. With the Internet as their weapon they will have the transparency, the influx of information, and the power to have their voices heard. Clothing has traditionally been designed with an overt reliance on the functional needs of individuals with disabilities. While the apparel industry must take these physical needs into account, much is often lost when function trumps all. It isn’t necessary to substitute one for the other. The elements that make a garment functional can simultaneously meet the expressive and aesthetic needs of an individual. This didacticism is as outdated as the word adaptive.

Clothing was used to identify the social, political, historical, and present day constructs that oppress others in an attempt to move forward. Maybe this is where the term adaptive clothing lives as well. A visual reminder that clothes must be altered from the normative constructs of present day to allow the wearer to participate within society. It becomes adaptive in response to the world we live in and the current necessity that demands for clothes to be differentiated because mass consumption and the culture surrounding it do not account for an entire population of people and their needs.

Within this project though, is the potential for clothing to take the same universal design component that so many other facets of life have taken. Ramps on curbs were implemented to meet the needs of those using wheelchairs. What came from it was the realization that this helped everyone. I believe clothes have this same power. With it, we need a push towards a more comprehensive guide to the anthropometric variables that occur within seated bodies. These
guides must be accessible to pattern makers, designers, manufacturers, and the general population.

Clothes that meet the expressive and aesthetic needs are out there. Now, they must be designed to allow for all to wear them. “In this body, the kind-one of the many kinds-that no one is supposed to want, it is revolutionary to feel good” (Carrie, 2016).

When clothes meet your needs you feel good. And why shouldn’t they? They’re only sitting down after all.

**Reflection**

Initially, I had set out to make adaptive clothing for preschoolers. Designing for this age means designing for dual target markets; the children that will be wearing the clothes as well as the caregivers that will be purchasing the clothes. About a month and a half into researching the buying trends of Gen X parents I realized that the clothing was no longer about the children who needed it, but rather the able bodied adults that would buy it. While I do not doubt the validity of this target market, nor the necessity of designing clothes for young children, I felt as though the identity aspect of the clothing was somehow diluted. I wanted the opportunity to work with and research identity directly for those that would gain the greatest agency over the accessibility of this line. After long conversations with my mentor it was decided that I would create a line instead for an adolescent population that was nearing adulthood. Depending on the source, the age of adolescence varies. I chose to limit my core target market to 16-20-year-old persons. I wanted the target market to fall within a range of people who were possibly sexually active and were in high school/transitioning out of high school, yet not old enough to go to bars. While
there is really no research to back the latter date up, I personally feel that legally being able to drink is an identifier in American society that shifts how an individual connects with others in social settings.

Research initially began with traditional peer reviewed scholarly articles and journals that I could find on clothing for individuals with disabilities. The results were scarce, outdated, and often didn’t match the scope of this project. I had reservations with many articles after I began to question the structures of power within academia. At some point it felt like the privilege behind who is supplying and accessing scholarly information only further reiterated denial of identity in those I wish to understand better. It also just felt old. The research felt stiff and bare, with an air of “cool dad”, completely removed from the vibrant pulsating chaos of youth. I found that if I really wanted to understand teens, I would need to hear their experiences through their voice.

This brings me to the monster that we call the Internet.

For a majority of my time spent working on my Independent Masters Project, I spent it scrolling blogs, social networking sites, and online forums for people with disabilities. In this space I gathered my real research for my target market, my paper, and ultimately, my clothes. This also brings me to life lessons in researching. At some point last month, I learned I had to stop searching. The problem I found was that because fashion and information is so fluid, and my demographic so versed in this fluidity, I found that I was constantly trying to “keep up.” Silhouettes and graphics that seemed cutting edge in December were dead by February.

After months into researching I realized I had not talked in person to a single person. That is scary. It’s also very humbling. I don’t account this to procrastination, but to fear. All personal
accounts of clothing and seated bodies in this research comes from individuals that are much older. My forum discussions from those in the community ranged from 20-65 and my personal interview with Janice Shoab centered around individuals who used wheelchairs regularly in an adult care facility. I found it difficult to find young teens to talk to, and early on decided to focus my search through the Internet entirely to find the information necessary to complete my artifacts. Around this time, I purchased a wheelchair. I felt that this would aide in my understanding of design setbacks/concerns and would be necessary when creating the muslin tests and the final designs. With it I could sit and see how clothing interacted with the wheels, I could feel how my pants would slip down would I would sit, or how uncomfortable it could be to have too many layers on. The thought that I could find solutions through my own experiences alone may be one of the most ableist assumptions that I’ve had along this journey. This is not my experience. You can only see so far from the outside, which brought me to one of the most substantial pieces of advice that I found when researching articles from disability advocates “Nothing for us, without us”. I found throughout all of this that I could gather a lot of information. Valuable information of construction, fabrics, design, style, identity but I don’t have a spinal cord injury. In order to really create clothing that meets the needs of others that do not fit my personal experiences I will need to step away from the Internet. In order to create the change, I know is possible, I will need others. I spent a year talking about how important the social aspect of clothing was. Talking about collaboration, community, and the connections you have with the world. Yet, at the end of the day, I refused to let anyone inside. Two years ago when I started thinking about adaptive clothing, the field of research in disability and clothes was barren. There was nothing for teens, albeit frumpy sweat pants and fleece ponchos. The fact that sweatpants have gained resurgence in teen fashion is something that makes me both smile and sigh.
A lot has changed.

**Future Work**

These considerations are intended as a manual for those that design and manufacture clothing. These differences in overall body structure could be applied to design. This would find its way into design classrooms where design students are just starting out. The dialogue can shift from the beginning, with other digital natives- the ones that truly are going to take over the world.

There is a lot of work to be done before *nekkid* could be a real clothing line. Other considerations are price. Time did not permit for this consideration to be made. A lot of the clothing was made without consideration to what the overall cost of trims, fabric, and construction would be. For the multifunctional hood three different fabrics are used to create it: a cashmere outer layer, the poly fiber “sound proof” fabric, and the poly cotton lining. The use of three fabrics bumps up the price considerably for the consumer. Yet, a huge component to accessibility is the ability to purchase the clothing.
This will be made into a real brand. As I continue to make the clothes I am beginning to see that
this is a process. My own skills in designing and pattern drafting are not strong enough to create
an entire line. Nor is my understanding of the needs and desires of a market that I see from the
outside. The money, experience, and know-how to run a small business will require expertise
that I do not have. For this, I will need others.
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