

Theoretical Paper

Deepened Ecological Model

A Fresh Perspective on the Experience of Disability

James B. Wise

Abstract: Therapeutic recreation (TR) exists to serve people who experience disability. Delivering quality, appropriate services is predicated upon a profound understanding of the phenomenon. This article, after briefly analyzing the models of disability commonly cited in TR literature, presents a fresh perspective of the phenomenon. The perspective, portraying disability as malleable, possessing the potential to be positive and contributing to human flourishing, is derived from a deepened version of the ecological model. The deepened model is well suited for capturing the complex interplay of elements giving rise to the experience of disability so therapeutic recreation specialists (TRS) are strongly urged to adopt the fresh perspective and framework as guides for developing and delivering quality services.

Keywords: *Critical realism, ecological model, interactional approach, medical model, social model, therapeutic recreation*

Therapeutic recreation (TR) exists to serve people with disabilities (American Therapeutic Recreation Association [ATRA], 2015; National Council for Therapeutic Recreation Certification [NCTRC], n.d.). The centrality of disability to the profession is reflected in a number of sources. The most recent job analysis conducted by NCTRC (2015a) verifies knowledge of specific cognitive, physical, and psychiatric disorders and impairments as requisite to becoming a competent practitioner. Relatedly, there are chapters (e.g., Carter & Van Andel, 2011) and entire books (e.g., Mobily & MacNeil, 2002) dedicated to describing specific disabilities and associated symptoms, functional limitations, and implications for TR services. Without a doubt, it is important to know the etiology, prognosis, and characteristics of various disabilities, but it is also crucial to gain a thorough understanding of the general construct of disability. "Developing more adequate understandings of the disability phenomenon and improving the participation and quality of life of disabled people are linked and urgent concerns" (Shakespeare, 2008, p. 11). Possessing an in-depth comprehension enables therapeutic recreation specialists (TRS) to better serve people with disabilities and excel as practitioners. However, the task of answering what is disability involves more than simply crafting a definition, it is "a complex scholarly and political enterprise that goes well beyond linguistics or semantics to deeper philosophical or political issues" (Bickenbach, 2012, p. 52).

TR authors have begun tackling the complex enterprise by critically analyzing models of disability (Devine & Sylvester, 2005; Mobily, 2015; Mobily, Walter, & Finley, 2015; Sylvester, 2014). Critical analyses perform at least two important

tasks. One is explicitly exposing the relationship between how disability is conceptualized and the profession's response to disability. For instance, if disability is viewed as decrements in health and performance caused by problems rooted in biological structures and operations, then the profession's response is to minimize or fix problems and restore health and performance to normal levels. If disability is believed to be caused by unaccommodating features of the environment then the profession's response is to make the offending features accommodating. The second task is providing knowledge used in formulating a more accurate and empowering conceptualization of the phenomenon, enabling TRS to better foster human flourishing among people with disabilities.

The purpose of this article is to present a model of disability that provides a fresh perspective on the phenomenon. This goal is accomplished by completing a number of steps. To begin, two models of disability and their influence on TR discourses and shortcomings are summarized. Then, to overcome the shortcomings, an interactional approach to disability is introduced and fleshed out with tenets of a particular philosophical stance. Next, the ecological model of disability is outlined and linked to the interactional approach and previously noted philosophical principles that augment the model's relevancy for comprehending disability. The article concludes with connections to and implications for TR derived from adopting the deepened ecological model of disability and corresponding perspective that recognizes disability's potential for positive connotations including playing a valued role in human flourishing (Wise, 2014a, 2014b).

Models

The medical and social are two of the three models of disability frequently referenced in TR literature (Anderson & Heyne, 2012a, 2012b; Devine, 2008; Devine & Sylvester, 2005; Heyne & Anderson, 2012; Mobily, 2015; Mobily et al., 2015; Sylvester, 2014). Both models are now summarized, connections to TR discourses drawn, and limitations discussed.

Medical Model

According to the medical model, a disability is a reduction in health and/or functioning caused by an impairment that is defined as a problem with the normal biological operation of the body (World Health Organization [WHO], 2002). To illustrate, when pancreatic beta cells do not produce insulin, blood glucose levels rise beyond normal levels (Carter & van Andel, 2011; Mobily & MacNeil, 2002). Too much blood glucose can lead to many health complications including heart and blood vessel disease, nerve and kidney damage, and blindness. In another illustration, the amputation of a leg above the knee leads to a diminished ability to walk.

Subsequently, the primary goals stemming from this model are therapeutic and center on eliminating or minimizing the impairment and restoring health and/or functioning to normal or as near normal levels as possible. Responsibility for achieving these goals is assigned to medical and allied health professionals. With Type I diabetes, medical professionals prescribe insulin to regulate blood glucose levels and TRS teach how participation in leisure practices can help prevent health complications. In the case of above knee leg amputations, prosthetists custom design prostheses, physical therapists work on correct gait and TRS teach about activity modifications that permit

continued participation in desired leisure practices.

The model's influence on TR discourses is easy to discern (Devine & Sylvester, 2005; Mobily, 1999; Mobily, 2015; Mobily et al., 2015). Though numerous examples exist, a few suffice. First, the American Therapeutic Recreation Association (ATRA, 2015) advocates for the profession to be known as recreational therapy (RT). Furthermore, ATRA states RT services improve health and functioning by treating impairments (ATRA, 2015; Mobily et al., 2015). Third, a number of scholars define RT as a healthcare specialty that utilizes the modality of leisure to decrease or eliminate disability by restoring or improving health and functional ability (burlingame et al., 2001; Russoniello, 1994). Fourth, the goal of the Leisure Ability Model's functional intervention category of service is reducing physical, cognitive, emotional/affective and social limitations so people can successfully participate in leisure practices (Stumbo & Peterson, 2009). Finally, unabashedly, Russoniello (1994) proclaims "the Recreational Therapy Medicine model (RTM)* is a direct descendant of the traditional medical model" (p. 249). In this practice model, recreational activities are a form of medicine prescribed to treat biologically based impairments thereby improving health and functioning.

Some professionals have raised concerns with the medical model (Aitchison, 2003, 2009; Devine & Sylvester, 2005; Mobily, 2015; Mobily et al., 2015; Sylvester, 2014). A chief concern is with actions emanating from two assumptions derived from the model. The first assumption is disability is an inferior state leading to a low quality of life (Devine & Sylvester, 2005; Mobily et al., 2015; Sylvester, 2014). A second, related assumption is

people want to attain normality, defined as thinking, performing, feeling and interacting in a manner endorsed by society (Barnes, 2012; Goffman, 1963; Oliver, 1996). Devine and Sylvester (2005) assert acting on these two assumptions leads medical and allied health “experts” such as TRS to perform paternalistic behaviors that are “detrimental to the quality of life of the people” (p. 85) they serve. The behaviors marginalize and stigmatize people with disabilities perpetuating the notion they are second class citizens who require therapy to live worthwhile lives (Aitchison, 2003, 2009; Bichenbach, Felder, & Schmitz, 2014; Mobily, 2015; Mobily et al., 2015).

Another concern is the model’s neglect of the environment’s role in determining disability (Barnes, 2012; Oliver, 1996; WHO, 2002). The proposed explanation of disability is one-sided and misleading because it presents as accurate an account that ignores the fact people are embedded in and reciprocally interact with the environment.

Social Model

In stark contrast to the medical model, the environment is at the heart of the social model. The environment is structured to accommodate the normal functioning levels of society’s members so disability is experienced when people are unable to attain the functional standards (Oliver, 1996). For example, stairs are common architectural features because most people walk, but when people who ambulate differently, such as with wheelchairs, encounter stairs, they experience disability. Since disability is caused by the environment, remedies focus on treating the environment not the person. In the preceding illustration, rehabilitation consists of removing stairs and replacing with an architectural feature such as

ramps that accommodate a wider range of locomotion methods.

A few samples of the model’s effects on TR discourses are furnished. First, inclusion, an important aspect of TR and one of five specialty certification practice areas (NCTRC, 2015b), requires enabling environments. This condition is unequivocally acknowledged in the National Recreation and Park Association’s (NRPA) Position Statement on Inclusion (1999) which calls for the removal of environmental barriers and provision of social, physical and attitudinal supports. Second, people first language is the norm for TR communications. Employing people-first language helps prevent dehumanizing and paternalistic behavior, eliminate stereotypes, and convey respect and dignity (Dattilo & Smith, 1990). Third, Hutchison and McGill (1998) lay out a compelling rationale for fully integrating people with disabilities into communities. The authors emphasize rehabilitating communities rather than people with disabilities. The idea is communities are strengthened and all members benefit when people with disabilities are genuinely welcomed and their contributions recognized and valued. Finally, Wise (2015) contends leisure is a human right due to its role as a primary contributor to human flourishing. Consequently, TRS, as social justice agents, work toward creating a distributively just society marked by numerous and varied opportunities for people with disabilities to participate in leisure practices (Hemingway, 1987).

Locating the origin of disability extrinsically rather than intrinsically is a momentous shift in thinking conveying the liberating message to individuals that the environment is the problem not them. But the social model is not free of limitations. One noteworthy limitation is the clearly stated lack of a causal

link between disability and impairment (Oliver, 1996). According to social model theorists, disability is solely caused by social, physical and attitudinal barriers that are created because some people deviate from society's notions of normality while impairment is an aspect of human diversity much like ethnicity, gender and religion. The absence of a close relationship between the two constructs is difficult to accept if one considers impairments accompanied by debilitating pain and/or fatigue. Take chronic fatigue syndrome (CFS) as an example. Even if all hindering environmental features are mitigated, it is reasonable to expect the pain and fatigue associated with CFS would impair physical function evoking some level of disability (Taylor, 2005). Focusing exclusively on environmental features ignores the contributions impairments can make to the experience of disability (Shakespeare, 2008).

A second limitation is the model's intent. It was designed exclusively to shape and drive political and civic action aimed at constructing a barrier free environment not understanding a person's experience of disability (Barnes, 2012; Crow, 1996; Oliver, 1996). Riddle (2013) clearly grasped the intent when he voiced, "social model theorists are engaged in political activity to promote the well-being of people with disabilities through defining disability in a manner that promotes an understanding that advances their mandate" [creating an accommodating environment] (p. 383). Social model theorists' efforts have led to more accessible and enabling environments but a model designed to effect societal level changes is not well suited to explain the experience of disability at the level of particular individuals within particular contexts (Crow, 1996; Oliver, 1996; Shakespeare, 2014). This trait is a drawback for TRS who work

with particular individuals who are embedded in particular contexts.

Interactional Approach to Disability

Neither the medical nor the social model explicitly account for interactions between impairments and environments. This flaw led Imrie (2004) to proclaim disability is "a complex, multi-dimensional, phenomenon that cannot be easily understood by recourse to the unequivocal messages of the contrasting models or discourses of disability" (p. 292). Any attempt to fully and accurately comprehend disability must include impairments, the environment and people's subjective experiences of their impairments (Crow, 1996; Oliver, 1996; Verboom et al., 2011).

These variables are components of the interactional approach to disability championed by Shakespeare (2014). To him, disability is not fully reducible to the effects of an impairment or societal conditions. Rather, people with impairments experience disability which emerges from interactions among personal and environmental elements (Shakespeare, 2014). Personal elements include impairments, people's attitude toward their impairments, and their personalities, strengths, and abilities. Environmental elements include the attitudes of other people, laws, physical accessibility of buildings, and agency policies.

As the name implies, the interactional approach outlines a general way of thinking about disability. At this time, the approach is solidified by elucidating the underlying philosophical stance of critical realism and linking the approach to the ecological model of disability.

Critical Realism

The interactional approach is based on critical realism, a philosophical, meta-

theoretical perspective that addresses basic issues such as the nature of reality and humans' knowledge of the world (Shakespeare, 2014). What follows is an introduction to the tenets of critical realism.

A core tenet of critical realism is there are two dimensions of reality: intransitive and transitive (Bhaskar & Danermark, 2006; Danermark, 2002; Pilgrim, 2014; Sayer, 2000; Williams, 1999, 2003). The intransitive dimension refers to a world that exists independently of human awareness of and knowledge about it. For example, the entity called Down syndrome has always been caused by an extra 21st chromosome (Mobily & MacNeil, 2002) irrespective of whether or not human beings knew of the condition or their beliefs about the condition. The transitive dimension refers to people's beliefs about the world. Transitive knowledge, because it is fabricated by people, is fallible and subject to revision as more is learned. To illustrate, the true cause of Down syndrome was not discovered until 1959 even though physician John Down first described the syndrome in 1866 (Leshin, 2003). Down (1866) believed the cause was rooted in ethnicity, leading him to call people with the condition Mongoloids due to their physical resemblance to people from Mongolia. The name, offensive to a large number of people, was changed to Down's syndrome. Eventually the possessive part of the name was dropped and it became Down syndrome. Now many people know the condition as trisomy 21, reflecting contemporary knowledge of the underlying cause (Leshin, 2003). The name of and beliefs about the condition changed over the years (transitive) but the actual, physical determinant remained unchanged (intransitive).

A second core tenet is there are three domains of the world: empirical,

actual, and real (Danermark, 2002; Pilgrim, 2014; Sayer, 2000; Williams, 1999, 2003). The empirical domain consists of people's experiences with and observations of physical and social objects and events. However, not all objects and events are experienced or observed so the actual domain includes observed objects and events as well as those not observed. The final domain, real, encompasses the first two domains and generative causal mechanisms. Generative causal mechanisms, which produce events, are entities at the deepest level of reality meaning they exist whether or not people know of or comprehend them or observe their effects (Pilgrim, 2014).

Stratification and emergence are the third and fourth tenets of critical realism (Bhaskar & Danermark, 2006; Danermark, 2002; Pilgrim, 2014; Sayer, 2000; Williams, 1999, 2003). Stratification is the idea that reality consists of hierarchical levels. Although scholars do not universally agree upon an exhaustive and mutually exclusive list of levels, relevant levels for thoroughly understanding disability likely include physiological, physical, psychological, psycho-social, socio-economic and cultural (Bhaskar & Danermark, 2006). In what is admittedly a very simplistic case involving only two homogenous groups, consider people whose spinal cords are severed in the mid-thoracic region. The injuries have very definite physiological and physical aspects. In all cases, spines are severed resulting in complete muscle paralysis below the injury and concomitant inability to walk. One group includes people who experience depression (psychological), difficulty maintaining relationships with significant others, family members and friends (psycho-social), unemployment (socio-economic) and stigma (cultural). The other group includes people who de-

rive positive meaning from their injuries, enjoy supportive social networks, and are gainfully employed and recognized for their contributions to society. The overall experience of disability in both groups can only be comprehensively and validly understood by examining the contributions made by elements and generative mechanisms from each level.

Emergence, the fourth tenet, refers to something new arising from the combination of two or more elements and the properties of the new thing cannot be simply reduced to or totally explained by the constituting elements though the elements were necessary for creation of the new phenomenon (Danermark, 2002; Sayers, 2000; Williams, 2003). A commonly employed example of emergence is water. Water results from the combination of two hydrogen atoms and one oxygen atom but the properties of water are very different than the properties of hydrogen and oxygen. Continuing with the previous germane example, stigma is a phenomenon emerging at the cultural level that cannot be simply and entirely reduced to elements from the physiological (i.e., severed spinal cord) and physical (i.e., inability to walk) levels though these elements contributed to the formation of the stigma.

The critical realism framework is touted as a promising perspective from which to illuminate the experience of disability (Pilgrim, 2014; Williams, 1999) and has been employed retrospectively to account for actions connected with dysphagia (Bhaskar & Danermark, 2006) and hearing loss (Danermark, 2002). Recently, this philosophical perspective guided a study seeking to explain the range in active participation exhibited by five people with moderate intellectual impairments who each joined a different

community group (Craig & Bigby, 2015a, 2015b). Active participation was defined as holding equal membership status; engaging in mutually rewarding interactions; working cooperatively toward a common goal; and benefiting from appropriate, inclusionary supports. Data, drawn from observations, field notes and interviews with members of the community groups, led the study's authors to distinguish generative mechanisms on five hierarchical levels. The mechanisms caused group members to perform behaviors that enhanced or constrained the five adults' participation. For example, when the generative mechanism of empathy operated unimpeded, group members exhibited kindness toward the person with an intellectual impairment. Kindness, manifested as deeds infused with genuine warmth and positive regard, increased the likelihood of active participation. Interactions among the behaviors generated on all five levels explained the extent to which each adult experienced active participation.

Summary

From a critical realism perspective, disability is a complex phenomenon partially constructed from people's beliefs but with components that are independent of what humans believe. The phenomenon consists of numerous levels, and on each level are causal mechanisms and constituent elements that interact within and across levels. These interactions coalesce into the experience of disability. Williams (1999) summarized the process, writing, "disability...is an emergent property, one involving the interplay of physiological impairment, structural enablements/constraints and socio-cultural elaboration over time" (p. 813).

Ecological Model

Besides being based on critical realism, the interactional approach is a feature of the third model of disability. Integrating the medical and social models, the ecological model portrays the source of disability as interactions between individuals and their environments (Howe-Murphy & Charboneau, 1987). Disability emerges from the complex interplay of personal and environmental elements from different levels of systems that make up the experience of people with impairments (Shakespeare, 2014).

The ecological model proposed by Howe-Murphy and Charboneau represents a sociological application (Buckley, 1967) of general systems theory (Bertalanffy, 1973). According to the theory, a system is defined as a set of elements related to one another (Bertalanffy, 1973). More specifically, elements, including personal and environmental attributes, can interact with one another bi-directionally.

Systems are arranged in hierarchical levels, from micro to macro, and oftentimes one system serves as both a micro and macro system (Buckley, 1967; Howe-Murphy & Charboneau, 1987). To illustrate, envision a person as a macro system composed of multiple micro systems, including physical and psychological. In turn, each of these systems can be envisioned as constituted by progressively more micro systems. Continuing, the physical system is composed of the digestive, circulatory, muscular, and nervous systems. For the purpose of this illustration, the movement toward more micro systems concludes with the nervous system which consists of the brain, spinal cord and nerves. Moving toward more macro systems, the person, now a micro system relatively speaking, is part of a family system which is part of a neigh-

borhood system which is part of a community system and so on.

Given that disability stems from personal and environmental elements, interventions target both categories. TRS may seek person-based outcomes like improved physical functioning or increased knowledge of leisure opportunities and/or environmental-based outcomes like revoked discriminatory policies or an increased number of accessible recreation facilities (Badia, Orgaz, Verdugo, Ullan, & Martinez, 2011; Howe-Murphy & Charboneau, 1987).

The ecological model has substantially impacted the profession. One instance is the latest practice model: Flourishing through Leisure: An Ecological Extension of the Leisure and Well-Being model (Anderson & Heyne, 2012a, 2012b). Clearly denoted in the name, the authors merged the ecological model with a preceding practice model. The resultant Flourishing through Leisure (FTL) model, in clear opposition to the medical model's focus on deficits, emphasizes strengths because personal and environmental strengths are prime contributors to well-being. Individuals and their environments are assessed to identify strengths and impediments to well-being. Strengths are cultivated and applied throughout people's lives and societal institutions while personal and environmental impediments are designated for change. Leisure is a principal strength with the power to exert salutary effects on other aspects of life so enhancing people's leisure experiences and the environment's ability to support leisure are at the heart of TR.

A second instance is the WHO's (2002) International Classification of Functioning, Disability and Health (ICF). The ICF integrates the medical and social models into a model of disability and

health that defines disability as “an interaction between features of the person and features of the overall context in which the person lives” (WHO, 2002, p. 10). The ICF’s participation construct is of particular interest to TR as it measures people’s involvement in life endeavors such as leisure practices taking into consideration the extent personal and environmental features facilitate or impede involvement (Sylvester, 2011). Participation could be a key measure for TR, determining what actions professionals take to increase well-being and the effectiveness of those actions. The ICF’s application to TR is supported by ATRA (2005) and practitioners (Howard, Browning, & Youngkhill, 2007; Porter & Burlingame, 2006; Porter & VanPuymbroek, 2007; Sylvester, 2011).

Connections to and Implications for TR

The interactional approach, critical realism and ecological model share a common basis, that of being explicitly based on or accordant with general systems theory (Howe-Murphy & Charbonneau, 1987; Pilgrim, 2014, 2015; Shakespeare, 2014). This commonality allows for a melding of the interactional approach, critical realism, and ecological model into in a framework well-suited for capturing the complex interplay of elements giving rise to the experience of disability. Adopting the resulting deepened ecological model has many implications for TR but none as important as forging a fresh perspective of disability (Devine & Sylvester, 2005; Sylvester, 2014). In this perspective, disability is malleable and scalar; potentially positive; and a contributor to human flourishing (Coleman-Fountain & McLaughlin, 2013; Devine & Sylvester, 2005; Garland-Thomson, 2012; MacIntyre, 1999; Wise, 2014a). These

characteristics and their connections to and implications for TR are discussed in the remaining portion of this section.

First, disability is malleable and scalar (MacIntyre, 1999; Shakespeare, 2008, 2014; Willems, Sattin, Vingerhoets, & Leonardi, 2015). Many personal and environmental elements involved with the experience of disability can and do change so the phenomenon is best conceived as dynamic, moving along a continuum (Badia et al., 2011; Randstrom, Asplund, & Svedlund, 2012). The work of O’Brien and her colleagues (O’Brien, Davis, Strike, Young, & Bayoumi, 2009) demonstrated the dynamic nature of disability among adults living with HIV. For example, high levels of social support provided by friends, family and health care providers created a more favorable experience of disability while, in contrast, low levels led to a more negative experience. In another example, employing distraction techniques often alleviated negative aspects of disability but at other times the same techniques created a more negative experience of disability because their excessive use interfered with proactively dealing with the health condition. However, not all elements fluctuated, some were relatively stable in terms of contents and influence such as stigma which always negatively affected the experience of disability.

Second, the view proffers a strong possibility for positive connotations (Coleman-Fountain & McLaughlin, 2013; Shakespeare, 2014; Zupan & Swanson, 2006), a perspective in line with Silvers’ (2010) declaration that “the fact that not being disabled may be preferable to being disabled does not entail that the state of being disabled is bad” (p. 31). The potential for positive connotations is based on two suppositions. One, disability consists, in part, of socially constructed

components which can be transformed and frequently made more positive. Two, disability does not have an innate valence and can be negative, neutral or positive (Schramme, 2014).

Directly related to the first supposition, a fundamental task of TR is “challenging socially created knowledge about people with disabilities” (Devine & Wilhite, 1999, p. 39) by questioning and, when appropriate, refuting beliefs portraying disability as negative. Additionally, TR in cooperation with other relevant professions must ascertain modifiable elements that foster negative experiences of disability and craft interventions aimed at altering the elements which, in turn, leads to experiences that are more positive (Bhaskar & Danermark, 2006; Danermark, 2002).

Springing from the second supposition and aligning with TR’s emphasis on well-being (ATRA, 2015) is the reality there are people who lead rich, full, meaningful lives largely because of their impairments. This group is epitomized by Mark Zupan who, as the result of a motor vehicle accident, experienced an incomplete C7 spinal injury. Over time, his evaluation of the impairment transformed from that of a condition preventing him from playing Division 1 university soccer and performing the normal life activities of a young adult to a door opening onto international acclaim as a quad rugby player and a flourishing life (Zupan & Swanson, 2006).

In truth, my accident has been the best thing that could ever have happened to me....What I am saying is that it has been the single most defining event of my life. And without it, I wouldn’t have seen the things I’ve seen, done the things I’ve done, and met so many incredible people.

I wouldn’t have become a world-class athlete. I wouldn’t have come to understand and cherish my family and friends the way I do, and feel the kind of love they have for me and I have for them. In other words, I wouldn’t be me, plain and simple (Zupan & Swanson, 2006, p. 6).

A central goal of TR, promoting human flourishing (Anderson & Heyne, 2012a, 2012b; Heyne & Anderson, 2012; Wise, 2014a, 2014b), is directly related to the perspective’s third feature. Specifically, recognition that people who experience disability have unique and critical insights on what it means to excel as human beings which enriches cogitations on human flourishing (Garland-Thomson, 2012; MacIntyre, 1999; Schmitz, 2014; Wise, 2014a). Wendell (2001) spoke directly to this vital function of disability when she said “living with cerebral palsy or blindness, living with pain, fatigue, nausea, unpredictable abilities, and/or the imminent threat of death creates different ways of being that give invaluable perspectives on life and the world” (p. 31). Flourishing is an interdependent endeavor so it may be that we can only fully learn about the condition by listening to people who experience disability. For instance, people who experience disability have taught that impairments and dependency are inherent aspects of the human condition and therefore need to figure in to what it means to flourish as human beings (Crow, 1996; Garland-Thomson, 2012; MacIntyre, 1999; Wise, 2014a). Furthermore, people who experience disability expand the number of avenues through which people can excel and flourish by championing inclusive leisure activities (Wise, 2014b). In many situations, making adaptive equipment

readily available or simple modifications to leisure activities enable people who have been traditionally excluded to participate, excel and flourish.

Transdisciplinary Approach

Realizing the full potential of the deepened model necessitates a transdisciplinary approach because different disciplines are better suited for determining the “weight, role and influence ... particular” elements and mechanisms from particular levels contribute to the experience of disability (Bhaskar & Danermark, 2006, p. 281; Danermark, 2002; Pilgrim, 2014). Therefore, future research needs to discover the disciplines best suited for particular levels. For example, should medicine focus on the physiological level, physical therapy on the physical level and TR on the psycho-social level? Relatedly, integrating a plurality of disciplinary perspectives into a cohesive, coherent, more profound understanding of disability demands TRS become conversant with the concepts and theories utilized by disciplines such as medicine, physical therapy,

psychology, sociology, and law (Danermark, 2002).

Conclusion

This article develops a deepened version of the ecological model well-suited for capturing and explaining the complexity of disability experience. The deepened version ensued from addressing shortcomings of the medical and social models. Specifically, the interactional approach toward disability was identified and described as was critical realism, the philosophical stance underlying the approach. Then both were melded into a third model, the ecological model. The modified ecological model brings a fresh perspective to disability and TR practice, most notably by forwarding a view of disability as malleable, possessing the potential to be positive and contributing to human flourishing. Since TR exists to serve people who experience disability, TRS are urged to employ the framework and concomitant perspective to guide their efforts to design and deliver quality services.

References

- Aitchison, C. (2003). From leisure and disability to disability leisure: Developing data, definitions and discourses. *Disability & Society, 18*, 955–969. doi: 10.1080/0968759032000127353
- Aitchison, C. (2009). Exclusive discourses: Leisure studies and disability. *Leisure Studies, 28*, 375–386. doi: 10.1080/02614360903125096
- American Therapeutic Recreation Association. (2005). *ATRA position statement on the ICF*. Retrieved from <https://www.atra-online.com/resources/icf-who>
- American Therapeutic Recreation Association. (2015). *What is RT/TR?* Retrieved from <https://www.atra-online.com/what/FAQ>
- Anderson, L. S., & Heyne, L. A. (2012a). Flourishing through leisure: An ecological extension of the leisure and well-being model in therapeutic recreation strengths-based practice. *Therapeutic Recreation Journal, 46*(2), 129–152.
- Anderson, L., & Heyne, L. (2012b). *Therapeutic recreation practice: A strengths approach*. State College, PA: Venture.
- Badia, M., Orgaz, B. M., Verdugo, M. A., Ullan, A. M., & Martinez, M. M. (2011). Personal factors and perceived barriers to participation in leisure activities for young and adults with developmental disabilities. *Research in Developmental Disabilities, 32*, 2055–2063. doi: 10.1016/j.ridd.2011.08.007
- Barnes, C. (2012). Understanding the social model of disability: Past, present and future. In N. Watson, A. Roulstone, & C. Thomas (Eds.), *Routledge handbook of disability studies* (pp. 12–29). London, UK: Routledge.

- Bertalanffy, L. (1973). *General system theory* (rev. ed.). New York, NY: George Braziller.
- Bhaskar, R., & Danermark, B. (2006). Metatheory, interdisciplinarity, and disability research: A critical realist perspective. *Scandinavian Journal of Disability Research*, 8, 278–297.
- Bickenbach, J. E. (2012). The International Classification of Functioning, Disability and Health and its relationship to disability studies. In N. Watson, A. Roulstone, & C. Thomas (Eds.), *Routledge handbook of disability studies* (pp. 51–66). London, UK: Routledge.
- Bickenbach, J. E., Felder, F., & Schmitz, B. (2014). Rethinking the good human life in light of disability. In J. E. Bickenbach, F. Felder, & B. Schmitz (Eds.), *Disability and the good human life* (pp. 1–18). New York, NY: Cambridge.
- Buckley, W. (1967). *Sociology and modern systems theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Burlingame, J., Battiste, A., Blaschko, T. M., Brennen, S., Devine, M. A., Jimenez, M., ... Skalko, T. (2001). *Idyll Arbor's therapy dictionary* (2nd ed.). Ravensdale, WA: Idyll Arbor.
- Carter, M. J., & Van Andel, G. E. (2011). *Therapeutic recreation: A practical approach* (4th ed.). Long Grove, IL: Waveland.
- Coleman-Fountain, E., & McLaughlin, J. (2013). The interactions of disability and impairment. *Social Theory and Health*, 11, 133–150.
- Craig, D., & Bigby, C. (2015a). Critical realism in social work research: Examining participation of people with intellectual disability. *Australian Social Work*, 68, 309–323. doi: 10.1080/0312407x.2015.1024268
- Craig, D., & Bigby, C. (2015b). “She’s been involved in everything as far as I can see”: Supporting the active participation of people with intellectual disability in community groups. *Journal of Intellectual and Developmental Disability*, 40, 12–25. doi: 10.3109/13668250.2014.977236
- Crow, L. (1996). Including all of our lives: Renewing the social model of disability. In C. Barnes & G. Mercer (Eds.), *Exploring the divide: Illness and disability* (pp. 55–72). Leeds: Disability.
- Danermark, B. (2002). Interdisciplinary research and critical realism: The example of disability research. *Journal of Critical Realism*, 5, 56–64.
- Dattilo, J., & Smith, R.W. (1990). Communicating positive attitudes toward people with disabilities through sensitive terminology. *Therapeutic Recreation Journal*, 24(1), 8–17.
- Devine, M. A. (2008). Person-first philosophy in therapeutic recreation. In T. Robertson & T. Long (Eds.), *Foundations of therapeutic recreation: Perceptions, philosophies and practices for the 21st century* (pp. 51–61). Champaign, IL: Human Kinetics.
- Devine, M.A., & Sylvester, C. (2005). Disabling defenders? The social construction of disability in therapeutic recreation. In C. Sylvester (Ed.), *Philosophy of therapeutic recreation* (Vol. III), (pp. 85–101). Ashburn, VA: National Recreation and Park Association.
- Devine, M. A., & Wilhite, B. (1999). Theory application in therapeutic recreation practice and research. *Therapeutic Recreation Journal*, 33(1), 29–45.
- Down, J. (1866). *Observations on an ethnic classification of idiots*. Retrieved from <http://www.neonatology.org/classics/down.html>
- Garland-Thomson, R. (2012). The case for conserving disability. *Bioethical Inquiry*, 9, 339–355.
- Goffman, E. (1963). *Stigma*. Englewood Cliffs, NJ: Prentice-Hall.
- Hemingway, J. L. (1987). Building a philosophical defense of therapeutic recreation: The case of distributive justice. In C. Sylvester, J. L. Hemingway, R. Howe-Murphy, K. Mobily, & P. Shank (Eds.), *Philosophy of therapeutic recreation: Ideas and issues* (pp. 1–16). Alexandria, VA: National Recreation and Park Association.
- Heyne, L. A., & Anderson, L.S. (2012). Theories that support strengths-based practice in therapeutic recreation. *Therapeutic Recreation Journal*, 46(2), 106–128.
- Howard, D., Browning, C., & Youngkhill, L. (2007). The International Classification of Functioning, Disability, and Health: Therapeutic recreation code sets and salient diagnostic core sets. *Therapeutic Recreation Journal*, 41(1), 61–81.
- Howe-Murphy, R., & Charboneau, B.G. (1987). *Therapeutic recreation intervention: An ecological perspective*. Englewood Cliffs, NJ: Prentice-Hall.
- Hutchinson, P., & McGill, J. (1998). *Leisure, integration and community*. Concord, ON: Leisureability.
- Imrie, R. (2004). Demystifying disability: A review of the International Classification of Functioning, Disability and Health. *Sociology of Health and Illness*, 26, 287–305.

- Leshin, L. (2003). *Trisomy 21: The story of Down syndrome*. Retrieved from <http://www.ds-health.com/trisomy.htm>
- MacIntyre, A. (1999). *Dependent rational animals*. Chicago, IL: Open Court.
- Mobily, K. E. (1999). New horizons in models of practice in therapeutic recreation. *Therapeutic Recreation Journal*, 33(3), 174–192.
- Mobily, K. E. (2015). The intersection of disability, feminism, and RT/TR. *Leisure/Loisir*, 39, 1–21. doi: 10.1080/14927713.2015.1074402
- Mobily, K. E., & MacNeil, R. D. (2002). *Therapeutic recreation and the nature of disabilities*. State College, PA: Venture.
- Mobily, K. E., Walter, K. B., & Finley, S. E. (2015). Deconstruction of TR/RT: Does TR/RT contribute to the negative construction of disability? Part I. *World Leisure Journal*, 57(1), 46–56.
- National Council for Therapeutic Recreation Certification. (n.d.). *About recreational therapy*. Retrieved from <http://nctrc.org/about-nctrc/about-recreational-therapy/>
- National Council for Therapeutic Recreation Certification. (2015a). *NCTRC national job analysis*. Retrieved from <https://www.nctrc.org/documents/5JobAnalysis.pdf>
- National Council for Therapeutic Recreation Certification. (2015b). *Specialty certification*. Retrieved from <http://www.nctrc.org/documents/6SpecCert.pdf>
- National Recreation and Park Association. (1999). *NRPA position statement on inclusion*. Retrieved from <http://www.nrpa.org/uploadedFiles/nrpa.org/Advocacy/Resources/Position-Statement-Inclusion.pdf>
- O'Brien, K. K., Davis, A. M., Strike, C., Young, N. L., & Bayoumi, A. M. (2009). Putting episodic disability into context: A qualitative study exploring factors that influence disability experienced by adults living with HIV/AIDS. *Journal of the International AIDS Society*, 12(1), 1–11. doi: 10.1186/1758-2652-12-30
- Oliver, M. (1996). Defining impairment and disability: Issues at stake. In C. Barnes & G. Mercer (Eds.), *Exploring the divide: Illness and disability* (pp. 29–54). Leeds: Disability.
- Pilgrim, D. (2014). Some implications of critical realism for mental health research. *Social Theory and Health*, 12, 1–21.
- Pilgrim, D. (2015). The biopsychosocial model in health research: Its strengths and limitations for critical realists. *Journal of Critical Realism*, 14, 164–180.
- Porter, H. R., & Burlingame, J. (2006). *Recreational therapy handbook of practice: ICF-based diagnosis and treatment*. Enumclaw, WA: Idyll Arbor.
- Porter, H. R., & VanPuymbroeck, M. (2007). Utilization of the International Classification of Functioning, Disability, and health within therapeutic recreation practice. *Therapeutic Recreation Journal*, 41(1), 47–60.
- Randstrom, K. B., Asplund, K., & Svedlund, M. (2012). Impact of environmental factors in home rehabilitation: A qualitative study from the perspective of older persons using the International Classification of Functioning, Disability and Health to describe facilitators and barriers. *Disability and Rehabilitation*, 34, 779–787.
- Riddle, C. A. (2013). Defining disability: Metaphysical not political. *Medicine, Health Care and Philosophy*, 16, 377–384.
- Russoniello, C. V. (1994). Recreation therapy: A medicine model. In D. M. Compton & S. E. Iso-Ahola (Eds.), *Leisure and mental health* (pp. 247–258). Park City, UT: Family Development Resources.
- Sayer, A. (2000). *Realism and social science*. London: Sage.
- Schmitz, B. (2014). “Something else?: Cognitive disability and the human form of life. In J. E. Bickenbach, F. Felder, & B. Schmitz (Eds.), *Disability and the good human life* (pp. 50–71). New York, NY: Cambridge.
- Schramme, T. (2014). Disability (not) as a harmful condition: The received view challenged. In J. E. Bickenbach, F. Felder, & B. Schmitz (Eds.), *Disability and the good human life* (pp. 72–92). New York, NY: Cambridge.
- Shakespeare, T. (2008). Debating disability. *Journal of Medical Ethics*, 34, 11–14.
- Shakespeare, T. (2014). *Disability rights and wrongs revisited* (2nd ed.). New York, NY: Routledge.

- Silvers, A. (2010). An essay on modeling: The social model of disability. In D. C. Ralston, & J. Ho (Eds.), *Philosophical reflections on disability* (pp. 19–36). New York, NY: Springer. doi: 10.1007/9789048124770
- Stumbo, N. J., & Peterson, C. A. (2009). *Therapeutic recreation program design: Principles and procedures* (5th ed.). New York, NY: Pearson.
- Sylvester, C. D. (2011). Therapeutic recreation, the International Classification of Functioning, Disability, and Health, and the capability approach. *Therapeutic Recreation Journal*, 45(2), 85–104.
- Sylvester, C. D. (2014). Therapeutic recreation and disability studies. *Therapeutic Recreation Journal*, 48(1), 46–60.
- Taylor, R. R. (2005). Can the social model explain all of disability experience? Perspectives of persons with chronic fatigue syndrome. *American Journal of Occupational Therapy*, 59, 497–506.
- Verboom, C. E., Sentse, M., Sijtsema, J. J., Nolen, W. A., Ormel, J., & Penninx, B. W. J. H. (2011). Explaining heterogeneity in disability with major depressive disorder: Effects of personal and environmental characteristics. *Journal of Affective Disorders*, 132, 71–81. doi: 10.1016/j.jad.2011.01.016
- Wendell, S. (2001). Unhealthy disabled: Treating chronic illnesses as disabilities. *Hypatia*, 16(4), 17–33.
- Willems, M., Sattin, D., Vingerhoets, A., & Leonardi, M. (2015). Longitudinal changes in functioning and disability in patients with disorders of consciousness: The importance of environmental factors. *International Journal of Environmental Research and Public Health*, 12, 3707–3730. doi: 10.3390/ijerph120403707
- Williams, S. J. (1999). Is anybody there? Critical realism, chronic illness and the disability debate. *Sociology of Health and Illness*, 21, 797–819.
- Williams, S. J. (2003). Beyond meaning, discourse and the empirical world: Critical realist reflections on health. *Social Theory and Health*, 1, 42–71.
- Wise, J. B. (2014a). Personhood, flourishing, disability, leisure and a profession. *Journal of Unconventional Parks, Tourism and Recreation Research*, 5(1), 17–28. Retrieved from <http://journals.radford.edu/index.php/JUPTRR/issue/view/6>
- Wise, J. B. (2014b). What is leisure? A MacIntyrean based response. *Journal of Unconventional Parks, Tourism and Recreation Research*, 5(2), 17–22. Retrieved from <http://journals.radford.edu/index.php/JUPTRR/issue/view/8>
- Wise, J. B. (2015). Leisure: A human right. *Therapeutic Recreation Journal*, 49(2), 166–178.
- World Health Organization (WHO). (2002). *Towards a common language for functioning, disability and health (ICF)*. Geneva: Author. Retrieved from <http://www.who.int/classifications/icf/icfbeginnersguide.pdf?ua=1>
- Zupan, M., & Swanson, T. (2006). *Gimp*. New York, NY: Harper Collins.