
Mapping Adaptive Apparel Scholarship in the Clothing and Textiles Discipline

Kerri McBee-Black, University of Missouri; Young-A Lee, Auburn University; Kristen Morris, Colorado State University; and Dawn Michaelson, Baylor University

Keywords: Adaptive Apparel, Disability, Scholarship, Clothing

People with disabilities (PWD), which includes impairments and mobility challenges that impact their abilities to navigate the environment, make up 26% of the U.S. population (National Center on Birth Defects and Developmental Disabilities, 2021) and contribute \$21 billion of disposable income to the marketplace (Yin et al., 2018). With such a significant portion of the population living with disabilities, the need for apparel to accommodate PWD's needs is expected to increase. Thus, this conceptual study examined the status of adaptive apparel for PWD, which leads to the mapping of adaptive apparel as an emerging topic within the academic scholarship. Adaptive apparel is mass-produced clothing designed to be inclusive of people with impairments who face difficulty dressing (McBee-Black & Ha-Brookshire, 2020) but also follows the same trends and styles of clothing designed for people without disabilities.

Despite the size and potential spending power of PWD, they are often overlooked and ignored by the apparel industry (Hall, 2019). However, this seems to be changing as apparel brands and retailers such as Asos[®], Kohls[®], Land's End[®], Nike[®], Target[®], Tommy Hilfiger[®], and Zappos[®] have launched adaptive apparel lines for children, men, and women. The interest in adaptive apparel began in 2016 with the launch of the Tommy Hilfiger[®] adaptive children's wear line (Novellino, 2016). This focus urges a shift in thinking for apparel brands as they appear to be more willing to embrace an inclusive approach to their business (Hall, 2019).

This shift was evident in early 2021 when the Council of Fashion Designers of America (CFDA) hosted a 4-part Adaptive Fashion webinar series with PWD activists, adaptive apparel industry leaders, researchers, and innovators who promoted the need for more inclusive apparel (CFDA, 2021a, 2021b, 2021c, 2021d). This webinar series aimed to expand the availability of adaptive apparel by refuting many misconceptions that PWD and adaptive apparel are niche markets with limited buying power that require significant re-design for ease of donning and doffing. This particular event demonstrated that mainstream fashion-forward apparel could be more inclusive for the PWD community.

As a scholarly topic of research, apparel scholars have also demonstrated an increased interest in adaptive apparel and the PWD community. Recent interest can be connected to research conducted by Lamb (2001), who suggested that apparel scholars could investigate how apparel contributes to the social barriers facing PWD, positing that apparel for the mainstream consumer has drastically changed since the development of functional apparel in the 1960s but has essentially been unchanged for marginalized populations. Lamb's call to action was taken up by researchers such as Kabel et al. (2016), who published research highlighting apparel-related barriers for PWD. Kabel et al.'s work seemed to coincide with the explosion of mainstream fashion-forward adaptive apparel entering the marketplace in 2016. It was as if a perfect storm of attention had been brought to the adaptive apparel movement. From that point forward, additional brands and retailers entered the adaptive apparel marketplace.

Since 2015, there has been an uptick in interest in adaptive apparel by apparel researchers. This is evidenced by searching the the International Textile and Apparel Association (ITAA) proceedings for presentations and design scholarship from 2015-2020. Twenty-seven search terms were used and resulted in 47 studies. The comprehensive list of terms included adaptive apparel, adaptive clothing, disability, abilities, disabled, handicap/ed, impairment/ed, autism, wheelchair, adaptive technology, amputee, amputated, blind, Paralympic, diabetes, scoliosis, Alzheimer's, cognitive, injury, spinal cord injury, paralysis, brace, inclusion, inclusive, and caregivers. Of the 47 results, 35 were to research, teaching, and concept-related presentations, followed by 10 design scholarship, one special topic session, and one workshop. In the five years, there was an increasing trend in scholarship related to adaptive apparel. There was an increase from five presentations or designs in 2015, six in 2016, eight in 2017, eight in 2018, seven in 2019, and 13 in 2020. This increased interest supports that adaptive apparel is developing as an emerging research topic among apparel scholars.

Based on the data from the ITAA Proceedings, the following topics have been emerging as key research foci: (a) adaptive apparel design and fit, specifically, using user-centered, inclusive, and universal design approaches; (b) functional adaptive apparel design, exploring how performance and function can improve adaptive apparel design; (c) 3D applications used to improve adaptive apparel design and fit for the PWD consumer; (d) social participation barriers related to lack of apparel for the PWD consumer; (e) consumer behavior related research with the PWD consumer; and (f) pedagogy and education to ensure the next generation of apparel industry workers learn about inclusive design approaches and the needs of the PWD consumer.

While these emerging scholarly themes help illustrate the increased interest in adaptive apparel by apparel scholars in the last five years, these are not inclusive to represent all possible scholarship within the topical area. The apparel industry's increased interest and the increasing impact of PWD on the consumer marketplace suggest that adaptive apparel is emerging as a formidable addition to the apparel marketplace for many apparel brands and retailers. The PWD consumer is poised for significant contributions from both apparel brands and apparel scholars. Additional research is warranted as the adaptive apparel marketplace increases. Adaptive apparel scholarship could serve as a conduit of information and guidance for the adaptive apparel brands and retailers who are either expanding or entering the adaptive marketplace.

In addition, apparel scholars can facilitate cross-functional research teams within apparel scholarship and the apparel industry, focusing on the diverse subject matters, as highlighted above, that impact PWD and their wants and needs. From the conceptual dialogue of this study, we propose the introduction of an ad-hoc working group consisting of apparel scholars, apparel brands and retailers, apparel advocates, PWD represented organizations, and PWD to explore and contemplate the different approaches impacting PWD in the apparel field, including curricula development, research collaboration through funding, interdisciplinary research collaboration, and policy research.

This conceptual study emphasizes that continued research into adaptive apparel is needed for both the PWD consumer and the adaptive apparel industry.

This study also demonstrates the need to build a community of dedicated scholars, industry leaders, and disability advocates to ensure the continued focus on diversity, inclusion, and equity in apparel scholarship and industry. True intra- and multidisciplinary collaboration among interested scholars and their partners is suggested to build upon the existing academic literature and to ensure meeting the adaptive apparel needs of the PWD consumer. Now is the time for a call of action to build a more inclusive discipline by calling attention to the needs and wants of the PWD consumer through engagement in adaptive apparel scholarship.

References

- Council of Fashion Designers of America (2021a, January 18). *CFDA webinar: Introduction to adaptive fashion* [Video]. YouTube. <https://www.youtube.com/watch?v=16zKco6qZf8&t=3242s>
- Council of Fashion Designers of America (2021b, January 22). *CFDA webinar: Learning from the leaders* [Video]. YouTube. <https://www.youtube.com/watch?v=FDm6runZLVg>
- Council of Fashion Designers of America (2021c, February 2). *CFDA webinar: Learning from the researchers* [Video]. YouTube. <https://www.youtube.com/watch?v=bJX0oGGqRso>
- Hall, C. (2019, March 4). Adaptive apparel could be a \$47 million opportunity for brands. *Sourcing Journal*. <https://sourcingjournal.com/topics/business-news/adaptive-apparel-segment-coresight-research-141461/>
- Kabel, A., McBee-Black, K., & Dimka, J. (2016). Apparel-related participation barriers: Ability, adaptation, and engagement. *Disability and Rehabilitation*, 38(22), 2184-2192. <https://doi.org/10.3109/09638288.2015.1123309>
- Lamb, J. M. (2001). Disability and the social importance of appearance. *Clothing and Textiles Research Journal*, 19(3), 134-143. <https://doi.org/10.1177/0887302X0101900304>
- McBee-Black, K., & Ha-Brookshire, J. (2020). Words matter: A content analysis of the definitions and usage of the terms for apparel marketed to people living with disabilities. *Clothing and Textiles Research Journal*, 38(3), 166-181. <https://journals.sagepub.com/doi/10.1177/0887302X19890416>
- National Center on Birth Defects and Developmental Disabilities (2021). *Disability impacts all of us*. Centers for Disease Control and Prevention. <https://www.cdc.gov/ncbddd/disabilityandhealth/infographic-disability-impacts-all.html>
- Novellino, T. (2016, February 23). Tommy Hilfiger now sells adaptive clothes for disabled kids. *New York Business Journal*. <https://www.bizjournals.com/newyork/news/2016/02/23/tommy-hilfiger-selling-clothes-for-disabled-kids.html>
- Yin, M., Shaewitz, D., Overton, C., & Smith, D.-M. (2018). *A hidden market: The purchasing power of working-age adults with disabilities*. American Institutes for Research. https://www.researchgate.net/profile/Dahlia_Shaewitz/publication/324603094_A_Hidden_Market_The_Purchasing_Power_of_Working-Age_Adults_With_Disabilities_A_Hidden_Market_The_Purchasing_Power_of_Working-Age_Adults_With_Disabilities/links/5ad89016458515c60f5