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Globalizing Rehabilitation Psychology: Application of Foundational Principles to Global Health and Rehabilitation Challenges

Jacob A. Bentley, Susanne M. Bruyère, Jeanne LeBlanc, Malcolm MacLachlan

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Globalizing Rehabilitation Psychology: Application of Foundational Principles to Global Health and Rehabilitation Challenges

Impact

The current paper adds to the literature by:

- Identifying foundational rehabilitation psychology principles inherent in global health initiatives
- Summarizing ongoing contributions being made by rehabilitation psychologists in global health settings and explicitly relating this work to underlying foundational principles
- Describing the utility of rehabilitation psychology and its foundational principles in international capacity building efforts
- Synthesizing current opportunities for policy, service, research, and educational influence in global health as based on foundational principles in the field

Abstract

Purpose/Objective: This manuscript reviewed foundational principles in rehabilitation psychology and explored their application to global health imperatives as outlined in the *World Report on Disability* (World Health Organization & World Bank, 2011).

Research Method/Design: Historical perspective and conceptual/theoretical formulation

Results: According to the *World Report on Disability* (World Health Organization & World Bank, 2011), there are approximately 1 billion individuals living with some form of disability globally. An estimated 80% of persons with disabilities live in low-to middle-income countries (LMICs; WHO, 2006). The primary messages and recommendations of the World Report on Disability have been previously summarized as it relates to potential opportunities for contribution within the field of rehabilitation psychology (MacLachlan & Mannan, 2014). Yet, undeniable barriers remain to realizing the full potential for contributions in LMIC settings.

Conclusions/Implications: A vision for engaging in international capacity building and public health efforts is needed within the field of rehabilitation psychology. Foundational rehabilitation psychology principles have application to the service of individuals with disabilities in areas of the world facing complex socioeconomic and sociopolitical challenges. Foundational principles of person-environment interaction, importance of social context, and need for involvement of persons with disabilities can provide guidance to the field as it relates to global health and rehabilitation efforts. The authors illustrate the application of rehabilitation psychology foundational principles through case examples and description of ongoing work, and link foundational principles to discreet domains of intervention going forward.

Globalizing Rehabilitation Psychology: Application of Foundational Principles in Addressing International and Cross-cultural Challenges

An estimated 1 billion people experience some form of disability worldwide (World Health Organization [WHO] & World Bank, 2011). Approximately 80 percent of those individuals reside in low to middle income countries (LMICs), where resources to provide comprehensive networks of support are limited (LMICs; WHO, 2006). As a result, the WHO has redoubled its efforts in recent years to better understand and address disability issues at a global level. As part of its efforts, WHO collaborated with the World Bank on the development of the *World Report on Disability* (WHO & World Bank, 2011). The aims of the *World Report on Disability* were to (a) "provide... a comprehensive description of the importance of disability and an analysis of the responses provided, based on the best available scientific information" and (b) " make recommendations for action at national and international levels" (pg. xxi).

There were several clear messages contained within the *World Report on Disability*, including: (a) disability prevalence is high and growing, (b) disability disproportionately affects vulnerable populations, (c) disability is diverse, (d) people with disabilities face widespread barriers in accessing services, and (e) people with disabilities have worse health and socioeconomic outcomes (MacLachlan & Mannan, 2014). The broad scope of the *World Report on Disability* enabled it to organize discussion of multiple current gaps present in the international community including limitations in health systems/ infrastructure and governance, financing and affordability of rehabilitative services, human resource availability, legislation and policy, employment opportunity, poverty alleviation, and inclusive social programs for people with disabilities. Like a host of others identified in the *World Report on Disability*, these gaps are wide-ranging and led to the development of similarly expansive recommendations.

The breadth and diversity of need identified by the *World Report on Disability* brings into focus a host of questions for rehabilitation psychology as a field. What does rehabilitation psychology have to offer global and public health initiatives? In what ways can the profession work to address international systems and governance barriers to the rehabilitation and habilitation of people with disabilities? How does an individual rehabilitation psychologist begin to organize his or her thoughts on initiating this work? It is incumbent on the field to reflect on its response to difficult questions pertaining to the global biopsychosocial and economic implications of chronic disability as outlined in the *World Report on Disability*. MacLachlan and Mannan (2014) recently described the policy context leading to the development of the *World Report on Disability,* summarized its main findings and recommendations, and presented some areas of opportunity for rehabilitation psychology. The authors identified contributions to be made in (a) addressing the human resources for health crises in rehabilitation, (b) developing prosocial and community-based interventions/ programs, (c) helping to identify and overcome difficulties of accessing health care, (d) refining the measurement and classification of disability, and (e) strengthening research, policy and advocacy for and with people with disabilities.

A long, rich theoretical and conceptual history underlies the opportunities for rehabilitation psychology activities as described by MacLachlan and Mannan (2014). Indeed, psychological theory has had a substantial influence on how the international community currently conceptualizes disability issues. While the publication of the MacLachlan and Mannan article served as a call to action for the field in response to ongoing matters of global significance, the present work attempts to reflect upon the implicit yet collectively embraced foundational principles that underlie that call. As such, the current article will expand upon the work of MacLachlan and Mannan by making explicit the foundational principles underlying the

rationale for rehabilitation psychology's further involvement in global health contexts. Drawing on the seminal work of Kurt Lewin, Beatrice Wright, and Tamara Dembo among others, we will examine the application of foundational principles in diverse contexts and interdisciplinary settings, and across service, research, education, and public policy efforts. Though there are many underlying principles with practical applications for rehabilitation psychology in these settings, the following will focus directly on the field's contributions to conceptualizing the influential role of person-environment interactions and social context as well as the importance of involvement of persons with disabilities across all phases of disability empowerment, management and rehabilitation.

Foundational Principles

Field Theory and the Person-Environment Interaction

> A North American rehabilitation psychologist deployed with a medical team to Malawi is introduced to a 10-year-old girl with acquired blindness in a small village. Prior to her loss of vision she had been a very good student, and her teachers were saddened that she could no longer attend class "because she cannot see the board nor read any more." The psychologist met with the teachers, and found that they were excited to discuss options to help her learn by having her impairment accommodated by having a reader, and testing her skills verbally. In a nearby larger town, the psychologist was able to find a school for those with blindness – and with her parent's approval – assisted in her obtaining financial scholarship to study, learn braille, and ultimately vocational skills, while her parents were provided with access to transportation to facilitate her attendance.

The case example above highlights the dynamic interactions between a person with a health condition, disability, and factors in the social and physical environment. The salience of

the person-environment relation can be seen in the seminal work of prominent theorists and rehabilitation researchers including Roger Barker, Tamara Dembo, Kurt Lewin, Lee Meyerson, and Beatrice Wright. Notably, the utility of social-personality psychologist Kurt Lewin's field theory in conceptualizing disability as a dynamic interaction of factors has been well documented (Dunn, Uswatte, Elliott, Lastres, & Beard, 2013). Lewin's (1935) work in describing behavior as occurring as a function of both personal and environmental factors, represented in the quasi-mathematical function of $B = f\,(\mathrm{P, E})$, has had clear implications in disability studies. The philosophical and empirical legacy of Lewin's foundational work can be seen not only in the work of the prominent rehabilitation psychology scholars discussed below but in the way in which the international community has come to define disability in general.

Lewin's influence can easily be observed in the conceptual framework for the *World Report on Disability* – the WHO's International Classification of Functioning, Disability and Health (ICF; WHO, 2001). The introduction of the ICF model, shown in Figure 1, represented a conceptual shift from previous disability models in large part by emphasizing the "dynamic interaction between health conditions and contextual factors, both personal and environmental" (WHO, 2011, p. 4). It is not difficult to detect the Lewinian terminology in how the ICF presents disability as a complex interaction between multiple of personal and environmental factors.

Environmental factors are by definition external to the individual, and can be a barrier because of their presence (e.g. negative attitudes towards people with disabilities) or their absence (e.g. the unavailability of a needed service; WHO, 2001). They can have a positive (e.g. facilitators) or negative influence (e.g. barriers) on an individual's ability to fulfill societal roles, execute actions, or complete tasks. The ICF divided environmental factors into 5 domains, all of which are relevant to the LMIC context: (a) Products and Technology, (b) Natural Environment

and Human-made Changes to the Environment, (c) Support and Relationships, (d) Attitudes, and (e) Services, Systems and Policies (WHO, 2001).

The nature and relative influence of environmental barriers varies according to local context. It is widely understood that environmental factors pose threats to the quality of life of persons with disabilities in LMICs; however, there is very limited data to characterize physical and attitudinal environmental barriers experienced in LMICs. The *World Report on Disability* (WHO & World Bank, 2011) highlighted common environmental barriers associated with disability including lack of accessible buildings, roads, transportation, information, communication, and policy. Many of these environmental barriers are common to LMICs and high income countries alike; however, the extent and consequences of the challenges encountered in LMICs are much greater and more severe; spanning physical, financial, attitudinal, and sociopolitical domains. Factors unique to low income environments include exposure to poor sanitation, low birth weight, malnutrition, and lack of access to health care. Moreover, environmental changes following natural disaster or military conflict increase disability prevalence and create physical barriers to accessibility on multiple levels.

There are many opportunities for rehabilitation psychology to further the cause of addressing the environmental factors influencing the inclusion and quality of life of persons with disabilities at a global level. For example, to date, little work has been done to develop and validate measures of environmental factors to systematically characterize the barriers that may be amenable to intervention in LMIC contexts. However, as Alvarelhão and colleagues (2012) point out, there is a growing recognition of a need “to deepen the discussion on the theory that supports the measurement of environmental factors. This discussion should be thorough and lead to the development of methodologies and new tools that capture the underlying concepts of the

ICF" (p. 1). Rehabilitation psychologists, with their psychometric training and fundamental grounding in person-environment dynamics, are uniquely positioned to partner with local stakeholders to establish a better understanding of relevant factors unique to specific LMIC locales. The ICF model of disability offers a loose framework for measuring the effect of the environment on the prevalence and severity of disability. The ICF model has utility in its consideration of both capacity (e.g. what a person can do in a standardized, often clinical environment) and performance (e.g. what a person does in their typical environment with all barriers and facilitators in place). Drawing on the work of Lewin and others, rehabilitation psychologists can work to refine the measurement of person-environment interactions in order to guide intervention at the individual or social level, or both (MacLachlan et al., 2014).

However, the complexity of measuring person-environment interactions must be acknowledged (Whiteneck & Dijkers, 2009). Perhaps the most crucial dilemma to address in this area relates to what Whiteneck and Dijkers have described as "the paradox of measurements of environments using participant report" (p. S32). Whiteneck and Dijkers' paradox refers to the notion that those who encounter the most profound environmental barriers may report the least due to pervasive activity restrictions that preclude them from engaging with the environment in other domains. The implications are heightened in LMICs as individuals with even minor impairments may experience severe functional limitations due to a multitude of environmental and cultural factors. The degree of complexity would be enhanced when attempting to study and understand the confluence of barriers experienced by those with moderate to severe impairments in LMICs. As a result, disability can perhaps be best evaluated by first taking steps to characterize the LMIC environment generally before developing approaches to measure person-environment interactions. Among other considerations, this would require careful adaptation and

validation of measurement tools to local contexts as well as novel attempts to quantify aspects of the environment independent of its specific influence on a person's social role participation. Such an approach would begin to shift from traditional methods of collecting self-report data on *perceived* environmental barriers, and potentially allow for increased ability to contextualize the influence of the environment across severity groups and social-ecological systems (e.g. individual; household; societal).

Importance of Social Context

A US-trained rehabilitation psychologist is providing education to medical professionals throughout the Sichuan Province in China regarding disaster recovery and behavioral health issues, a few months post-earthquake. The psychologist is providing education to other health professionals throughout the Province regarding disaster recovery and behavioral health issues. The psychologist is asked to help them with the case of a 16-year old girl from a nearby village that had bilateral lower extremity amputations due to injuries sustained during the earthquake. Prior to her injury she was a bright student, planning to move to the city and work as an adult. She is the daughter of a farmer, and they have extremely limited financial resources. The girl has stopped participating in physical rehabilitation, and was recently transferred from the medical hospital to the psychiatric hospital because of her "non-compliance." She has not progressed in treatment as expected, and the treating providers have diagnosed her with depression. In response, her medical team has decided that the most feasible treatment goal at this time is to teach her to play flute so that she will have a skill to beg with in the future. The

rehabilitation psychologist works with her healthcare providers to identify facilitators of participation in rehabilitation and potential pathways toward gainful employment.

The case vignette above illustrates social context as interacting with personal and environmental factors to influence a person's potential functional outcome in a cross-cultural international setting; although clearly the person's medical team in this example have sought a diminished social role for this women with amputations. This provides a practical example of how rehabilitation psychologists have furthered Lewin's ideas on the person-environment interaction in several ways, further delineating the importance of social context across numerous spheres and planes.

Researchers in the mid-to-late 20th century explored the implications of social context through research and theory development related to self- and other- perceptions of and attributions about disability. Table 1 displays a very brief summary of four major foundational contributions made in this area. As can be seen in Table 1, influential rehabilitation psychology theorists and researchers identified a number of social and interpersonal biases leading to negative attitudes toward people with disabilities. The influence of insider-outsider distinctions, devaluation, fundamental negative bias, and the "spread" effect on promoting prejudice and discrimination has been long-observed in Western cultures (Dembo, 1969; Dembo, Leviton, & Wright, 1956; Yuker, Block, & Young, 1966). The implications of these foundational principles in LMICs are significant. That is, social context may take on an exaggerated significance in cultures and settings in which there may be a strong reactivity to changes in a person's physical or cognitive status. Persons with disabilities in LMICs may be assumed to lack capacity for gainful employment, seen as a source of familial shame, thought to be subjected to Divine

punishment, and/ or provided a pity-based level of support that stymies their capacity for functional independence.

In addition to the physical environmental barriers described above, the *World Report on Disability* identified negative attitudes as "a key environmental factor which needs to be addressed across all domains" (p. 193). Furthermore, the *World Report* states that "campaigns to change negative attitudes towards persons with disabilities… will reduce barriers to activities and participation for many persons with disabilities" (p. 37). Rehabilitation psychology has much to offer to interventions designed to affect perception of disability at both the individual and population based levels. There was recognition of the field's potential and basic responsibility in this area from early on (Dembo, Diller, Gordon, Leviton, & Sherr, 1973). Beatrice Wright (1983) specifically explicated the benefit of focusing on assets and abilities as well as coping, rather than succumbing to frameworks for adaptation. It is the role of the rehabilitation psychologist to be vigilant for existing and potential assets to draw on in order to effectively manage disability-related challenges. These principles may seem self-evident in the applications of rehabilitation psychology in high-income contexts, but take on renewed importance when thinking about applications in LMICs, where there are expansive opportunities to better understand social context as either a facilitator or barrier for persons with disabilities.

Involvement of Persons with Disabilities

> A rehabilitation psychologist from the US is deployed with a medical response team to one of the few remaining hospitals in Port au Prince, Haiti, within days of an earthquake. Severe aftershocks are occurring, and the hospital is surrounded by hundreds of survivors/residents temporarily living on the grounds. The rehabilitation psychologist is asked to provide psychological support to people following amputation surgery,

recovering in tents on the grounds. A local hospital worker is translating, and informs the psychologist about an urgent case involving a carpenter who had one of his arms amputated. He is unaware that his family was killed in the earthquake, and he is wondering how come they aren't visiting. He states he doesn't know how he can go on now that he can't work and support his family. He states that his family cannot afford to care for him, and that he would rather die than "be a burden." The rehabilitation psychologist helps his treatment team in identifying a crisis management plan and provides direct emotional support to this gentleman while working to connect him to established indigenous resources that he can access long after the psychologist has left the disaster scene.

In an article published in the *American Psychologist*, Dembo and colleagues (1973) posed and addressed 12 critical questions about the field. The authors go on to describe the fundamental role of the rehabilitation psychologists as dynamically interacting with health systems, laws, policies, and social constructs limiting the quality of life of persons with disabilities. This work has been borne out in research and clinical practice over the more than 40 years since publication of this seminal article.

There are immense possibilities for the application of the spirit of Dembo et al.'s writings to address applied clinical, research, and educational activities in LMICs. From an applied clinical practice perspective, rehabilitation psychologists are clearly skilled in navigating interdisciplinary environments while aligning both direct and indirect interventions in the service of people with disabilities. The disaster survivor described in the case example above provides an illustration of a person clearly in acute crisis and thoughtful guidance to assist his treatment team guide him through this period of immense loss. Beyond the immediate needs of the acute

phase, rehabilitation psychologists have opportunities to align existing community resources and assist local stakeholders in developing support services that will be sustainable over time. This activity may ultimately involve modification of evidence-based practices for use in LMIC contexts. For example, Wegener and colleagues (2009) demonstrated effectiveness of a community-based self-management intervention for individuals who have had amputation. This intervention was based on group sessions led by trained volunteers, making it an example of an appealing intervention in need of further evaluation for use in LMIC settings where there is clearly a need of programs designed to increase involvement and empowerment of people with disabilities. Such a strategy may also contribute to addressing the scarcity of human resources needed to implement rehabilitation psychology interventions, especially in LMICs. Without new and imaginative models of healthcare deliver the potential of rehabilitation psychology to improve the lives of millions will not be reached – we need to design rehabilitation psychology delivery systems in ways that can increase coverage and access, whilst maintaining quality of care (MacLachlan, 2012).

Another example of a community-based empowerment model for people with disabilities is a project based in India that has been instrumental in organizing persons with disabilities into self-help groups (SHGs) to address economic disparities in rural villages between people with and without disabilities. Although some LMICs countries have instituted employment and livelihood-based legislation in an attempt to address significant poverty issues in the country, most fail to include individuals with disabilities. In India, the Centennial Rural Self-Employment Scheme (Hiranandani and Sonpal, 2010) requires that 3% of persons with disabilities must be served and included in the program, but preliminary information indicated that less than 1% had been included in this program to date (World Bank, 2007). In an effort to

address this disparity a study was instituted at the state level in Southern India to evaluate ways to increase participation of people with disabilities in these initiatives. Unlike most SHG-focused evaluation programs that measures economic benefits of participation, this evaluation approach stemmed from the recognition that these groups offer opportunities for social and personal empowerment for persons with disability and their families (Karpur, et al., 2014). The community-based services available through these groups help in cultivating them into community-based rehabilitation (CBR) groups advancing full-inclusion of persons with disability and expanding their capacities for achieving increased functioning. The research aimed to study how participation in SHG impacts not only access to resources, but also livelihood opportunities for persons with disability and their families including their participation in education and work. This study has illustrated the impact of SHG participation on social empowerment, self-determination, citizenship activities and reduction of stigma towards people with disabilities. A mixed methods approach was used including a large-scale survey of persons with disabilities in both a program and control group, in combination with qualitative methods of focus group discussions to study the program structure and processes. Survey data was collected on 900 persons with disability (450 in intervention and 450 in the comparison/control group) and their families using multistage sample design. In addition, thirty two focus-group discussions were being conducted using a semi-structured tool informed by the CBR matrix as proposed by the World Health Organization (WHO, 2010). Results of the study will inform SHG-based developmental approaches for addressing poverty as well as expanding capabilities for individuals with disabilities in their community-settings. Further, different aspects of SHG will be examined with the perspective of community inclusion of persons with disability in the context of developing countries. This is one example of how rehabilitation psychology can be

cross-cutting between sectors that affect individual lives – health, livelihoods, empowerment – and this is perhaps a distinctive role for the rehabilitation psychology practitioner.

In addition to clinical practice and research implications, there are many opportunities for rehabilitation psychologists to enact core principles to promote the involvement of persons with disabilities. Policy development, evaluation, and revision represent such areas of opportunity. For example, over the past two decades the Ugandan government has made strides to address the rights of people with disabilities in the country. Uganda has made a political commitment to inclusion of people with disabilities in policy development. Persons with disabilities have five representatives in the Ugandan Parliament to lobby on behalf of their interests. Disabled persons' organizations have increased in civil society influence and been included in helping develop the countries' poverty reduction strategies (Dube, 2005). Several laws have been passed to include individuals with disabilities in the mainstream society; however, in practice, reports indicate that persons with disabilities still remain marginalized and vulnerable members of the society (Ministry of Finance Planning and Economic Development – Uganda, 2008). A recent qualitative study undertaken by the Ministry of Finance and endorsed by the National Union of Disabled Persons of Uganda (NUDIPU, 2008), found that people with disabilities are more likely to be excluded from work, school and other social settings due to their disabilities. The study, conducted across several districts of Uganda, also found that while communities are open to discussing disability issues and view disabilities as restricting an individual's participation in society, disabilities are still stigmatized. Like other LMIC settings, part of the difficulty appears to be in implementation of established inclusion policies. Mannan and colleagues (2011) have presented a manualized methodology – called EquiFrame - to assist policymakers in identifying deficiencies in existing policy in terms of the inclusion of vulnerable and marginalized groups,

and the adoption of core concepts of human rights. Part of the motivation for this initiative came from the social psychological theory of social dominance (Pratto et al, 1994). The framework has been already been used to assist Ministries in a number of African countries and is currently also being used in a collaborative project with UNESCO in several South East Asian countries (Ahmimed, MacLachlan, & Mannan, 2014). Rehabilitation psychologists and psychologists in general could develop opportunities to engage more at a macro-psychology level; that is considering how individuals or groups can influence the settings and conditions of the society in which they live (MacLachlan, 2014); and for rehabilitation psychologists this may be as diverse as addressing stigmatizing attitudes through social media, client-centered governance of rehabilitation services, or the domestication of the UNCRPD, as it applied to community based rehabilitation.

Discussion

> The character of the discussion itself is of grave importance since *unusual care* must be taken to make certain that those principles that are to be endorsed do not remain platitudinously dormant. Only by seriously and persistently checking one's own behavior against them, only by focusing on barriers to their proper implementation and on specific ways in which such barriers might be removed, will they become an actual basis for guiding the behavior of professionals and the character of programs (Wright, 1972, p. 38).

This quote from Beatrice Wright brings into focus the need for the field to continually re-evaluate its response to critical demands. Rehabilitation psychologists are not only equipped to contribute to global and public health initiatives in LMIC settings; the call to engage in this work is foundational to the collective professional ethos of the field. This paper has briefly described

the application of fundamental rehabilitation psychology concepts related to person-environment interaction, the importance of social context, and the essential need to involve persons with disabilities at all levels of service. The work of Lewin, Wright, Dembo and others who influenced the thinking about disability issues in rehabilitation psychology can be clearly seen in the ICF (WHO, 2001). Moreover, the application of foundational principles discussed in this paper aligns closely with recommendations for future work as provided in the *World Report on Disability* (WHO & World Bank, 2011). Table 2 displays a process approach to conceptualizing international rehabilitation research as based on the foundational principles we have discussed.

Our discussion of the application of foundational rehabilitation psychology only begins to describe the ability for rehabilitation psychology to serve among the world's most vulnerable populations, individuals with disabilities living in low resource settings. However, numerous challenges to contributions to the complex and multi-dimensional needs of persons with disabilities in LMICs remain. There are undeniable and expansive needs in multiple areas including development of human resources, access to care and services, research infrastructure, and public awareness and understanding about disability. Programs that take an interdisciplinary and multi-faceted approach are needed. Indeed, rehabilitation psychology's involvement in contributing to such programs has already begun. Figure 2 provides a diagram for current opportunities for rehabilitation psychology to contribute and prioritize its contributions in the global context (e.g. where to form strategic alliances).

One program has been initiated in Mysore, India as part of a collaborative effort between the Employment and Disability Institute at Cornell University and the Grassroots Research and Advocacy Movement (GRAAM; Rajashekharamurthy & Karpur, 2014). The project employed mixed-methods approach to policy-analysis of the MNREGA in order to (a) better understand

areas of disability-inclusiveness and (b) to assess knowledge, attitudes, and perceptions of local-level implementers of MNREGA towards inclusion of persons with disability in their programs. The study used household survey data as well as focus group, interviews and participatory appraisal to capture narratives and persons with disabilities. Major outcomes from the project included a workshop led by GRAAM, policymaker and grassroots engagement (including Minister for Rural Development, program administrators, local non-governmental organizations, disability advocates, people with disabilities and their family members), and re-affirmation of the benefits of inclusion. Following the project, the Minister for Rural Development crafted the ordinance to make programs more inclusive and has continued to be engaged in this effort.

As with any other aid effort, there are psychological dynamics inherent in international rehabilitation projects (MacLachlan, Carr, & McAuliffe, 2010). Additional programs that take a capacity building approach aimed at developing local resource sustainability are needed. The Johns Hopkins-Makerere University Chronic Consequences of Trauma, Injuries, and Disability across the Lifespan in Uganda (Chronic TRIAD; see http://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-international-injury-research-unit/research/Chronic_TRIAD/) provide one such example. An ongoing collaborative project between the Johns Hopkins International Injury Research Unit and the Makerere University School of Public Health, the project aims to strengthen trauma, injury, and disability research and educational capacity in Uganda. Aims of the project are to develop a core group of researchers at Makerere University, promote research around key national priorities, establish a national forum, and create a research locus/program. The project will establish a new track within Makerere University School of Public Health masters of public health program and recruit at least 9 trainees into this specialty track. Rehabilitation psychologists have participated as core members of this project, designed course

content taught in the specialty track, and mentored research by Ugandan public health students on topics of disability. The expected outcome will be a sustainable research enterprise that is for Ugandans by Ugandans with the technical assistance of Johns Hopkins as a partner institution. This project serves as an example and model for international capacity building initiatives.

There is also an array of global initiatives to which rehabilitation psychologists could make meaningful contributions. For instance, WHO's Global Cooperation on Assistive Health Technologies (GATE) initiative seeks to identify essential assistive technologies in low and middle -income countries, along with the systems to implement their provision and use (see http://www.who.int/phi/implementation/assistive_technology/phi_gate/en/). In addition, the United Nations Partnership on the Rights of People with Disabilities (UNPRPD) seeks to promote implementation of the United Nations' Convention on the Rights of Persons with Disabilities at country level; currently working across 22 countries (see http://mptf.undp.org/factsheet/fund/RPD00). In each country, United Nations Organizations work with government and civil society to promote these aims, and in many instances they seek an evidence base for these activities going forward. Rehabilitation psychology research and practice could seek to establish links with these programs, and conduct comparative research.

Conclusion

In conclusion, foundational rehabilitation psychology principles provide a clear rationale and call to action for service to persons with disabilities in resource-challenged environments. As rehabilitation psychology examines how it can contribute to disability management globally as a specialty, rehabilitation psychologists can play a larger role in health care by exporting their key principles – person-centered care, conceptualizing disability as multidimensional arising from the interaction between the person and environment, use of an interdisciplinary approach,

attention to social context, focus on retained abilities and positive psychological factors, and efforts for inclusion of persons with disabilities – to shape health care delivery and health behavior change initiatives at an international level. This can occur across numerous levels and domains. With grounding in theory and principles identified by founders of the field, rehabilitation psychologists have the ability to engage in collaborative efforts to assist in developing clinical, education, and research capacity in LMICs.

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Table 1

Foundational Principles: Importance of Social Context

Insider-Outsider Distinction.	Tamera Dembo (1969, 1970) and Beatrice Wright (1975, 1983) identified that perspectives on disability differ between "insiders" (people with disabilities) and "outsiders" (people without disabilities). This *insider– outsider* distinction accounts for erroneous assumptions about disability and persons with disability from the outsider point of view. For example, outsiders may place undue emphasis on physical impairments impeding a "normal" life whereas insiders are aware that disability is largely mediated by the environment and not a singular aspect of their identity.
Devaluation.	Outsiders may devaluate persons with disabilities by perceiving them as not equal (Dembo, Diller, Gordon, Leviton, & Sherr, 1973). Examples of devaluation include avoidance of social contact, occupational discrimination, and implicit or explicit exclusion from participation.
Fundamental Negative Bias.	Beatrice Wright (1983) wisely pointed out that outsiders' devaluation is based on a disproportionate focus on negative aspects of disability. Negative bias can be observed, perpetuated, exaggerated, and ultimately altered through the use of labels. Disability-centric labels (e.g. John is a paraplegic) rather than focus on other aspects of a person's identity (e.g. John is a professor) contribute to the fundamental negative bias.
"Spread" Effect.	The "spread" effect refers to the attention to and generalization of a single characteristic (e.g., an outwardly observable physical disability) to other unrelated domains. As a result, an outsider may make inferences that a disability in one domain (e.g., mobility) suggests impairments in others (e.g., cognition).

Table 2

Incorporating Foundational Principles: A Process Approach in International Rehabilitation Engagement

Understand context through immersion
Engage local stakeholders
Conduct person-centered inquiry
Collate empirical evidence
Critical reflection through sharing of voices of people with disabilities
Reduce the gap between “Insider-Outsider” distinction
Foster collective capacity building in engaged research

Figure 1
WHO's International Classification of Disability, Functioning and Health (ICF)

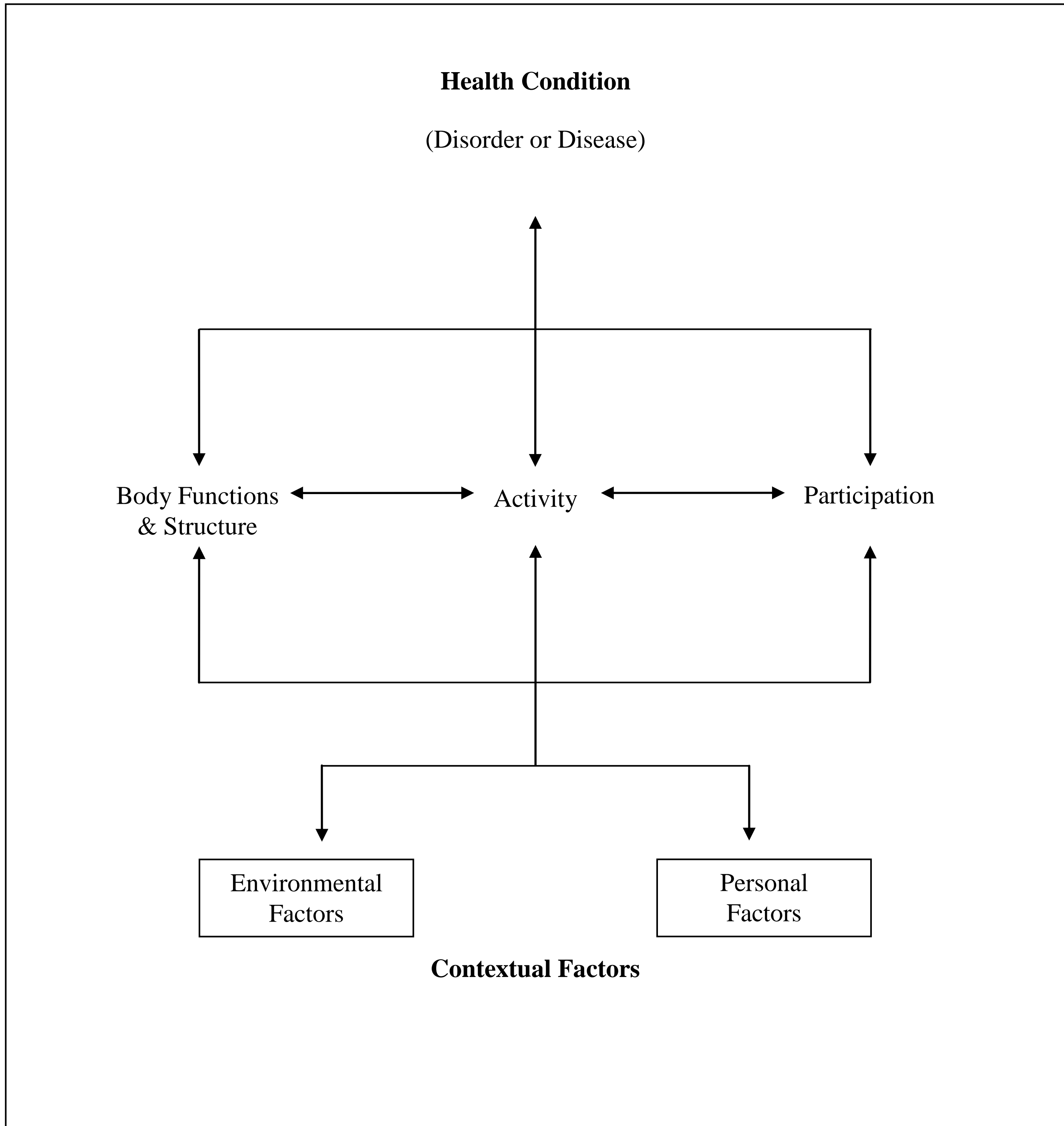

Figure 2