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Expert preferences for categorical, dimensional, and mixed/hybrid approaches to personality disorder diagnosis

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## Abstract

We asked 361 personality disorder experts to rank order their preferences for a categorical, dimensional, or mixed/hybrid approach to personality disorder diagnosis in manuals such as the DSM and ICD. Respondents reported a slight preference for the mixed/hybrid approach over a purely dimensional approach, and a clear preference against a categorical model. Although there were some statistically differences in the rates across training background, age, and gender, this overall pattern held across these factors. Preferences were notably similar to those reported by Bernstein et al. (2007) prior to the publication of the DSM-5 hybrid model. Results are informative for discussions regarding how to classify personality disorders in diagnostic manuals.

Keywords: personality disorder, diagnosis, expert ratings, classification

Critiques of the categorical, criterion-based approach to personality disorder (PD) included initially in the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-III; American Psychiatric Association, 1980) appeared almost simultaneously with the publication of that manual (e.g., Frances, 1980). In the nearly four decades since this approach was introduced, it has been criticized on several grounds, including high diagnostic comorbidity among putatively distinct PD categories, poorly justified diagnostic thresholds, limited evidence of diagnostic validity for some PD categories, and poor coverage of PD cases resulting in high rates of “PD Not Otherwise Specified” diagnoses (e.g. Clark, Livesley, & Morey, 1997). Many critics have advocated dimensional alternatives to the categorical system, in which PDs are represented along personality trait. Supporters of the categorical approach have argued that some PD categories are more clinically useful than traits, being based upon an extensive clinical and theoretical literature that in some instances have been the target of extensive empirical investigation (Sharp et al, 2017).

Given this continuing debate over whether PDs are better represented as categories or dimensions, Bernstein et al. (2007) asked the members of the Association for Research on Personality Disorders and International Society for the Study of Personality about possible alternatives for PD classification for the future DSM-5. Among the 96 respondents to their survey, only 25.0% felt that the DSM-5 should use the categorical system from DSM-III and -IV; 55.8% felt that there should be a dimensional system for PD in DSM-5, while 69.5% indicated that there should be a mixed system of categories and dimensions. Note that these numbers did not sum to 100% because respondents answered each question separately rather than choosing between the different options; nonetheless, a clear majority of survey participants

supported a mixed categorical-dimensional approach to PD diagnosis as the most desirable alternative for DSM-5.

Consistent with the results of the Bernstein et al. (2007) survey, the DSM-5 Personality and Personality Disorders Work Group proposed a categorical-dimensional hybrid that sought to strike a balance between introducing new dimensional elements as called for by the field, while preserving continuity with those DSM-IV PDs with reasonable research support (Skodol et al., 2011). This proposal consisted of a dimensional assessments of severity of impairment in personality functioning along with specification of pathological personality traits; these dimensional elements could then be combined to yield diagnoses of six specific PD categorical types, as well as a category of PD-Trait Specified (PD-TS) for all other PD presentations. This proposal proved to be controversial (Zachar et al., 2016) and although approved by the DSM-5 Task Force, it ultimately was rejected by the American Psychiatric Association Board of Trustees. Thus, the PD diagnostic rules were reproduced essentially verbatim from the DSM-IV in the main section (Section II) of DSM-5. The approach recommended by the Work Group was included in DSM-5 Section III as an “Alternative Model for Personality Disorder” (AMPD) for the conceptualization of PD, with the implicit recommendation that this model be considered an approach meriting further study.

Recently, similar controversy has re-emerged around proposals for the revision of PD classification in the 11<sup>th</sup> edition of the International Classification of Disease (ICD-11). The ICD-11 Working Group proposed a purely dimensional (e.g., Tyrer et al., 2015) model for PD diagnosis that emphasized the severity of personality disturbance and did not attempt to preserve traditional PD categories, but rather provides qualifiers constituting five personality

dimensions. As was the case with the AMPD, this ICD-11 proposal has been met with criticism, particularly around the potential loss of categorical constructs thought to have significant clinical utility (Herpetz et al., 2017). Additionally, there appears to be lack of clarity around the extent to which any consensus is emerging in the field, with Hopwood et al. (in press) stating that a “majority of clinicians and researchers support a transition to a more dimensional, evidence-based framework” (p. 4), a conclusion disputed by Herpetz et al. (2017) who claimed that “Studies actually indicate mixed findings about the support for dimensions over categories” (p. 6).

Given the ambiguity around scientific consensus on this issue, and the important developments since the Bernstein et al. (2007) survey including the introduction of the AMPD and the ICD-11 proposal, it is an important time to obtain updated information on the consensus views of experts working in the PD field. This study sought to determine preferences of such experts for categorical, dimensional, or mixed/hybrid models of PD classification and to examine how such preferences might be influenced by professional training, age, or geographic location.

## **Method**

### **Subjects**

Data were obtained from an international sample of 361 PD experts who responded to a brief online survey located on a secured server. Participants were solicited via email from membership lists of the two organizations included in Bernstein et al. (2007)-- International

Society for the Study of Personality Disorders and Association for Research in Personality Disorders—as well as a newer organization that emerged since that study, the North American Society for Study of Personality Disorders. In addition, the corresponding authors from every article from January 2014 to September 2017 in the three primary PD journals (*Journal of Personality Disorders*, *Personality and Mental Health*, and *Personality Disorders: Theory Research and Treatment*) were added to the invitation database, which was then analyzed to remove duplicates. Invitation emails were thus sent to 1,076 potential participants, and 153 of these emails were returned as undeliverable, resulting in a potential pool of 923 experts. Responses were obtained from 361 participants, a 39.1% response rate that compares favorably to the 24% response rate obtained by Bernstein et al. (2007). The sample was 57.6% male, with an average age of 50.8 (SD = 25.6, median = 48.5). With respect to training background, 26% were MD/DO psychiatrists, 60% PhD/PsyD psychologists, 1% DSW/MSW social workers, 4% master's level counselors, and 7% had other degrees (primarily doctoral graduate students or residents). Responses were obtained from participants in 27 different countries; 48% respondents were from the United States, 34% were from Europe, 9% were from Canada, and 6% were from other locations.

Survey invitations were tied to specific email addresses such that only the invitee could complete the survey, and no invitee could complete it more than once. The institutional review board of Texas A&M University reviewed the procedure and determined that as a single-item poll it was not considered to fall under the purview of human subjects research.

## **Materials**

Data from clinicians were collected by using an online survey questionnaire designed for the purposes of the project. The survey consisted of a single item, asking clinicians to provide the following rank ordering:

*Please rank order the following options on the basis of your perspective on personality disorders. Read the alternatives and decide which approach that you think is optimal; this one would get a rank of 1. Then decide upon the one that seems next best of these alternatives, and rank it 2. The approach that you believe is least optimal should be ranked 3.*

*The future of classification for personality disorders should involve:*

- *A categorical system for PD, such as the DSM-IV/DSM-5 Section II Personality Disorders*
- *A dimensional system for PD, such as the proposal for ICD-11 Personality Disorders*
- *A hybrid/mixed system of categories and dimensions for PD, such as the DSM-5*

*Alternative Model for Personality Disorder*

The survey randomized the presentation order of the three alternatives, such that any of the three alternatives might be presented at the top of the list. Furthermore, the survey required participants to respond to the item, meaning that they could not passively accept the initial ordering, but instead had to actively indicate their preferred order. In addition to the rank ordering, four optional questions were asked to determine gender, age, professional degree, and country of residence.

## Results and Discussion

Table 1 describes the number of first place votes received by each option, with results also subdivided by age (above/below the sample median age of 48.5), gender, professional degree (psychiatrist/psychologist/other), and location (North American/other). These results indicate a preference for a mixed/hybrid model, followed relatively closely by a dimensional model, and appreciably less support for a categorical approach. The mean rankings for each option are also presented, which is known as a Borda Count (Wallis, 2014) where each alternative gets 1 point for each first-place vote received, 2 points for each second-place vote, and 3 points for each third-place vote. The option with the smallest point total is the Borda winner. In this count, the mixed/hybrid approach demonstrated the lowest (i.e., preferred) mean ranking, followed by the dimensional and categorical approaches, respectively. The mean rankings for the dimensional approach demonstrated the largest standard deviation of these groups, suggesting that it was the most “controversial” of the three approaches.

*Table 1. Respondent preference for PD model approaches as a function of respondent characteristics.*

	PD Model		
	Categorical	Dimensional	Mixed/Hybrid
First place votes (percent)	37 (10.2%)	142 (39.3%)	182 (50.4%)
Mean ranking (SD)	2.58 (.67)	1.86 (.79)	1.57 (.62)
Training group mean rankings			
Psychiatrists	2.34 (.78)	2.11 (.84)	1.55 (.61)
Doctoral Psychologists	2.67 (.60)	1.76 (.74)	1.56 (.63)
Other	2.62 (.64)	1.81 (.82)	1.56 (.62)
Age group mean rankings			

Age 49+	2.50 (.72)	1.87 (.80)	1.63 (.66)
Age < 49	2.66 (.61)	1.84 (.77)	1.50 (.57)
Gender mean rankings			
men	2.55 (.69)	1.81 (.80)	1.64 (.65)
women	2.62 (.64)	1.93 (.77)	1.45 (.55)
Location mean rankings			
North America	2.60 (.67)	1.85 (.78)	1.55 (.60)
Europe/Other	2.57 (.65)	1.85 (.81)	1.58 (.64)

Table 1 also indicates the mean rankings of the three alternatives as a function of respondent characteristics. Analyses of these values indicate that there were differences associated some of these respondent factors, although in general these effects were modest. Psychiatrists ranked categorical models higher ( $F_{(2,356)} = 8.55, p < .001$ ) and dimensional models lower ( $F_{(2,356)} = 6.55, p < .002$ ) than did other respondents, although as a group they still displayed a preference for dimensional over categorical approaches. Nonetheless, psychiatrists were quite consistent with other respondents in preferring the mixed/hybrid approach over both other alternatives. With respect to age, younger respondents displayed stronger support for a mixed/hybrid approach ( $F_{(2,352)} = 3.94, p < .048$ ) and less support for categorical approaches ( $F_{(2,352)} = 5.00, p < .026$ ) than older respondents. Women respondents demonstrated a greater preference for the mixed/hybrid approach than men ( $F_{(2,356)} = 39.12, p < .003$ ); because women in the sample tended to be younger than men (mean age for women = 45.4, men = 54.6), an analysis of covariance for this finding was conducted and revealed that this gender effect was independent of age (gender  $F_{(1,351)} = 8.23, p < .004$ , partial eta-squared = .023). Finally, no significant differences in ratings for any of the three approaches were observed in contrasting North American respondents from those in other countries.

We also sought to examine preferences in a manner that takes advantage of the ranking approach to the survey question. Two approaches to proportional representation with ranked preferences are the Hare method and the Plurality runoff method (e.g., Wallis, 2014). The Hare method is intended to secure the representation of every shade of respondent opinion in direct proportion to its numerical strength, and involves the successive elimination of votes for options securing the least support, with those votes distributed according to their second choices. The Plurality runoff method involves a “runoff” (that is, a new election, using the same ballots) between the two options receiving the most first-place votes. Because there are three alternatives in this study, these two approaches yield identical results for this comparison, which can be accomplished using the results provided in Table 2. Applying a proportional representation strategy such as the Hare system would result in an initial elimination of a categorical preference (as it received the fewest votes), with the resulting comparison indicating that 214 (59.3%) preferred the mixed/hybrid approach versus 147 (40.7%) for the dimensional approach.

*Table 2. Respondent rank ordering patterns for proportional representation.*

Ran	Number of Voters					
	123	122	59	32	20	5
k						
1st	Mixed	Dimensional	Mixed	Categorical	Dimensional	Categorical
2nd	Dimensional	Mixed	Categorical	Mixed	Categorical	Dimensional
3rd	Categorical	Categorical	Dimensional	Dimensional	Mixed	Mixed

An “inverse Hare” method, where the most (rather than least) popular options are successively removed from consideration, may also be informative in considering among alternatives. For example, the ICD-11 group was critical of the hybrid aspect of the AMPD, stating that “the forced creation of specific categories from a dimensional classification system was unwieldy” (Tyrer et al., 2015, p. 719) and suggesting that the complexity of the hybrid approach made it unfeasible for use in broad international, interdisciplinary settings. If one accepts the accuracy of these concerns, an inverse Hare method could be applied to the results in Table 2, removing the mixed/hybrid approach as the top vote-getter. With the mixed approach eliminated from consideration, respondents demonstrated a clear preference for a dimensional (265 votes, 73.4%) over a categorical (96 votes, 26.6%) alternative.

As noted previously, one important question to investigate involves whether events of the past decade, such as the introduction of the AMPD or the debates surrounding ICD-11, have had an appreciable impact upon the views of the field. An indication of any such trend can be provided by comparing the current 2017 results with those of Bernstein et al. (2007), who gathered data in 2003. However, this comparison is complicated by the fact that the Bernstein et al. (2007) survey did not require participants to choose among the three alternatives, but instead asked them to agree with statements about how the next DSM revision should look. As such, the “agreement” numbers for the three classification approaches in Bernstein et al. totaled more than 150% and are hence not directly comparable to the forced choice presented to respondents in this study. To provide a closer parallel, we can examine the total number of “agree” responses provided by the 96 participants in the Bernstein et al. survey across the three

classification alternatives; the 145 total “agreements” were distributed as follows: 16.6% categorical, 37.2% dimensional, and 46.2% mixed. The “first place” numbers obtained here (10.2%, 39.3%, 50.4% respectively) did not differ significantly from these numbers ( $\chi^2_{(2)} = 3.90$ ,  $p < .14$ ); to the extent that the percentages demonstrated any trend, the tendency appeared to involve slightly decreased support for a categorical approach.

In concluding their report, Bernstein et al. (2007) noted that they were describing opinions of experts at a particular moment in time, and that “As research on PDs progresses, and the process of considering revisions to Axis II for DSM-V begins, opinions may shift” (p. 549). Despite the controversies surrounding that the DSM-5 and ICD-11 processes for PD classification, it does not appear that there has been an appreciable shift in the consensus of experts: as was the case in 2003, relatively few PD experts believe that a categorical system such as that retained in DSM-5 Section II represents the optimal approach for representing personality problems. Although the categorical approach garners more support within psychiatry than within psychology, even among psychiatrists the categorical approach is seen as the least preferred option. It is worth noting that the trend towards preferring mixed/hybrid models over a categorical system was particularly pronounced among younger respondents to the survey, suggesting that the possible shifts described by Bernstein et al. (2007) may be more gradual and evolutionary rather than revolutionary. Nonetheless, we (as did the authors of the 2007 survey) hope that these results will help inform the ongoing discussions around classification of PD as future revisions to the ICD and DSM are considered.



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