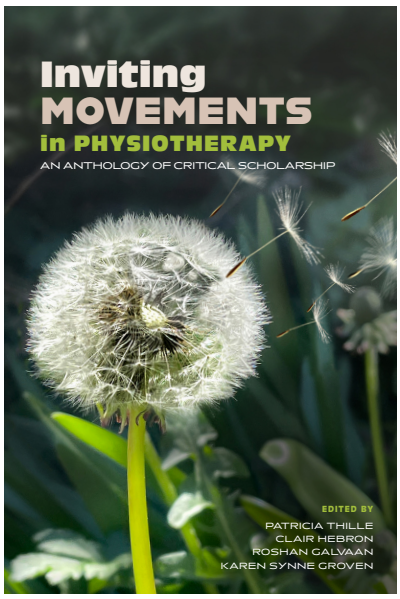

Inviting movements in physiotherapy: An anthology of critical scholarship

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Chapter 4

Destabilising the norm: A critical experimental approach to move physiotherapy beyond movement "normalisation"

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ABSTRACT:

In this chapter, we explore the concept of "normality" in physiotherapy theory and practice. We engage with postmodern critical theory and Deleuzian and Foucauldian philosophy to consider (1) how "normality" is largely rooted in socio-political structures and a Global North association with "good," and (2) the extent to which the physiotherapy profession often works against the efforts of individuals with disability to find and make viable alternative movement possibilities for everyday task performance. Through a critical experimental approach, we summarize evidence from a prior study of the short-term movement consequences of physiotherapists operating under a "normalising" mindset for people post-stroke. The results of the study suggest that the intent to "normalise" movement may have unintended and negative functional movement consequences, including a reduced capacity for movement adaptation post-stroke. The chapter concludes with a proposition to further "destabilise the norm" in physiotherapy by considering how physiotherapists can focus on attunement and the development of capacity for meaningful activities, a process called "niche construction." By emphasizing critical theory in combination with supporting empirical evidence—an approach we refer to as a "critical experimental approach"—this chapter seeks to mobilise alternative perspectives and consider the promotion of adaptive movement diversity over "normality."

CHAPTER 4

Destabilising the norm

A CRITICAL EXPERIMENTAL APPROACH TO MOVE PHYSIOTHERAPY BEYOND MOVEMENT "NORMALISATION"

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Normality is a paved road: It's comfortable to walk, but no flowers grow.
— Vincent van Gogh

"Normality" is a core concept underlying physiotherapy. This concept is expressed in the everyday practices of physiotherapists who often aim to identify and minimize movement deviations in people with disability from the norms defined by non-disabled people.[1] The unstated assumption of this practice is that non-disabled people have "correct" or "normal" bodies that express "correct" and "normal" movements, believed to be the basis for successful activity and social participation (Gibson, 2016; Guccione et al., 2019; Imrie, 2000; Shogan, 1998). The undesirable consequence is that diversity in movement expression may often be interpreted as error requiring intervention. An example of this style of practice is the provision of physical support or assistance by a physiotherapist to people with disability triggered not by need or safety concerns, but by the mere observation of movement differences from idealized "norms." For instance, if a person with stroke demonstrates more postural sway than a non-disabled comparator, physiotherapists will commonly intervene via physical assistance to reduce sway ("stabilise").

In this chapter, we examine the underpinnings of the practice of physiotherapist assistance for movement "normalisation" by emphasizing critical

social theory and considering how critical theory can move physiotherapy beyond the concept of "normality." Specifically, we engage with postmodern critical theory (Gibson, 2016; Nixon et al., 2017) and Deleuzian (Deleuze, 1994; Deleuze & Guattari, 1988; Stephens et al., 2015) and Foucauldian (Foucault, 2013; Tremain, 2006) philosophy to consider (1) how "normality" is largely rooted in socio-political structures and a Global North association with "good," and (2) the extent to which the physiotherapy profession often works against the efforts of individuals with disability to find and make viable alternative (yet effective) movement possibilities for performance of their everyday tasks, and consequently, prevents physiotherapists from embracing movement diversity in their practice.

The chapter extends on the existing body of literature critical of normalisation tendencies in the profession (e.g., Gibson, 2016; Nicholls, 2017; Nicholls & Gibson, 2010) by proposing new strategies to "destabilise the norm." Specifically, we recognise that biomedicine remains dominant in physiotherapy, and, thus, clinical practice (and the empirical work that supports it) continues to be strongly influenced by normalisation tendencies (Gibson, 2016; Nicholls, 2012, 2017, 2022). This unfortunate scenario reveals the need for new strategies to "destabilise" the use of non-disabled norms as a guiding principle for physiotherapy practice and to catalyse a new model of practice—a model that leverages the movement diversity expressed by people with disability to promote the achievement of their therapeutic goals. In terms of a new strategy, we promote what we refer to as a "critical experimental approach," that is, an approach that aims to test hypotheses derived from theoretical, critical analysis of physiotherapy practices. If these hypotheses are confirmed, this approach will offer empirical evidence in support of important theoretical critiques. Additionally, results might give expression to new theoretical concepts to support the transformation of clinical practice. We expect this critical experimental approach to be particularly effective for physiotherapists (especially those in Western countries) who favour evidence-based practice—making use of the best available scientific evidence, moderated by recipient of care preferences—to make clinical decisions (Sackett, 1997; Vaz et al., 2017). Because evidence-based practice is so engrained in physiotherapy culture (Nicholls, 2012), many physiotherapists are hesitant or resistant to readily uptake critical theory. Empirical evidence from a critical experimental approach might also facilitate engagement with

critical theory by physiotherapists for whom exposure to philosophy and the liberal arts was not part of their education (Blanton et al., 2020; Schwab, Andrade, et al., 2023). While research evidence must always be evaluated through the prism of theory (Vaz et al., 2017), it can be difficult for many clinicians to merge and intertwine the viewpoints and critically evaluate the philosophical underpinnings of the evidence that informs their practice because the biomedical view is so well-entrenched (Nicholls, 2012).

To exemplify the critical experimental approach, we summarize the results of our own empirical work carefully designed through the lens of critical theory to examine the impact of physiotherapist postural assistance to minimize postural sway (a practice aimed to "normalise" postural control) on the movement strategies developed by individuals with stroke to perform an upper-limb task. The results of that study showed that physiotherapist postural assistance is detrimental to functionally effective motor adaption. Specifically, assistance prevents individuals with stroke from organizing their increased body sway in ways that facilitate task performance. Results are interpreted in light of the well-established critique of normalisation tendencies. We also show how the results give expression to a new theoretical concept—*activist affordance*—an important expansion on the affordance concept from ecological psychology coined by a disability scholar, Arseli Dokumaci (Dokumaci, 2016, 2017, 2020, 2023), to capture the active, creative, embodied work that people with disability must do to create enabling conditions for themselves in a world that is often insensitive to their bodies and skill sets—a process we refer to as "niche construction" (Dokumaci, 2023; Silva & Schwab, 2024). This concept not only challenges the norm but also reveals new principles to guide the design of physiotherapy interventions. Rather than focusing on "normalising movement," physiotherapy practice can support people with disability in this creative, embodied-embedded process of niche construction. A physiotherapy practice aligned with this principle would catalyse interventions to assist individuals with disability to (1) enhance their attunement to and control over the movement repertoire that defines their lived bodies—however limited or different; and (2) support their attempt to leverage this movement repertoire in the service of their functional goals (however they define them).

By challenging the physiotherapy concept of "normality"—theoretically, philosophically, and empirically—this chapter aims to mobilise alternative

perspectives on disabled movement and consider the promotion of adaptive movement diversity over "normality."

Normality: A pervasive clinical assumption

The earliest roots of "normality" in physiotherapy can be traced to the seventeenth-century mechanistic hypothesis proposed by Descartes. According to the mechanistic hypothesis, all physical processes—including the body and human movement—can be reduced and explained in mechanical terms (Martínez-Pernía et al., 2017; Reed, 1982). The goal is to identify *mechanisms*—structures consisting of a set of critical component parts that have specific functions (functions that are invariant over changing contexts) and that are arranged in a way to achieve some outcome of interest (Bechtel & Abrahamsen, 2005). The mechanistic style of explanation involves breaking down a system into its simplest functional components (reductionism) and, in the biological sciences, localizing the components in terms of concrete anatomical structures. When movement is reduced to mechanical terms, it is presumed that complexity can arise from simplicity. That is, context-independent anatomical components are assumed to linearly sum to produce higher-order functional behaviours like movement (Turvey, 1986).

Much of the contemporary emphasis placed on "normality" is entrenched in socio-political structures (Gibson, 2016) and a Global North association between "normal" and "good" (Davis, 2016; Grue & Heiberg, 2006). "Normal" largely became associated with "good" due to shifting interpretations of statistical averages and the rise of the eugenics movement in the early twentieth century—which aimed to "improve humans so that deviations from the norm diminish" (Davis, 2016, p. 3; Grue & Heiberg, 2006).

While most physiotherapists would certainly reject the views described in the previous paragraph, "normality" retains its stronghold in their professional practice—"normal" range of motion, "normal" tone, "normal" strength, etc. Physiotherapists often attempt to "correct" body structure and function impairments to promote an idealized "normal" movement pattern (Cavanaugh et al., 2017; Gibson, 2016). In doing so, they may unknowingly limit a recipient of care's movement possibilities by placing a narrow focus on "normalisation" of impaired body structures and functions (Gibson, 2016). This practice is principally consistent with medical models of disability which emphasize the etiological factors that lead to context-independent

pathological processes and largely de-emphasize the multifactorial nature of disability (Marks, 1997; Schwab & Silva, 2023). One paradigmatic clinical example of physiotherapists striving for "normality" can be seen in the provision of physical assistance to people with disability triggered not by need or safety concerns, but by the simple observation of movement differences from idealized "norms." For instance, if a person with stroke demonstrates more postural sway while standing than a non-disabled comparator, physiotherapists will commonly intervene via physical assistance to reduce sway even in the absence of any overt threat to safety.

There are several underlying and taken-for-granted assumptions implicitly grounding this practice: (a) Functional movement performance can be reduced to simpler component parts (e.g., individual joint movement patterns) that are either "correct" or "incorrect," regardless of context, consistent with medical models of disability (Grosz, 2018; Harbourne & Stergiou, 2009; Martínez-Pernía et al., 2017; Nicholls, 2022; Nicholls & Gibson, 2010; van Dijk et al., 2017); (b) individuals without disability consistently demonstrate an idealized "correct" or "normal" way of moving (Gibson, 2016; Guccione et al., 2019; Imrie, 2000; Shogan, 1998); and (c) variation from that "correct" benchmark (e.g., increased postural sway) is what causes functional deficits and thus represents error requiring correction (i.e., "normalisation") (Gibson, 2016; Higgs, 2001; Nicholls, 2017, 2022) through physiotherapist assistance. Thus, the decision to provide physical assistance in this situation to reduce postural sway in the absence of threats to balance is fundamentally motivated by a desire to create "normal" movement, even if this is not explicitly acknowledged or known.

The impact of "normality" on people with disability

Dominant ways of thinking about disability and physiotherapy have long been guided by non-disabled "experts" on disability who determine what is and is not a "good" outcome, often relegating people with disability to a peripheral role. Although the profession of physiotherapy has explicitly acknowledged the importance of valuing disability as diversity (Roush & Sharby, 2011), the pervasive and implicit presence of "normality" as a guiding principle for interventions and assessments prevents expression of this value in physiotherapy practice (Schwab & Silva, 2023). For instance, research by Feldner et al. (2022) suggests that many physiotherapy assistants

are aversive ableists. Aversive ableism (Friedman, 2018) refers to people who are progressive and well-intentioned, but they engage in implicitly biased thoughts or actions characterized by assumptions that "normal" bodies/minds are the ideal and subsequent differential treatment of people with actual or presumed non-typical functioning (Feldner et al., 2022). Aversive ableists have low explicit prejudice, but high implicit prejudice toward people with disability. The underlying assumption of "normality" present in everyday clinical physiotherapy practice likely contributes to these implicit ableist attitudes held by physiotherapists and physiotherapy assistants (Schwab & Silva, 2023).

An exclusive focus on performing a task "correctly" (i.e., functionalistic attitude) on the part of the physiotherapist can preclude the development of alternative movement strategies for a person with disability (Toro & Martiny, 2020). When physiotherapists assume this perspective, even with the best of intentions, the person with disability can become a "specimen" to fix, and the physiotherapist becomes an expert for restoration and recovery (Nicholls & Nicholls, 2020). These client-therapist roles (with a functionalistic attitude from the physiotherapist) can contribute to unfavourable and awkward social interactions (as well as unfavourable outcomes) for the person with disability (Toro & Martiny, 2020).

The definition of disability as a departure from "normal" as defined by society and health professionals can reinforce negative self-perceptions that often accompany disability, like objectification of the body (Kitzmüller et al., 2013). Individuals with Friedreich's Ataxia, for instance, have reported that they often try to move in a way that is "normal" so that they are able to "fit in." In doing so, they express that this can limit the exploration of and discovery of diverse and adaptable movement patterns that work for them and can subsequently increase cognitive performance monitoring (Schwab, et al., 2022), which is known to adversely impact motor performance (Schmader et al., 2008).

Critical theory to destabilise the norm in physiotherapy

Engagement with postmodern critical theory and Deleuzian and Foucauldian philosophy provides insights that can act to challenge the assumptions of "normality" underlying physiotherapy. Postmodern critical theory combines critical approaches and postmodernism, both of which express

scepticism and distrust toward modern social and cultural values, to challenge prevailing ideas in Western science (Foucault, 2013; Gibson, 2016). In terms of the concept of "normality," postmodern critical theory posits that "normality" fails to recognize intersecting concerns like social justice, patriarchy, and prejudice—which are especially prevalent concerns in the Global North (Yoshida, 2018). When intersecting concerns are ignored, diverse movement patterns can be artificially pathologized (Schwab, et al., 2022). As one example from feminist philosophy, Young (1980) argued that the often-restricted movement patterns of women and girls (i.e., "throwing like a girl") are due to "self-objectification" attributable to the sexual objectification and socialization imposed by Western culture. A deviation from "normality" in this case is not pathological; it is related to the intersection of multiple contextual factors (Schwab, et al., 2022). In large part, the Global North determines how health and disability are defined, and elite groups (e.g., non-disabled) are given the power in society to establish what constitutes a "norm" (Nicholls, 2022).

Consistent with postmodern critical theory, Foucauldian philosophy challenges the concept of "normality." Foucault argued that many taken-for-granted medical practices, like "normality," were developed for clinicians to attain social power (Monaghan & Gabe, 2022). A "medical gaze" governs and decides what is to become of a passive and silent object of knowledge (i.e., the recipient of care) (Foucault, 2013; Rendell, 2004). "Normalisation" plays a critical role in disability, and Foucault presented disability as a social-political construct rather than a biological fact. "Normality" was perceived by Foucault as a way to identify people to make them governable. Governmental practices divide people with disability from others to produce an illusion of impairment (i.e., illusion of inherent lack or deficit) which provides justification for regulation and the establishment of a variety of institutions to protect society from "abnormal" persons (Grue & Heiberg, 2006; Tremain, 2006).

Like Foucault, Deleuze also emphasized the role of social context in shaping ideas about "normality." Deleuze argued that the body, disability, and environment are not in a persistent state, but rather "becoming"—constantly changing in relationship with each other (Deleuze & Guattari, 1988; Stephens et al., 2015). By focusing on "becoming," the lived experience of disability can be considered in response to social norms, physical access, and cultural norms which may fundamentally alter, enhance, or

limit movement solutions (Stephens et al., 2015). Accordingly, there is an opportunity for physiotherapists to promote and enhance the viability of alternative movement possibilities and embrace movement differences in people with disability (Deleuze, 1994; Gibson et al., 2020; Nicholls, 2022). Movement differences can be viewed as creative strategies, rather than as mistakes (Gard et al., 2020). For physiotherapists, this can be considered with respect to how we often suppress movement differences. When differences are suppressed, individuals' movement possibilities are also suppressed—in an already "shrunken" world of movement possibilities (Dokumaci, 2023).

Additional support for the theoretical and philosophical views on "normality" and disability previously presented can be found in the basic motor control literature which indicates that even highly skilled performers (e.g., athletes, craftsmen) demonstrate movement patterns that are both variable and task-specific (Biryukova et al., 2015; Gray, 2020; Hristovski et al., 2011; Orth et al., 2017). *This variation is an expression of flexibility* (Ranganathan et al., 2020; Stergiou et al., 2006; Stergiou & Decker, 2011) and can be functional, rather than simply reflecting random error (Riley & Turvey, 2002) believed to arise from noisy sensorimotor processes (Faisal et al., 2008). Even when explicit task demands remain constant, multiple repetitions of a movement exhibit varying patterns (Bernstein, 1967; Scholz & Schöner, 1999). Intra-individual movement variation allows for the selection of a movement strategy to fit a given context and consistently meet the demands of a task goal (Davids et al., 2003; Hadders-Algra, 2010; Latash et al., 2002; Levac et al., 2019; Scholz & Schöner, 1999). Further, there is commonly inter-individual variability found between highly skilled performers within the same discipline (e.g., in athletics), providing additional evidence to suggest that one repeatable, "correct" way of moving may not exist (Gray, 2021).

In light of this contemporary understanding of motor control, movement variations in people with disability compared to non-disabled people may not necessarily represent error. Rather, these movement variations often reflect their creative strategies to perform everyday tasks under the unique disability-related constraints they are exposed to (Guccione et al., 2019; Stergiou & Decker, 2011). Consistent with the ideas of Deleuze and Foucault, "atypical" movement patterns found in people with disability may actually reflect adaptability, and interventions designed to "correct" these patterns can interfere

with adaptability for functional task performance (Fonseca et al., 2001; Latash & Anson, 1996; Rahlin et al., 2019; Schwab, Andrade, et al., 2023; Schwab, et al., 2022).

A critical experimental approach to complement critical theory: Consequences of "rehabbing to a norm" after stroke

Despite theoretical evidence of the incongruency of "normalisation" in physiotherapy practice identified by critical rehabilitation scholars and motor control theory, clinical practice still remains heavily guided by non-disabled norms (Gibson, 2016; Nicholls, 2012, 2017, 2022). Changing this scenario may require a new strategy—one that connects more directly with the training of physiotherapists. We propose a strategy that leverages physiotherapist training in the use of empirical evidence to guide practice. Importantly, however, the approach we propose aims to test hypotheses derived from theoretical, critical analysis of clinical practices. This approach—which we refer to as a "critical experimental approach"—offers empirical evidence in support of important theoretical critiques (e.g., normality) and gives expression to new theoretical concepts to support the transformation of clinical practice (e.g., niche construction). In this section, we exemplify the critical experimental approach to specifically challenge the earlier discussed clinical example of therapists often striving for "normality" by providing physical assistance to reduce standing postural sway in individuals post-stroke in the absence of overt threats to safety. Clinically, this can be observed by a therapist using a gait belt to "steady" or "stabilise" an individual with disability during standing when there is no threat to safety, but rather, because there is a deviation from a non-disabled comparator (i.e., from what is considered "normal" sway). We briefly summarize the results of this study (Schwab-Farrell et al., 2024) as an example of how the critical experimental approach can complement theory and transform physiotherapy practice. The hypothesis for this study was derived from critical social theory and motor control theory: Unnecessary physiotherapist assistance during practice will limit movement adaptation post-stroke.

The study evaluated individuals' standing postural sway during the concurrent learning of an upper-limb precision aiming task. Ethical approval was obtained for the study by the University of Cincinnati Institutional Review Board. One group of participants ("assistance group") received therapist

assistance during a practice period aimed to minimize postural sway (when there was no threat to safety; increased sway was considered as an error requiring correction via assistance), and one group of participants ("no-assistance group") did not receive therapist assistance (and were therefore free to explore diverse movement possibilities). Upper-limb task performance and postural sway were measured before and after the practice period (with neither group receiving assistance during testing) to determine the impact of physiotherapist assistance with a "normalising" mindset on the functional motor task performance and motor control patterns of people with chronic stroke.

Following practice, all participants showed improvements in upper-limb functional task performance (i.e., increased accuracy) using the paretic upper limb irrespective of physiotherapist assistance provided during practice. Accordingly, a therapist operating with an explicitly "normalising" mindset during practice did not generate more functional task outcomes for people post-stroke compared to allowing individuals to explore alternative movement strategies and find what works for them. For postural sway patterns, individuals in the no-assistance group demonstrated adaptive, task-sensitive (as opposed to biomechanically "normal") postural sway patterns (Schwab, Mayr et al., 2023) after practice, consistent with the idea that postural control can be modulated to facilitate the performance of supra-postural tasks (Riccio & Stoffregen, 1988). The assistance group, however, showed no change in postural sway patterns after practice with therapist assistance. The patterns of movement shown by the assistance group suggested a reduced capacity for movement adaptation post-stroke.

When individuals were free to explore creative movement solutions during the practice period rather than focusing on "normal" movement (i.e., no-assistance group), they were able to demonstrate functional upper-limb task performance with adaptable underlying postural control patterns. The assistance group, however, demonstrated an underlying pattern of movement suggesting more limited adaptability to changing contextual demands. Thus, this study provides empirical support, through a basic motor control paradigm, to suggest that the intent to "normalise" movement through physiotherapist assistance may have unintended and negative movement consequences for people with disability. Empirical studies informed by critical theory, like the one discussed in this section, can be useful to "evidence-based" clinicians in seeing how the philosophies underlying their practice

manifest and can potentially be detrimental. Additional studies using the critical experimental approach may further help to narrow the gap between critical physiotherapy scholars and more biomedically trained researchers, merge theory and research evidence, and facilitate evidence being appraised through the lens of critical theory.

It is important to note that research design is generally consistent with positivist approaches, which are somewhat at odds with critical theory (Nicholls, 2012). However, generating research evidence through the lens of critical theory, as was done in this study, can help to narrow the divide between exclusively evidence-based clinicians and those who more readily integrate theory into their practice by providing an empirical basis to ground theoretical and philosophical claims. Resolving the tension between theory-based and evidence-based clinicians may facilitate the translation of the issues surrounding "normalisation" into practice.

A new perspective for destabilising the norm: Activist affordances and niche construction

The results of the previously discussed study are consistent with critical social theory and Deleuzian and Foucauldian philosophy, demonstrating empirically negative consequences of everyday physiotherapy practices that emphasize "normality." In the no-assistance group, movement differences were embraced, rather than suppressed. Most importantly, the movement strategies employed—though different from non-disabled norms— were sensitive to the demands of the task and ultimately made functional performance possible and more accurate compared to baseline. These results give expression to a new theoretical concept—*activist affordance* (Dokumaci, 2016, 2017, 2020, 2023), to capture the active, creative, embodied work that people with disability use to make performance of daily tasks possible under prevailing circumstances.

Dokumaci's work acknowledges that many of the challenges experienced by people with disability are the result of living in a world that often does not readily complement their bodily capabilities and skills. Importantly, Dokumaci's work also captures "how disabled people improvise more habitable worlds" by using their bodily performances to create new, previously unimagined *affordances* (i.e., opportunities for action given an individual-environment fit; Gibson, 1977) out of the available material features of

the environment (Dokumaci, 2023; Silva & Schwab, 2024). Affordances are "activist" because they are a product of creative, deliberate, and often effortful action. Activist affordances emerge because people with disability cannot exploit the usual (i.e., canonical) functionalities of environmental features. The term highlights the agency of people with disability as *bodies in action*, as they "make up" and "make real" conditions for goal achievement that were previously unavailable by simply "making do with" what is available (Dokumaci, 2023; Silva & Schwab, 2024). The concept of activist affordances recognizes that the body does play a critical role in the disability experience. However, the concept also recognizes that physiotherapy should not "normalise" the body, nor should it take a completely "hands-off" approach. Rather, physiotherapists can aim to extend the longevity and functional effectiveness of the alternative strategies that people with disability use to "make up" and "make real" conditions for goal achievement.

The guiding principle for physiotherapy we propose to "destabilise the norm" is to support people with disability in a creative process of "niche construction." Clinical practice aligned with this principle would be defined by interventions designed to assist individuals with disability (1) enhance their attunement and control over the capacities that define their lived bodies; and (2) develop and maintain the capacities required to achieve their functional goals. The nature of interventions will vary depending on the goals and needs of the recipient of care and on their evolving experience as bodies in action. We must first understand how they have been actualizing the affordances that support their activity and collaboratively determine how to facilitate that performance.

Hutzler (2007) provides an illustrative example of a training approach from adapted physical activity that aligns with the principles of niche construction that can guide a shift in physiotherapy practice. In the example, a teenager with hemiplegic cerebral palsy (CP) had the goal of practicing swimming as a sport. The coach analysed the teenager's swim stroke and noticed that the paretic arm created drag and was limiting his speed. Rather than trying to "normalise" the arm movements and preserve "standard stroke patterns," the coach guided the teenager to experiment with a different stroke pattern altogether: resting the paretic arm near the chest, allowing the opposite arm to develop full speed; breathing with a full body roll on the longitudinal axis, increasing the length of the stroke. The creative, adaptable

movements that were discovered accomplished a reduction in drag that a "normal stroke" could not have accomplished. The teenager with CP, with the guidance of his coach, made the water "afford" him the opportunity to swim at a fast pace. The goal to swim competitively was achieved through a better individual-environment fit, not bodily "normalisation."

In adapted physical activity, "alternative" ways of moving are accommodated and celebrated and encouraged as the achievements that they are. A similar attitude toward activist affordances in the context of everyday activities is critical for physiotherapy to reach its full potential in supporting the creative movement solutions of people with disability. In maintaining standing balance, for instance, physiotherapists may help recipients of care tune to the context of the task, and in combination with individual capacities, collaboratively determine the best strategy to achieve a functional goal (e.g., "channel" increased postural variability and guide to more "noise-tolerant" solutions; Levac et al., 2019), rather than stifling postural sway because it deviates from what non-disabled people do to perform the same functional task. That is, in this model of practice, physiotherapists are charged with improving the *fit* between an individual and their environment, rather than "normalising" (Silva & Schwab, 2024; Vaz et al., 2017). It is important to note that the model of practice illuminated by the concept of activist affordances respects insights from people with disability about what they believe physiotherapy could do for them (Bezmez, 2016; Clifton, 2014; Moll & Cott, 2013; Papadimitriou, 2008). Importantly, it emphasizes agency rather than autonomy and focuses on attunement and development of capacity for meaningful activities rather than "normalisation."

A critical point about activist affordances must be emphasized prior to conclusion: There is a physical, cognitive, and emotional cost for people with disability associated with utilizing affordances that are not readily available in an environment that caters to non-disabled individuals. The concept of activist affordances is not intended to negate this acknowledgement, nor should it negate the social responsibility to transform the environment in ways to improve its sensitivity to the diverse embodiments of people with disability. Rather, activist affordances centrally place people with disability in this process of transformation by bringing to bear the vision of people with disability for what the environment could offer them, and in doing so, reveals more accessible futures for themselves (Dokumaci, 2023; Silva & Schwab, 2024).

Concluding remarks

In this chapter, we aimed to mobilise alternative perspectives on disabled movement and consider the promotion of adaptive movement diversity over "normality." We provided philosophical, theoretical, and a critical experimental approach to support a shift from the "normal" and "abnormal" binary prevalent in physiotherapy, underscoring that the historical construction of "normality" is arbitrary.

Innovative models of disability are emerging that may catalyse this shift in clinical reasoning as well as foster more positive disability identities, including the promotion of agency by applying principles of activist affordances. The Ecological-Enactive Model of Disability (Toro et al., 2020), for example, provides an alternative to viewing movement as either "normal" or "abnormal." Rather, physiotherapists can evaluate movement on a continuum of adaptability and promote the exploration of diverse movement solutions by allowing individuals with disability to try out what is possible (Schwab, et al., 2022; Toro et al., 2020). This model of disability aligns with our proposition for a physiotherapy practice guided by principles of activist affordances and niche construction. Deviations from norms do not always require intervention, and interventions should not necessarily be aimed at "normalisation" (Gibson, 2016).

Fundamentally, people live in a "multiplicity of norms" (Nicholls, 2022, p. 161). New constraints are placed on the movement system following injury, illness, or disability (Schwab et al., 2021; Stergiou et al., 2006), and physiotherapists are tasked with working with individuals, given those new constraints, to explore diverse movement solutions, even if those solutions may sometimes appear as deviations from idealized norms. Those novel, seemingly "atypical" solutions may actually promote functional, adaptable, and task-sensitive performance and exploit existing action capabilities (Fonseca et al., 2001, 2004; Holt et al., 1996; Rahlin et al., 2019; Schwab, et al., 2022; van Emmerik & van Wegen, 2002; Winter, 1995) and should not necessarily be stifled.

A full-scale "destabilisation of normality" in physiotherapy will require additional empirical support (using a critical experimental approach) as well as an embrace of a multidisciplinary perspective—one that more readily integrates physiotherapy with disability justice, disability studies, philosophy, and the social sciences.

Notes

1 Individuals within the disability community have varied preferences about person-first and identity-first language, including differences in the language they use to describe themselves and the language they prefer to be used to describe them (Andrews et al., 2022). Individual disability language preferences should always be supported. In this chapter, we chose to use person-first language, as we are writing about disability broadly. However, it is important for readers to be aware that disability language is continuously evolving and specific to the individual. For instance, an increasing number of people prefer identity-first language because it allows them to express disability pride (Andrews et al., 2022). Throughout this chapter, we use the term "non-disabled" to refer to a person or a group of people who are the opposite of disabled. This terminology is consistent with calls from people with disability and disability scholars to remove reference to ability (e.g., "able-bodied") in terminology and simply describe who is or is not disabled (Wright, 2022).

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