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Mindfulness Research Guide: a New Paradigm for Managing Empirical Health Information

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Abstract

Scientific knowledge of human health continues to grow substantially through publication in empirical journals. These journals, which serve as the warehouses of scientific knowledge, continue to publish vast amounts of empirical information. This abundance of information, which promotes an understanding of and advances in human health, is also a precursor of information overload that can result in unintended and negative effects in both empirical and applied fields. Researchers and practitioners also struggle with this abundance as they are often pressured by an inability to stay abreast with the vast influx of current information. I offer a brief discussion of a new paradigm to manage empirical health information. The *Mindfulness Research Guide* serves as a case example for use as a publicly available specialized electronic information management system that endeavors to manage, organize, centralize, and deliver a wide range of information on a specific health construct—mindfulness. As empirical information continues to accumulate and guide our knowledge of human health at an unprecedented pace, new information management paradigms such as the *Mindfulness Research Guide* will be needed to organize, maintain, and deliver information in an easily accessible and timely fashion.

Keywords

Mindfulness; Web-based resources; Literature search; Research toolkit; Publishing

Introduction

Scientific knowledge about human health is vast and grows substantially each day. This knowledge, driven by the efforts of empirical research and published in scientific journals, has the benefit of advancing our ability to promote health and prevent disease. However, this abundance of knowledge has also been considered a precursor of information overload, which has the capacity to result in unintended and negative effects in both the empirical and applied fields of health (see Cline and Haynes 2001; Hall and Walton 2004; Hunt and Newman 1997). Scientific publishing is by no means expected to decrease in the future considering that these publications are a measure of a scientist's productivity and spur career advancement (Daniel 2005). With this in mind, additional systems that assist in managing health information in a way that is organized and readily accessible for researchers and practitioners need to be established. Some traditional information management systems have been somewhat effective in this respect.

Large-scale approaches to managing empirical information have been undertaken by several organizations such as the US National Library of Medicine, host of the PubMed search engine, the American Psychological Association, host of PsycINFO, and MedscapeCME, host of Medline, as well as many others. These information management and delivery systems have proven themselves as invaluable electronic databases for organizing, storing, and delivering empirical information. These electronic systems allow researchers to input key terms and in turn output empirical citations that fit the given search criteria. However, these systems are limited in that their main function is to deliver an extensive list of citations based on the match of any key word in the title, abstract, or main text of the publication. As a result, much of the returned output is irrelevant to the purpose of the original search and must be scanned and then ignored by the researcher, a process that requires valuable time and energy. Thus, traditional information management systems often lack the specificity desired by researchers who search the empirical literature.

More recently, a paradigm shift appears to be occurring in an attempt to advance the effectiveness of electronic health information management systems. These new systems are attempting to manage with more specificity and in ways that researchers and practitioners can readily understand and digest pertinent information in a timely manner (e.g., O'Brien and Cambouropoulos 2000). These specialized electronic information management systems may prove more effective for researchers and practitioners as compared with traditional databases because these new systems (1) do not require time-consuming searches across multiple search engines, (2) provide information with advanced organization, specificity, and applicability, and (3) provide more comprehensive and categorized information. Although more specialized electronic information systems are an innovative route to manage, organize, and deliver empirical health information, more attention is needed to explore the functionality of these systems.

The purpose of this paper is to use an example of a recently developed specialized web-based electronic information management system that centralizes empirical information about mindfulness, a concept recently burgeoning in health and intervention sciences. *Centralizing* information is defined here as a bringing together of multiple resources related to the concept of mindfulness research in a single publicly available information management system. The construct of mindfulness provides a good case example for the development of a specialized electronic management system because it is a relatively new empirical construct and thus less information is published on the topic, making it more manageable relative to those fields with a much longer empirical history. In addition, the early development of a management system to centralize information for this burgeoning construct may assist those in the field to maintain a clear perspective, reduce redundancy, and build upon previous knowledge with innovative research ideas. Mindfulness researchers and practitioners may benefit from this specialized information management system by means of advancing their knowledge and competence in mindfulness research, which may support the implementation of timely and valid science and innovative grant writing and empirical publishing.

Mindfulness Research Guide: an Example of a New Health Information Management Paradigm

The Mindfulness Research Guide (MRG) (Black 2010a) was developed in 2009 to address the burgeoning area of mindfulness research in the United States and European nations. This resource was founded on the perspective contending that a specialized electronic information management system for mindfulness research would enrich research and practitioner knowledge about mindfulness and advance mindfulness research through increased accessibility, expediency, and comprehensiveness of available empirical

information on mindfulness. To accomplish this feat, the specific aim of MRG was to provide a comprehensive web-based toolkit for researchers and practitioners to remain informed of advances in mindfulness research and practice. To accomplish this task, the objective for MRG was to centralize five important information resources in one publicly accessible web-based location.

The first information resource within MRG is the provision of an empirical definition of mindfulness. This definition is based on several current perspectives of the construct and thus is not too narrow as to starve off the discipline nor too broad as to nullify its empirical significance. Providing a definition as such allows new researchers and practitioners to understand the main construct for which a toolkit is based. Moreover, this definition reduces confusion surrounding the different uses of the construct term. Second, MRG provides yearly bibliographies of mindfulness publications, which are updated monthly in an attempt to cite all available references. Because each bibliography cites only mindfulness-based research publications and because it is updated each month, this resource allows researchers to search the comprehensive bibliography for relevant studies rather than starting anew within a traditional search engine. This resource is useful as it helps assure that literature reviews are comprehensive and not limited by omission due to faulty or myopic search procedures conducted in traditional search engines. This resource also allows journal peer reviewers to have easy access to information on mindfulness research, which may assist them to make informed comments on submitted manuscripts that appear to omit important findings from previous research.

As a third resource, MRG organizes available psychometric scales used to measure the mindfulness construct and references the empirical studies that discuss the development and validation of these measures. Because researchers and practitioners often find it difficult to locate validated measures that fit with the hypothesized intent of their research, this resource is especially useful for indentifying available measures of mindfulness and selecting the most appropriate measure for inclusion in a research study. Moreover, this resource supports the consistency of using the correct measures across related studies. *Active links*—hyperlinks that, when clicked, link to the location of the citation—are provided for each reference, which expedites the searching process and saves the user time and energy.

Identifying and providing links to mindfulness research centers located in the United States is the fourth resource provided by MRG. Research centers such as universities and laboratories are the core of scientific development and serve as the physical location where researchers and practitioners conduct and publish their research. Thus, this resource is useful in that it identifies which institutions currently conduct mindfulness research and which specific researchers are housed within those institutions. Moreover, both public and private agencies that focus on implementing and evaluating mindfulness interventions are also cited, and *active links* are provided to direct the user directly to the agencies' website for expediency purposes. Identification of these organizations is important as it can increase collaboration across researchers, departments, and universities. In addition, informing collaborations in this manner supports research initiatives that may increase the opportunity for grant awards based on novel and competitive interdisciplinary grant writing.

Finally, the fifth resource of MRG is its publication of the *Mindfulness Research Monthly* bulletin, which is a communication tool to keep researchers and practitioners abreast with the vast amount of mindfulness studies published each month (Black 2010b). This bulletin provides a highly comprehensive reference list of mindfulness studies obtained from monthly literature searches, personal communication with mindfulness researchers, and updates informed from journal editors. Study references are categorized into specific subject areas to tailor sections to the interest of researchers for ease of readability (e.g., intervention

and application, review and meta-analyses, etiology and associations, theory and processes, and methods and measures). Categorizing studies in this manner is also useful for identifying where research is lacking. For example, if monthly searches indicate that method and measures studies in mindfulness research are lacking, this informs the need for future work in this area. *Active links* are provided for each citation in the bulletin to expedite access to the electronic location of publications. This easy-to-read monthly bulletin keeps researchers and practitioners abreast with the constant stream of scientific publications and supports the sharing of information and knowledge that underlies new and innovative mindfulness research.

Discussion

As the scientific era of empirical publishing continues in its abundance, new and innovative paradigms are needed to manage, organize, and deliver information in a timely manner that can be obtained effectively and with limited error by users. Paradigms of this type can keep researchers and practitioners up to date of scientific information in ways that increase researcher/practitioner competence and advance innovative studies based in valid methodology. The *Mindfulness Research Guide*, which is a new publicly available toolkit for centralizing empirical information on mindfulness for researchers and practitioners, is one example of a specialized information management system. Specialized information systems such as MRG appear to be a much-needed pioneering field as empirical information on the study of human health continues to proliferate.

Although the *Mindfulness Research Guide* was used as a case example in the health arena to illustrate a new information management paradigm, this is just one example of how information management systems can be used to advance a field of research. Other health-related research topics may have information management systems similar to MRG in place but, to date, this remains a pioneering field in need of much development and research attention of its own. The study of human health is vast and research on health constructs such as mindfulness may benefit greatly from centralizing the vastness of scientific information in an accessible and expedient manner. As scientific knowledge advances at an unprecedented pace, new paradigms will be needed to assist researchers and practitioners to maintain competence and competitiveness in their given area of interest. Developing specialized electronic information systems is one innovative way to bring a synthesis to the vastness of current research on human health.

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