



Mapping the Clothing Taskscape: Apparel Needs in Rehabilitation Therapy

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Introduction: Clothing is a fundamental part of our material culture; it is designed, manufactured, worn, washed, and eventually discarded (Miller, 2005). Dressing—the act of putting on and taking off clothes—is an activity that is taken for granted until the balance and synchronized movements required to do so are lost due to illness, injury, disease, or surgery. Clothing is not frivolous; its selection provides a means of managing self-image (e.g., Entwistle, 2001), communicating messages to others (e.g., Hethorn & Kaiser, 1998), and influencing individuals' behaviour (e.g., Adam & Galinsky, 2012). Functional design prioritizes people's expectations and preferences to create clothing that enhances performance (Lamb & Kallal, 1992; Rosenblad-Wallin, 1985), and this requires an effective means of assessing user needs. People in rehabilitation therapy (RT) have a complex relationship with their clothing, yet few researchers have investigated apparel needs within this context.

Method: Qualitative studies, including ethnographical research approaches, offer a way to explore a situation with a purposive sample of people in order to expand understanding (Creswell, 2009). While the traditional definition of ethnography may elicit images of research with distant ethnicities, this methodology is well suited to informing designers (see Wasson, 2000). This study conceptualized and operationalized the clothing taskscape (CT)—selecting, shopping, dressing, toileting, bathing, eating, exercising, sleeping, laundering, and storing—to analyze apparel needs. Data collection included field observation of in-hospital rehabilitation therapy (RT) sessions and patients' care routines with their personal support workers (n=46) to highlight garment/person interfaces. Following this, occupational and physiotherapists, personal support workers, and patients (n=34) were interviewed.

Discussion: The CT revealed factors that deserve consideration in order to better understand people's RT experience and to inform the design of clothing, footwear, and patient services and environments. It became apparent through observation that wardrobe selection needed to be strategic to include specific clothing and footwear attributes. Dressing performance needed to be considered in relation to patients' physical capabilities, their use of mobility devices, dressing tools, and toileting equipment, as well as the hospital's built environment. Considerations for design include: fabric choices that reduce friction; wider garment silhouette and circumference of sleeve wrists, pant legs, and necklines; use of magnetic fasteners; dual waistbands; inclusion of different types of pockets; the addition of loops for a variety of clothing items and shoes; and the

placement of visual cues as a guide to garment orientation. Although such design attributes seem trivial when viewed in isolation, they create a tipping point when combined into a garment design that enables dressing and toileting independence for patients in RT and thus reduce the burden of care. Problem garments (namely socks and shoes, trousers, underwear, and brassieres) are opportunities for product development. Clothing is an additional compensatory measure in patients' recovery. This study highlights the need for improved patient, caregiver, and therapist education in regards to which kinds of clothes are best, as this would streamline morning routines, clothing selection, and the management of soiled laundry.

Conclusion: The CT provides an effective lens through which to view the clothing environment. Previous studies in functional apparel design have focused on the analysis of required design attributes and how well an apparel product works in a specific situation, as well as the evaluation of design effectiveness in apparel products created to mediate specialized needs—that is, *what* to look for and *how well* a design intervention works. This study expands the design process by employing an ethnographical approach not commonly used within the clothing design community. The study utilizes a *how* approach to more holistically assess the use scenario specifically through CT analysis. Findings are relevant to designers and educators, product developers, and also to patients, their families, therapists, and care workers.

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