



Adaptive Intimate Apparel: Intersectionality of Scholarship and Industry in the Clothing and Textiles Discipline

Kerri McBee-Black, Halimat Ipaye, and Ashten Lorts, University of Missouri

Keywords: adaptive apparel, intimate apparel, people with disabilities

People with disabilities (PWDs) are the largest minority group globally. In 2022, nearly 1.2-1.85 billion people, or 15% of the global population live with a disability (Donovan, 2020; The World Bank, 2021; World Health Organization, 2021). When friends and family of PWDs are included, another 3.3 billion consumers connected to disability are added. Further, PWDs 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 demand for apparel to accommodate PWD's needs is significant. Adaptive intimate apparel is mass-produced intimates designed to include people with disabilities and impairments who face difficulty dressing and also follows the same trends and styles of clothing designed for people without disabilities. Recently, apparel brands have begun to address the apparel needs of PWDs; however, a gap in the intimates' market remains. Thus, this conceptual study examined the status of adaptive intimate apparel for PWDs, which leads to the intersectionality of adaptive intimate apparel and apparel scholarship in the clothing and textile discipline.

There is a shift in the apparel industry to champion diversity and be more inclusive of race, size, gender, and disability (Intel, 2021; Intel, 2022). Small adaptive intimate apparel brands such as Undercare, Intimately, and Slick Chicks, embrace the disabled consumer and provide adaptive features that are both functional and aesthetic to ensure the best experience for the user. However, despite mainstream apparel brands and retailers like Target, Zappos, and Tommy Hilfiger embracing adaptive apparel creation for PWDs, apparel brands seem to lack an interest in providing adaptive intimate apparel for PWDs. Considering the global lingerie market is currently worth \$50 billion and is estimated to be worth \$79 billion by 2027 (Smith, 2022b), and the lingerie market in the U.S. is currently worth \$9 billion and is projected to be worth \$11 billion by 2025 (Smith, 2022a), brands in the intimate's market have significant potential to engage the PWDs consumer. When calculating the number of women in the United States with disabilities, 36 million, and the lingerie market value, we can conservatively estimate that the adaptive intimate's market is currently worth roughly \$5 billion globally and \$756 million in the U.S. (Centers for Disease Control and Prevention, 2020; Smith, 2022a; Smith 2022b; World Health Organization, 2021).

As a scholarly topic of research, intimate adaptive apparel also lacks attention. This is evidenced by searching the International Textile and Apparel Association (ITAA) proceedings for adaptive and disability-related presentations and design scholarship from 2015-to 2021. Twenty-eight search terms were used and resulted in 71 studies. The comprehensive list of search terms included: adaptive apparel, adaptive clothing, disability, abilities, disabled, handicap/ed, impairment/ed, adaptive technology, amputee, amputated, blind, Paralympic, bras,

lingerie, diabetes, scoliosis, Alzheimer's, cognitive, injury, spinal cord injury, paralysis, inclusive, caregivers, intimate adaptive apparel, intimate adaptive clothing, and adaptive, underwear, and intimates.

Of the 71 studies, the researchers eliminated 39 studies. While the eliminated studies included one of the search terms, the focus of their research concepts was beyond the scope of this study. Therefore, 32 useable studies were further analyzed. Of the 32 useable results, 27 were for research, teaching, and conceptual submissions, followed by five design scholarship.

When the researchers searched all ITAA proceedings in the five years from 2015-to 2021 for the term "intimate apparel," there were only eight results (three related to bras or binders, three related to lingerie, and one to underwear). Interestingly, of the eight submissions, only one related to adaptive apparel for PWDs. Further, when comparing the results from this study to the results from a study presented at the 2021 ITAA Conference (McBee-Black et al., 2021), intimate adaptive apparel research was far less represented than adaptive apparel research. The 2021 study found 47 adaptive and disability-related search results from the 2015-2021 ITAA proceedings, increasing from five presentations in 2015 to 13 in 2020. Therefore, demonstrating an increased interest in adaptive apparel among textile and apparel scholars.

However, while there has been an increased interest in adaptive apparel among apparel scholars, the same can not be said for adaptive intimate apparel. Thus, intimate adaptive apparel is poised to become an area of apparel scholarship that can impact the PWD consumer/user and guide future research opportunities for apparel scholars among all categories of research focus, including (a) intimate apparel related to design and fit, using participatory and user-centered design approaches; (b) functional intimate apparel design, exploring how performance and function can improve intimate apparel design for PWDs; (c) inclusive design applications as it relates to gender non-conforming and PWDs; (d) consumption habits and practices among PWDs related to adaptive intimate apparel; (e) body positivity related to intimates for PWDs; (f) sex, disability, and adaptive intimate apparel for PWDs; and (g) size inclusivity within adaptive intimate apparel for PWDs.

While these scholarly themes help illustrate the potential research foci of future adaptive intimate apparel scholars, these categories are not inclusive to represent all possible scholarship within the adaptive intimate apparel realm. The apparel industry's increased interest and the increasing impact of PWDs on the consumer marketplace suggest that adaptive intimate apparel could emerge as the next phase for the emerging adaptive apparel marketplace brands and retailers. In fact, on March 24, 2022, Mindy Scheier, Founder and CEO of GAMUT Management, a disability talent acquisition firm and consultant to brands and retailers developing adaptive products for the marketplace, announced that they have begun to work with Victoria's Secret to understand the needs of customers with disabilities and explore ways to meet the needs of PWDs (Rosa, 2022).

As the intimate apparel market requires a unique perspective regarding fit, further evaluation of adaptive intimate apparel and fit is required. As this paper addresses a conceptual approach, we propose that apparel scholars explore the area of adaptive intimate apparel for PWDs and an inclusive approach to the intimate apparel consumer (e.g., gender non-conforming,

plus-size, aging, modesty, etc.). Cross-functional collaboration within research teams, including academic researchers and industry leaders, could provide significant insight into the fit and function of adaptive intimate apparel for the PWD user.

Intimate apparel is a key category in the apparel industry; we must consider the needs of all consumers and build a more inclusive discipline by calling attention to the intimate apparel needs and wants of the PWD consumer through engagement in adaptive apparel scholarship. This conceptual study emphasizes that additional research into adaptive intimate apparel is needed for PWD users and the adaptive apparel industry. This study also demonstrates the need to build a community of motivated scholars and industry leaders to ensure a focus on diversity, inclusion, and equity in adaptive intimate apparel scholarship and the intimate apparel industry. By examining the adaptive intimate apparel needs of marginalized consumers such as PWDs, new and innovative approaches can be explored, including curricula development, research collaboration through funding, and interdisciplinary research collaboration.

References

- Centers for Disease Control and Prevention, Disability and health information for women with disabilities (2020). Retrieved February 8, 2022, from <https://www.cdc.gov/ncbddd/disabilityandhealth/women.html#ref>
- Donovan, R. (2020). (rep.). *Report Summary: The Global Economics of Disability*. Return on Disability. Retrieved February 3, 2022, from <http://rod-group.com/sites/default/files/Summary%20Report%20-%20The%20Global%20Economics%20of%20Disability%202020.pdf>.
- McBee-Black, K. & Lee, Y. & Morris, K. D. & Michaelson, D., (2021) "Mapping Adaptive Apparel Scholarship in the Clothing and Textile Discipline," *International Textile and Apparel Association Annual Conference Proceedings* 78(1).
doi: <https://doi.org/10.31274/itaa.13283>
- Mintel. (2021). (rep.). *Serving the underserved*. Retrieved February 5, 2022.
- Mintel. (2022). (rep.). *A call for inclusivity*. Retrieved February 5, 2022.
- Rosa, J. (2022, March 24). How a mom's mission for adaptive apparel for son inspired a fashion empire. *ABC News*. <https://abcnews.go.com/GMA/Family/moms-mission-adaptive-apparel-son-inspired-fashion-empire/story?id=83629757>
- Smith, P. (2022). (rep.). *Lingerie market value in the United States from 2015 to 2025*. Statista. Retrieved February 6, 2022, from <https://www.statista.com/statistics/711755/value-of-the-us-women-s-lingerie-market/>.
- Smith, P. (2022). (rep.). *Women's lingerie market value worldwide from 2018 to 2027*. Statista. Retrieved February 6, 2022, from <https://www.statista.com/statistics/720288/lingerie-retail-market-value/>
- The World Bank. (2021, October 10). *Disability inclusion*. Understanding Poverty. Retrieved February 5, 2022, from <https://www.worldbank.org/en/topic/disability#1>

- World Health Organization. (2021, November 24). *Disability and health*. World Health Organization. Retrieved February 4, 2022, from <https://www.who.int/en/news-room/fact-sheets/detail/disability-and-health>
- 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/5ad89016458515c60f59