

LETTER TO THE EDITOR

ORGANIZING HUMAN FUNCTIONING AND REHABILITATION RESEARCH INTO DISTINCT SCIENTIFIC FIELDS REVISITED: REPLY TO THE LETTERS FROM JENSEN & KARTIN AND GRAHAM & CAMERON

Sir,

In two letters to the Editor, Jensen & Kartin (1) and Graham & Cameron (2) reflect on the organization of Human Functioning and Rehabilitation Research (HFRR) into distinct scientific fields, a discussion initiated by the *Journal of Rehabilitation Medicine* (3–5).

Both letters agree with the need to structure the area of HFRR in order to meet the complexity of HFRR on the one hand and to facilitate focused and highly specialized research on the other. Both papers, however, also raise the concern that the structure of 5 distinct scientific fields, namely Professional Rehabilitation Sciences, Biomedical Rehabilitation Sciences and Engineering, Integrative Rehabilitation Sciences, Biosciences in Rehabilitation, and Human Functioning Sciences (Fig. 1), may be too complex. They also suggest that it might be more practical to reduce this complexity by fostering the development of the area under the umbrella of a single discipline called Rehabilitation Science(s) (1).

We agree that practicability is an important consideration when implementing HFRR in the academic world. In this

context, it is important to reiterate that we did not argue for the establishment of the 5 distinct scientific fields as separate academic disciplines. The proposed differentiation is meant to serve mainly analytical purposes. It is indeed imaginable that the content of the distinct scientific fields is realized under the umbrella of one or 2 academic disciplines or within one research institution (6). We also consent to the point that an academic discipline called Rehabilitation Science(s), as suggested by Jensen & Kartin (1), would have the potential to integrate 3 of the distinct scientific fields: Professional Rehabilitation Sciences, Biomedical Rehabilitation Sciences and Engineering, and Integrative Rehabilitation Sciences.

We, however, also want to allude to the fact that the terms “rehabilitation” and “habilitation” always correspond to an application of research findings within one of 4 distinct health strategies also including prevention, cure and support (7). Rehabilitation Sciences may thus be mainly understood as professional and applied but not basic sciences. Interests in Human Functioning and the International Classification of Functioning, Disability and Health (ICF) extend beyond re-

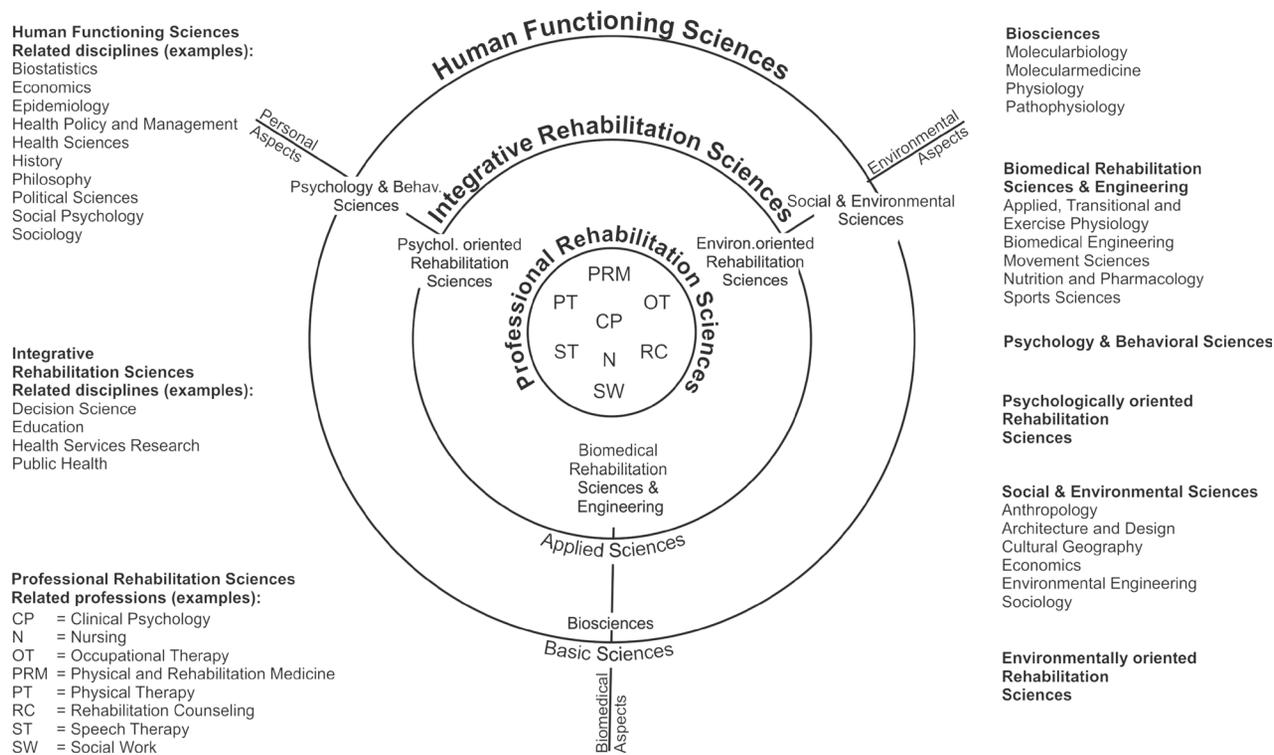


Fig. 1. From basic to professional research: distinct scientific fields in Human Functioning and Rehabilitation Research.

habilitation to diverse application contexts such as education, policy, organizational theory and health services research. This further underlines the need for respective basic sciences. While biology or, more generally speaking, the biosciences, are already established basic disciplines, we see the need to institutionally develop the Human Functioning Sciences as distinct scientific field within the broader Health Sciences (Fig. 1).

Functioning is not only the main goal of the rehabilitation strategy; it is also relevant to the preventive, curative, and supportive strategies, both as outcome and intervention target (Fig. 2) (7–9). Furthermore, understanding human functioning is highly relevant to understanding our living in a modern globalized society. It is the object of political strategies, it is impacted by legislation, and it has a lot to do with ethical considerations. We, therefore, see the need to develop a true epistemological understanding of functioning, the interaction of its components body functions, activity and participation, as well as its determinants and consequences. This research is inherently independent from possible applications. It is possible that it may be realized within the Health Sciences at universities or innovative research institutions (6).

Obviously, the distinct scientific field of the Human Functioning Sciences within the broader area of the Health Sciences is highly relevant to the Rehabilitation Sciences and rehabilitation professions. Scholars from the Rehabilitation Sciences will be important, if not the most important, contributors to their development. There are, however, other disciplines, such as sociology, psychology, or the political sciences, which also have important contributions to make.

The Rehabilitation Sciences are ideally positioned to serve as anchors for establishing transdisciplinary connections with the Health Sciences and other disciplines (10), e.g. by setting up “bridge” – professorships and interdisciplinary programmes which cross the boundaries of traditional disciplinary research.

Rehabilitation research is also strongly linked to clinical practice and often conducted in clinical research departments. Furthermore, it has the potential to realize community-based participatory research settings involving disability advocacy organizations and other non-governmental organizations (NGOs) (10). The Rehabilitation Sciences can therefore be seen as the most important relay between the basic Human Functioning Sciences or Biosciences in Rehabilitation and practice.

An interesting suggestion by Graham & Cameron (2) is that research programmes within the Rehabilitation Sciences and Human Functioning Sciences can be structured according to the ICF models’ components. This approach was, for example, chosen when developing Swiss Paraplegic Research, a research institution committed to the comprehensive study of functioning from the cell to society in people living with Spinal Cord Injuries (6).

When establishing research programmes it is, however, also essential to foster exchange and to avoid the building of new silos or falling back into old patterns of biomedical vs social models. It is thus important to create institutional structures, such as regular academic meetings and conferences, which promote and encourage the exchange between the different programmes and involved disciplines, most importantly the general Health Sciences. To provide an example: to date, research on the environment in HFRR is focused mainly on participation as a major objective of rehabilitation. A consideration of the discussion on environmental health, the social determinants of health, and psychological distress that may be caused by problematic participation in the general discussion of the Health Sciences would, however, reveal that this may not be the full picture. Environmental factors, such as neighbourhood structures (11, 12) or organizations of the labour market (13, 14), may also be important determinants of general health, co-morbidity, and specific body functions and structures. This may also and particularly hold true for people

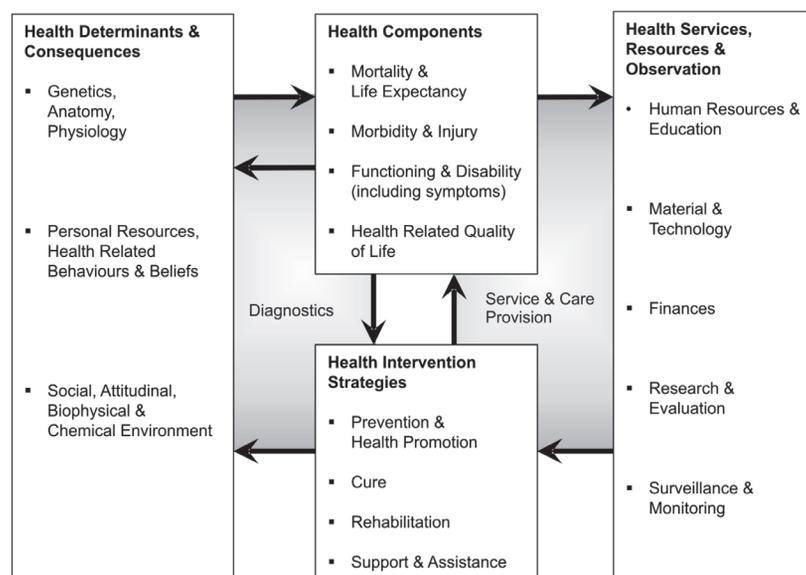


Fig. 2. A conceptual framework for the Health Sciences (adapted and modified from (8, 9)).

who experience disability, an aspect that has been largely ignored by Public Health (15). As Jensen & Kartin (1) state: "Research that focuses on a single factor ... or that ignores how different factors interact to effect functioning, severely limit[s] our understanding".

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Submitted December 11, 2008; accepted December 16, 2008

Jan D. Reinhardt, PhD^{1,2} and Gerold Stucki, MD, MS^{1,3,4}*
 From the ¹Swiss Paraplegic Research, Guido A. Zäch Str. 4, CH-6207 Nottwil, ²Faculty of Cultural and Social Sciences, University of Lucerne, Lucerne, Switzerland, ³Department of Physical and Rehabilitation Medicine, Munich University Hospital and ⁴ICF Research Branch of WHO FIC CC (DIMDI), IHRS, Ludwig Maximilian University, Munich, Germany.
 *E-mail: gerold.stucki@paranet.ch