

Dimensional approaches to psychiatric classification: refining the research agenda for DSM-V: an introduction

DARREL A. REGIER MD, MPH

American Psychiatric Institute for Research and Education, USA

Abstract

The American Psychiatric Association (APA) will publish the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-V), in 2012. This paper reviews the extended, multi-faceted research planning preparations that APA has undertaken, several in collaboration with the World Health Organization and the U.S. National Institutes of Health, to assess the current state of diagnosis-relevant research and to generate short- and long-term recommendations for research needed to enrich DSM-V and future psychiatric classifications. This research review and planning process has underscored widespread interest among nosologists in the US and globally regarding the potential benefits for research and clinical practice of incorporating a dimensional component into the existing categorical, or binary, classification system in the DSM. Toward this end, the APA and its partners convened an international conference in July 2006 to critically appraise the use of dimensional constructs in psychiatric diagnostic systems. Resultant papers appear in this issue of International Journal of Methods in Psychiatric Research and in a forthcoming monograph to be published by APA. Copyright © 2007 John Wiley & Sons, Ltd.

Key words: DSM-V, dimensional, categorical, validity, clinical utility

We are pleased to have the opportunity to present in this journal a selection of papers that report the proceedings of a conference focused on dimensional approaches to psychiatric diagnosis. Convened by the American Psychiatric Association (APA) in collaboration with the World Health Organization (WHO) and the U.S. National Institutes of Health (NIH), with funding provided by the NIH, the conference was one in a series titled ‘The Future of Psychiatric Diagnosis: Refining the Research Agenda’.

Research planning for the DSM/ICD

The APA/WHO/NIH conference series represents a key element in a multiphase research review process designed to set the stage for the fifth revision of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V). In its entirety, the project entails 10 work-

groups, each focused on a specific diagnostic topic or category, and two additional workgroups dedicated to methodological considerations in nosology and classification. APA attaches high priority to ensuring that information and research recommendations generated by each of the workgroups are readily available to scientific groups who are concurrently updating other national and international classifications of mental and behavioral disorders.

Within the APA, the American Psychiatric Institute for Research and Education (APIRE), under the direction of Darrel A. Regier, M.D., M.P.H., holds lead responsibility for organizing and administering the diagnosis research planning conferences. Members of the Executive Steering Committee for the series, include representatives of the WHO’s Division of Mental Health and Prevention of Substance Abuse and

of three NIH components that are jointly funding the project: the National Institute of Mental Health (NIMH), the National Institute on Drug Abuse (NIDA), and the National Institute on Alcohol Abuse and Alcoholism (NIAAA).

APA published the fourth edition of the DSM in 1994 (APA, 1994), and a text revision in 2000 (APA, 2000). Although DSM-V is not scheduled to appear until 2012, planning for the fifth revision began in 1999 with collaboration between APA and the NIMH designed to stimulate research that would address identified opportunities in psychiatric nosology. A first product of this joint venture was preparation of six white papers that proposed broad-brush recommendations for research in key areas; topics included developmental issues, gaps in the current classification, disability and impairment, neuroscience, nomenclature, and cross-cultural issues. Each team that developed a paper included at least one liaison member from NIMH, with the intent – largely realized – that these members would integrate many of the workgroups' recommendations into NIMH research support programs. These white papers were published in *A Research Agenda for DSM-V* (Kupfer et al., 2002). This volume more recently has been followed by a second compilation of white papers (Narrow et al., 2007) that outline diagnosis-related research needs in the areas of gender, infants and children, and geriatric populations.

As a second phase of planning, the APA leadership envisioned a series of international research planning conferences that would address specific diagnostic topics in greater depth, with conference proceedings serving as resource documents for groups involved in the official DSM-V revision process. A prototype symposium on mood disorders was held in conjunction with the XII World Congress of Psychiatry in Yokohama, Japan in late 2002. Presentations addressed diverse topics in depression-related research, including preclinical animal models, genetics, pathophysiology, functional imaging, clinical treatment, epidemiology, prevention, medical comorbidity, and public health implications of the classification issues across the full spectrum of mood disorders. This pilot meeting underscored the importance of structuring multi-disciplinary research planning conferences in a manner that would force interaction among investigators from different fields and elicit a sharp focus on the diagnostic implications of recent and planned research. Lessons learned in Yokohama guided development of a proposal for the

cooperative research planning conference grant that NIMH awarded to APIRE in 2003, with substantial additional funding support from NIDA and NIAAA. The conferences funded under the grant are the basis for this monograph series, and represent a second major phase in the scientific review and planning for DSM-V.

Finally, a third component of advance planning has been the DSM-V Prelude Project, an APA-sponsored web site designed to keep the DSM user community and the public informed about research and other activities related to the fifth revision of the manual. An 'outreach' section of the site permits interested parties to submit comments about problems with DSM-IV and suggestions for DSM-V. All submissions are being entered into the DSM-V Prelude database for eventual referral to the appropriate DSM-V Work Groups. This site and associated links can be accessed at www.dsm5.org.

The conferences that comprise the core activity of the second phase of preparation have multiple objectives. One is to promote international collaboration among members of the scientific community with the aim of eliminating the remaining disparities between the DSM-V and the International Classification of Diseases (WHO, 1992a) Mental and Behavioural Disorders section (WHO, 1992b). The WHO has launched the revision of ICD-10 that will lead to publication of the 11th edition in approximately 2014. A second goal is to stimulate the empirical research necessary to allow informed decision-making regarding deficiencies identified in DSM-IV. A third is to facilitate the development of broadly agreed upon criteria that researchers worldwide can use in planning and conducting future research exploring the etiology and pathophysiology of mental disorders. Challenging as it is, this last objective reflects widespread agreement in the field that the well-established reliability and clinical utility of prior DSM classifications must be matched in the future by a renewed focus on the validity of diagnoses.

Given the vision of an ultimately unified international system for classifying mental disorders, members of the Executive Steering Committee have attached high priority to assuring the participation of investigators from all parts of the world in the project. Toward this end, each conference in the series has two co-chairs, drawn respectively from the US and a country other than the US; approximately half of the experts invited to each working conference are from outside

the US; and half of the conferences are being convened outside the US.

Toward dimensional approaches: an historical perspective

Establishing a workgroup, and convening a conference, on dimensional approaches to psychiatric diagnosis reflects both a long-term interest of nosologists throughout the world and an immediate outcome of the APA/WHO/NIH conference series. Under the co-chairmanship of Thomas A. Widiger and Erik Simonsen, the first workgroup in this project to convene a conference focused on dimensional approaches to personality disorders, conditions long considered prime candidates for a dimensional or quantitative approach to assessment and diagnosis. Papers presented at the meeting were published in two successive issues of the *Journal of Personality Disorders* (Vol. 19, Nos. 2 and 3, 2005; a full collection of papers presented at the meeting was published in the initial monograph in this series) (Widiger et al., 2006).

While personality disorders underscore the potential value of incorporating dimensional approaches into the existing categorical, or binary, classification of the DSM, diagnoses that have been the focus of other workgroups have made evident broad interest within the profession in the feasibility and potential benefits of incorporating a dimensional component to the diagnosis of all psychiatric, including addictive, disorders.

Absent an understanding of the causal mechanisms of mental disorders or of the specifics of brain or behavioral mechanisms gone awry, throughout much of the last century, psychiatry – American psychiatry, certainly – grounded claims for the validity of psychiatric disorder diagnoses on the presumed etiology of mental disorders as reactions either to unconscious conflicts or to known or putative environmental stressors, for the most part in the absence of empirical research. The publication by Robins and Guze (1970) of a radically new proposal for a research-based approach to validity marked a decisive turning point in the US approach to psychiatric nosology as embodied theretofore in the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM), first (1952) and second (1968) editions. That seminal paper spurred growing interest in developing a nosology that would take an atheoretical position with respect to etiology and, rather than assert validity, would emphasize first the reliability of diagnoses through a focus on

identifying syndromes and defining explicit criteria capable of being observed and replicated across settings. The Feighner criteria (Feighner et al., 1972) represented an initial response to the challenge of Robins and Guze to develop highly specific phenomenological descriptions of disorders, with a tacit expectation that such descriptions would result in phenomenological subtypes that would eventually correlate with etiological and pathophysiological factors needed to validate these more precise clinical syndromes.

The pieces of this optimistic vision failed to fall neatly into place when nosologists were confronted with the reality of patient populations who, while appearing to have similar clinical presentations, proved to be highly heterogeneous. The strategy chosen to deal with this sobering reality entailed the introduction, in DSM-III (APA, 1980), of a polythetic – or, more descriptively, a Chinese menu – approach wherein the existence of a disorder would be based on the presence of a certain number – e.g. at least five of nine possible – of criteria that reliably sorted a wide range of individuals into broad diagnostic categories. Nonetheless, because of the feasibility of multiple combinations of criteria, some heterogeneity is inevitably introduced into these broad categories.

While the criteria in DSM-III were intended as hypotheses that necessarily were subject to empirical testing, they also were quickly incorporated into key diagnostic assessment instruments, such as the Diagnostic Interview Schedule (DIS; Robins et al., 1981) and taken into the field in the landmark Epidemiologic Catchment Area (ECA; Regier et al., 1984) study. The ECA found unexpectedly high comorbidity between so-called primary disorders higher on a diagnostic hierarchy such as schizophrenia and other disorders listed in the exclusion criteria, such as panic disorder. The failure of DSM-III criteria to specifically define individuals with only one disorder served as an alert that the strict neo-Kraepelinian categorical approach to mental disorder diagnoses advocated by Robins and Guze (1970), Spitzer et al. (1978), and others, could have some serious problems. Many years later, in a trenchant critique of implicit 'disease entity' validity criteria championed in the 1970s, Kendall and Jablensky (2003) pointed out that Robins and Guze, and others, simply had failed to consider the possibility that '... disorders might merge into one another with no natural boundary in between.' Indeed, early recognition of this problem had led to dropping diagnostic

hierarchies from the revised third edition of the DSM (DSM-III-R) (APA, 1987).

Lessons learned which led to the DSM-III-R – i.e. that a polythetic approach to determining the presence or absence of a disorder would inevitably identify as positive for illness individuals with little impairment or distress – had far-reaching reverberations that eventuated, in DSM-IV (APA, 1994), in the introduction of a clinical significance criterion within mental disorder criteria sets. Far from being unanimously agreed to, this innovation prompted objections on the part of many who viewed the clinical significance criterion as imprecise. The dissatisfaction led to calls for a greater number of required criteria, as prerequisites for diagnosis and, alternatively, for collection of contextual information that would aid in diagnosis. Such informational needs, as we see in the papers presented in this issue of the journal, now are increasingly perceived to require the incorporation of a dimensional component to the classification system.

In the 27 years since introduction of DSM-III, the research enterprise has been instrumental in advancing the use of dimensional measures. While debate continues among nosologists regarding use of dimensional criteria to ascertain the threshold or severity of mental disorders in the clinical setting, physician scientists are routinely reliant on rating instruments that are inherently dimensional to assess severity or treatment response in clinical trials.

As the APA begins the process of research, evaluation, and analysis that will eventuate in publication of DSM-V in 2012, the papers presented in this journal document perspectives on the issue in 2007. We hope that the ideas presented here stimulate interest in finding new ways of combining categorical and dimensional approaches.

Four leaders in the field – John E. Helzer, M.D., University of Vermont, Helena Kraemer, Ph.D., Stanford University, Robert Krueger, Ph.D., University of Minnesota, and Hans-Ulrich Wittchen, M.D., Technische Universität Dresden – agreed to organize and co-chair the Dimensional Approaches to Psychiatric Classification workgroup and conference, which convened in Bethesda, Maryland, in July 2006. The co-chairs worked closely with the APA/WHO/NIH Executive Steering Committee to identify and enlist a stellar roster of participants for the conference.

We appreciate the enthusiastic interest of Dr Wittchen, editor-in-chief of the *International Journal of*

Methods in Psychiatric Research, to ensure the availability of these papers to a global readership. Reprints of these papers also will be available in a monograph to be published by the American Psychiatric Press, Inc. That volume will serve as a resource document for the DSM-V Task Force and disorder-specific Work Groups. In addition, a summary report of the conference is available on-line at www.dsm5.org.

We express our appreciation to officials at NIMH, NIDA, and NIAAA who made supplementary funding available to convene the workgroup on dimensional approaches and thus to stimulate future research on this vital topic. The APA greatly appreciates, as well, the contributions of all participants in the dimensional approaches research planning workgroup and the interest of our broader audience in this topic.

References

- American Psychiatric Association (APA). Diagnostic and Statistical Manual: Mental Disorders. Washington, DC: American Psychiatric Association, 1952.
- American Psychiatric Association (APA). Diagnostic and Statistical Manual of Mental Disorders, 2nd Edition. Washington, DC: American Psychiatric Association, 1968.
- American Psychiatric Association (APA). Diagnostic and Statistical Manual of Mental Disorders, 3rd Edition. Washington, DC: American Psychiatric Association, 1980.
- American Psychiatric Association (APA). Diagnostic and Statistical Manual of Mental Disorders, 3rd Edition, Revised. Washington, DC: American Psychiatric Association, 1987.
- American Psychiatric Association (APA). Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Revised. Washington, DC: American Psychiatric Association, 1994.
- American Psychiatric Association (APA). Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision. Washington, DC: American Psychiatric Association, 2000.
- Feighner JF, Robins E, Guze SB, et al. Diagnostic criteria for use in psychiatric research. *Arch Gen Psychiatry* 1972; 26: 57–63.
- Kendall R, Jablensky A. Distinguishing between the validity and utility of psychiatric diagnoses. *Am J Psychiatry* 2003; 160: 2–12.
- Kupfer DJ, First MB, Regier DA (eds). *A Research Agenda for DSM-V*. Washington, DC: American Psychiatric Association, 2002.
- Narrow WE, First MB, Sirovatka P, Regier DA (eds). *Age and Gender Considerations in Psychiatric Diagnosis: A Research Agenda for DSM-V*. Arlington, VA: American Psychiatric Association, 2007.

- Regier DA, Meyer JK, Kramer M, et al. The NIMH Epidemiologic Catchment Area program: historical context, major objectives, and study population characteristics. *Arch Gen Psychiatry* 1984; 41: 934–41.
- Robins E, Guze SB. Establishment of diagnostic validity in psychiatric illness: its application to schizophrenia. *Am J Psychiatry* 1970; 126: 983–7.
- Robins LN, Helzer JE, Croughan J, et al. National Institute of Mental Health Diagnostic Interview Schedule: its history, characteristics, and validity. *Arch Gen Psychiatry* 1981; 38: 381–9.
- Spitzer RL, Endicott J, Robins E. Research Diagnostic Criteria: rationale and reliability. *Arch Gen Psychiatry* 1978; 35: 773–82.
- Widiger TA, Simonsen E, Sirovatka PJ, Regier DA. Dimensional Models of Personality Disorders: Refining the Research Agenda for DSM-V. Washington, DC: American Psychiatric Association, 2006.
- World Health Organization (WHO). *International Statistical Classification of Diseases and Related Health Problems, 10th Revision*. Geneva: World Health Organization, 1992a.
- World Health Organization (WHO). *The ICD-10 Classification of Mental and Behavioural Disorders: Clinical Descriptions and Diagnostic Guidelines*. Geneva: World Health Organization, 1992b.
- Correspondence: Darrel A. Regier, American Psychiatric Institute for Research and Education, 1000 Wilson Boulevard, Suite 1825, Arlington, VA 22209-3901, USA. Email: dregier@psych.org*