

Transdiagnostic Approaches to Psychopathology Measurement: Recommendations for Measure Selection, Data Analysis, and Participant Recruitment

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Transdiagnostic frameworks such as the Research Domain Criteria (RDoC) and Hierarchical Taxonomy of Psychopathology (HiTOP) offer an exciting future for psychopathology research but may pose measurement and data analytic challenges because historically researchers have often relied on the *Diagnostic and Statistical Manual of Mental Disorders (DSM)* to guide psychopathology assessment. We address these challenges by providing recommendations for (a) measure selection, (b) data analysis, and (c) participant recruitment when conducting research from a transdiagnostic, dimensional perspective. Examples presented demonstrate how both broad psychopathology spectra and specific symptom dimensions can be assessed efficiently via interview, informant, and self-rated methods. Using these dimensional assessment approaches rather than *DSM* categories can enhance precision when examining symptom relations for RDoC mechanisms and in treatment contexts. Additionally, alternative strategies to using *DSM* diagnostic status for participant selection can expedite study recruitment and maximize sample sizes. Thus, incorporating these recommendations can streamline research and improve measurement in many ways. We hope that these guidelines will facilitate integration among different transdiagnostic frameworks that have emerged to address limitations of the *DSM*.

General Scientific Summary

The *Diagnostic and Statistical Manual of Mental Disorders (DSM)* remains the standard framework for psychopathology practice and research. However, alternative transdiagnostic frameworks addressing the limitations of the *DSM* (e.g., poor diagnostic accuracy) have received significant attention. We provide specific recommendations to guide researchers in recruiting study participants, selecting assessment measures, and conducting sound analyses when using these alternative frameworks instead of the *DSM*.

Keywords: Research Domain Criteria, Hierarchical Taxonomy of Psychopathology, dimensional models, comorbidity

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Although the *Diagnostic and Statistical Manual of Mental Disorders* (currently 5th ed.; *DSM-5*; American Psychiatric Association, 2013) remains the standard classification system for mental

disorders, extensive research has examined alternative transdiagnostic approaches to studying, conceptualizing, and treating psychopathology. The National Institute of Mental Health's Research Domain Criteria (RDoC) Initiative is a prominent framework of transdiagnostic constructs, facilitating research on key psychopathology mechanisms (Cuthbert & Kozak, 2013) rather than individual *DSM* diagnoses. Additionally, the Hierarchical Taxonomy of Psychopathology (HiTOP; Kotov et al., 2017) is a comprehensive, alternative classification system conceptualizing psychopathology using core dimensions (e.g., internalizing, externalizing, thought disorder) rather than numerous categorical diagnoses. These initiatives have led to exciting advances in psychopathology research but may pose practical challenges. For example, from the HiTOP framework, various symptoms characterizing *DSM* depressive and anxiety disorders are manifestations of an internalizing spectrum. However, what is the optimal method for assessing such a spectrum? To guide transdiagnostic assessment approaches, we

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present recommendations for (a) measure selection, (b) data analysis, and (c) participant recruitment.

Construct Definition and Terminology Considerations

Before presenting specific recommendations, we briefly acknowledge several issues in transdiagnostic research. First, different labels often are used to refer to the same (or very similar) constructs, or conversely, the same terms are used to refer to different constructs (see Block, 1995, for a historical account of “jingle-jangle” issues; also see Table S1 in the online supplemental materials for recent studies examining terminological issues). For example, neuroticism measures used in the personality–psychopathology literature show similarities in their item content and psychopathology relations with measures (e.g., trait emotion dysregulation measures) widely used in research on transdiagnostic social–cognitive vulnerabilities (Stanton, Rozek, Stasik-O’Brien, Ellickson-Larew, & Watson, 2016). The identification of a common, comprehensive set of terms for key psychopathology constructs represents an important future direction with the potential to unify distinct literatures but will require significant dialogue. Frameworks such as the RDoC (i.e., psychopathology etiology and mechanisms) and HiTOP (i.e., symptom classification) also have different primary emphases. However, many of the following recommendations provided are consistent with both frameworks and other transdiagnostic perspectives (e.g., research examining transdiagnostic social–cognitive vulnerabilities). We hope that providing recommendations of this nature will facilitate integration across perspectives. We adopt a broad use of the term *transdiagnostic* from here on to refer to traits and mechanisms from various frameworks (e.g., RDoC, HiTOP) representing alternatives to the *DSM*.

Transdiagnostic Research Recommendations

Measure Selection

Overview. Due to the creation of many different instruments to assess transdiagnostic constructs (e.g., the National Institutes of Health Toolbox: Gershon et al., 2010; dimensional HiTOP measures), measure selection can be challenging, especially for researchers trained primarily to assess *DSM*-based disorders. Here, we present examples to guide measure selection when assessing broad spectra and specific symptom dimensions via self, interview, and informant methods. This material sets the stage for discussion highlighting how these assessment approaches offer enhanced precision compared to *DSM* disorders when examining symptom associations with key mechanisms (e.g., biological indicators identified in the RDoC Matrix).

As the following examples illustrate, we cannot emphasize enough the importance of broadband assessment of psychopathology within studies (e.g., measures spanning the internalizing and thought disorder spectra). By definition, transdiagnostic traits and mechanisms are linked to many forms of psychopathology, such that there is often limited incremental value to showing that such traits are elevated in individuals with a specific *DSM* disorder or symptom type. This may seem obvious to researchers familiar with transdiagnostic perspectives, but many studies still adopt narrow assessment strategies (e.g., roughly 90% of recent articles in pre-

mier psychiatry journals focus on a single *DSM* disorder; Tabb, 2019).

Efficient informant and self-report assessment. Measures such as those from the Achenbach System of Empirically Based Assessment (ASEBA; Achenbach & Rescorla, 2001) can be used to assess both specific symptom dimensions (e.g., social problems) and broader internalizing and externalizing dimensions in youth, adult, and elderly participants (also see Table 1 of Kotov et al., 2017, for information about other similar measures). Similarly, the Expanded Version of the Inventory of Depression and Anxiety Symptoms (IDAS-II; Watson et al., 2012) is a 91-item self-report instrument covering 17 dimensions spanning current depressive, anxiety, obsessive–compulsive, and hypomania/mania symptoms, which can be completed in 10–15 min. Omnibus measures such as the 220-item Personality Inventory for *DSM*-5 (PID-5; Krueger, Derringer, Markon, Watson, & Skodol, 2012) provide thorough assessment of traits spanning multiple psychopathology spectra. Such a measure may require most participants 30–60 min to complete. Using measures such as the PID-5 is still often more efficient than following a *DSM*-based approach, which (a) requires many different modules and/or measures to assess different diagnoses and (b) repeats assessment of the same symptoms (e.g., administering sleep disturbance items across various *DSM*-based depression, anxiety, and posttraumatic stress disorder measures).

However, we recognize that administering measures such as the full 220-item PID-5 may be unrealistic at times (e.g., in studies also administering complex experimental protocols). The Figure 1 example using select PID-5 scales demonstrates an approach to assessing multiple spectra very efficiently in either adult or adolescent populations (i.e., using 69 items, requiring most participants roughly 10 min). For example, the PID-5 Anxiousness, Separation Insecurity, and Emotional Lability scales have all been shown to strongly define a negative affectivity factor across adult and adolescent samples (De Clercq et al., 2014; Wright et al., 2012), and all three of these traits are identified as indicators of the internalizing spectrum in the HiTOP model (see Figure 3 of Kotov et al., 2017). Therefore, scores on these scales could be summed to model internalizing. Scores on internalizing, disinhibited externalizing, and antagonistic externalizing shown in Figure 1 could also be summed to yield a general psychopathology factor (Kotov et al., 2017). We recommend that to the degree possible, researchers use at least several scales to represent higher order dimensions such as antagonistic externalizing to ensure some breadth when modeling general dimensions (e.g., summing two sadness scales would yield a factor too narrow to model internalizing). Note that the Figure 1 example also enables data analysis at different levels of specificity (e.g., general psychopathology level; specific trait level), a key point we return to subsequently.

Rather than choosing select scales from omnibus measures, another straightforward approach would be to use concise measures such as the PID-5 Brief Form (Fossati, Somma, Borroni, Markon, & Krueger, 2015). This measure efficiently assesses domains (e.g., antagonism, psychoticism) corresponding with higher order spectra but would preclude assessment of more specific trait dimensions. These examples also apply to assessment methods other than self-report. For example, the PID-5 includes an informant version that could be used in the manner presented in Figure 1. The ASEBA for youth also includes parent and teacher

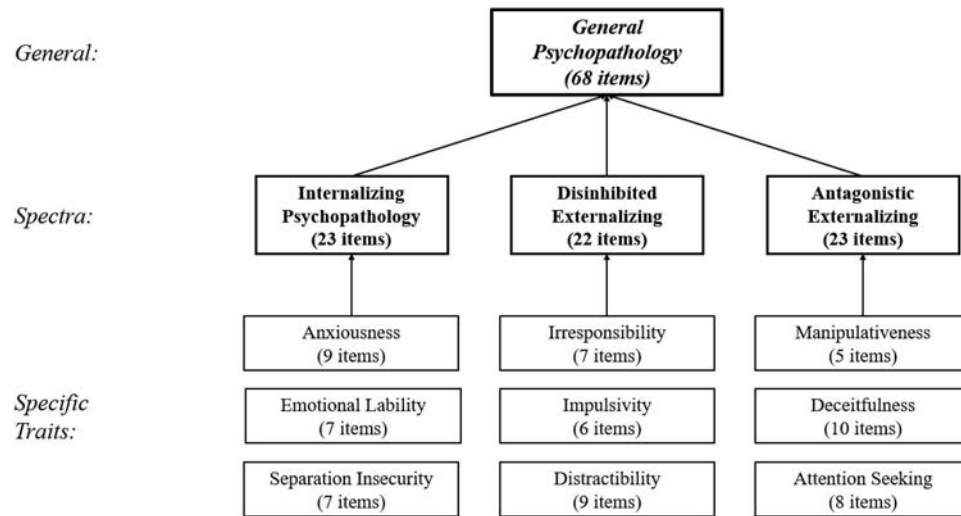


Figure 1. Example for using scales from the Personality Inventory for DSM-5 to efficiently assess general psychopathology, multiple spectra, and specific traits defining these spectra in adolescents or adults.

versions that could be used to assess multiple psychopathology spectra at both general and specific symptom–trait levels.

Interview assessment. Dimensional interview assessment measures paralleling these informant and self-report examples provide other sound assessment options. For example, similar to the IDAS-II, the Interview for Mood and Anxiety Symptoms (IMAS; Waszczuk, Kotov, Ruggero, Gamez, & Watson, 2017) assesses various depressive, anxiety, and hypomania/mania symptom dimensions. Scores on these specific symptom dimensions can be used to create higher order distress (i.e., worry, dysphoric mood), fear (i.e., physiological arousal and avoidance), and mania (i.e., euphoric mood, racing thoughts) factors, and scores on these distress and fear factors can be combined to create an even broader internalizing spectrum score. The self-reported IDAS-II also can be used in a similar fashion, thereby offering potential multimethod assessment of these symptom dimensions.

The recently developed Structured Clinical Interview for the DSM-5 Alternative Model of Personality Disorders (SCID-5-AMPD; First, Skodol, Bender, & Oldham, 2018) provides an option for assessing stable, pathological traits in addition to current symptoms. Similar to the PID-5, the SCID-5-AMPD assesses traits defining the alternative model of personality disorders, a DSM-5 Section III model designated as requiring further study. The Structured Interview for the Five-Factor Model of Personality (Trull, Widiger, & Burr, 2001) also provides assessment of psychopathology-relevant trait dimensions. Some researchers may have concerns about interpreting measures of “normal range” personality as parallels for psychopathology spectra (i.e., [low] agreeableness as representing antagonistic externalizing). However, accumulating research has suggested that personality and psychopathology dimensions correspond very closely and show very similar neuroanatomical correlates (Hyatt et al., 2019). Therefore, assessing a domain such as neuroticism, which, like internalizing, reflects propensities for experiencing various fear- and distress-based symptoms, represents a viable option for clinical assessment.

We also recognize that researchers interested in transdiagnostic perspectives can face challenges from reviewers expecting information regarding DSM diagnostic prevalence for study samples (e.g., requests for schizophrenia prevalence rates to ensure high levels of pathology are represented). Consequently, researchers may wish to incorporate DSM interview-based assessments in some cases, especially because some scholars view clinician interview ratings as the “gold standard” for psychopathology assessment. How, then, can one assess both DSM diagnoses and transdiagnostic dimensions efficiently via interview? One option is to incorporate only select modules from measures such as the IMAS assessing symptom dimensions most relevant to study aims, as we demonstrate with a subsequent example. Another possibility would be to incorporate efficient measures such as the therapist version of the Five-Factor Model Rating Form (Mullins-Sweatt, Jamerson, Samuel, Olson, & Widiger, 2006), a single-page instrument used to assess domains (e.g., neuroticism) and facets (e.g., hostility) corresponding with key psychopathology constructs.

Data Analysis

Basic considerations. Incorporating dimensional assessment approaches—even when group comparisons are necessary (e.g., treatment studies)—enables researchers to circumnavigate analytic issues with DSM diagnostic conceptualizations. We strongly recommend examining relations between constructs of interest and a range of symptom dimensions as stated. The example based on bipolar disorder in Figure 2 serves as a template for integrating these recommendations (see Figure S1 and the associated Appendix 1 material in the online supplemental materials for another example). Notably, most bipolar disorder research continues to focus solely on broad DSM-based ratings even when studying transdiagnostic mechanisms, despite the significant heterogeneity of the DSM hypomania/mania criteria (Nusslock & Alloy, 2017; Stanton et al., 2019).

Positive Valence Systems (PVS) Constructs		Negative Valence Systems (NVS) Constructs	
1. Reward Responsiveness 2. Reward Learning 3. Reward Valuation		1. Acute Threat/Fear 2. Potential Threat/Anxiety 3. Sustained Threat 4. Loss 5. Frustrative Nonreward	
Potential Internalizing Dimensions		Potential Mania Dimensions	
1. IMAS Dysphoria (5 items) 2. IMAS Anhedonia (6 items) 3. IMAS Lassitude (5 items) 4. IMAS Irritability (6 items)		1. IMAS Euphoric Activation (6 items) 2. IMAS Hyper. Cognition (4 items) 3. IMAS Reck. Overconf. (4 items)	
Analysis Description		Potential Information Provided	
Group comparison		Comparison of scores between (a) individuals with bipolar disorder and (b) individuals with major depression on tasks assessing various PVS and NVS mechanisms	
Spectra and Mechanism Associations		Examine associations for PVS and NVS measure scores with scores on both the internalizing and mania spectra using the <i>full sample</i>	
Symptom and Mechanism Associations		Examine associations for PVS and NVS measure scores with specific symptom dimensions comprising internalizing and mania using the <i>full sample</i>	

Figure 2. Research Domain Criteria (RDoC) Positive and Negative Valence Systems constructs and IMAS scales assessing various internalizing and mania dimensions that could be linked to these RDoC constructs. IMAS = Interview for Mood and Anxiety Symptoms; Hyper. Cognition = hyperactive cognition; Reck. Overconf. = reckless overconfidence.

The group comparison shown in Figure 2 examines differences between (a) bipolar disorder and (b) unipolar depression groups on measures assessing RDoC mechanisms. Analyses consistent with transdiagnostic frameworks that could be integrated in addition to group comparisons based on *DSM* diagnosis are also presented. These analyses examine relations for RDoC Positive Valence Systems (PVS) and Negative Valence Systems (NVS) indicators with (a) broad internalizing and mania dimensions and (b) more specific symptom dimensions assessed efficiently via the IMAS. Both sets of analyses improve precision in estimating observed effects, because data from the full sample, which could include additional individuals without *DSM* bipolar or depressive diagnoses, are used. As Figure 2 highlights, examining associations using bivariate and regression analyses (e.g., to identify the unique predictive power of overlapping PVS indicators) for PVS and NVS mechanisms with specific symptom dimensions may be especially

illuminating. For instance, PVS reward valuation indicators (e.g., tasks/paradigms assessing effort expenditure for reward) may be robustly associated with manic symptom dimensions such as euphoric activation (e.g., “had much more energy”) and reckless overconfidence (e.g., “felt invincible”; “engaged in dangerous behavior”) that are linked to approach motivation and reward pursuit (Nusslock & Alloy, 2017; Stanton et al., 2019). Conversely, other mania-relevant dimensions such as irritability and hyperactive cognition (i.e., racing thoughts) may show weaker relations with PVS indicators, instead aligning more closely with NVS indicators (e.g., irritability and NVS frustrative nonreward). These considerations may be particularly useful in identifying neural and physiological substrates of distinct hypomanic/manic symptom dimensions, because meaningful associations may be masked by focusing on heterogeneous *DSM* diagnoses comprised of different symptom types, each showing divergent relations with

biological indicators (see Abram & DeYoung, 2017, for other examples).

Analyzing data from homogeneous dimensional measures is also beneficial when using longitudinal, repeated-measures designs. For example, internalizing symptom dimensions such as dysphoric mood show stronger temporal stability than do symptoms such as appetite change (Kotov et al., 2017; Watson et al., 2012). It would be desirable to identify that positive changes in appetite resulted from intervention rather than natural fluctuation in treatment studies; however, focusing solely on DSM diagnostic remission status precludes such symptom-level analyses. Additionally, when conducting research on developmentally sensitive mechanisms and symptom dimensions, we advise researchers to think carefully about measurement invariance based on age, child sex, and family risk markers (e.g., parent psychopathology). Establishing the validity of an assessment tool for one age group (e.g., toddlers) does not guarantee validity for another (e.g., middle childhood), which can make interpreting change over time challenging (Beauchaine, Constantino, & Hayden, 2018). We also commend efforts to develop efficient measures that can be used to advance the understanding of key psychopathology constructs over time and across contexts (e.g., examining within-subject variability in vulnerable mood states; Crowe et al., 2018).

Factor analytic approaches. We also present considerations for implementing factor analytic techniques, a class of procedures representing a cornerstone for measure development and refinement (Watson et al., 2012; see Appendix 2 in the online supplemental materials for information about other multivariable approaches). Factor analysis has been used widely to identify latent dimensions explaining symptom covariation and risk (Kotov et al., 2017), with such research guiding our recommendations for modeling broad psychopathology liabilities in our Figures 1 and 2 examples. Factor analysis also holds promise for identifying dimensions underlying both biological indicators and symptom indicators but has been less widely applied in this manner (e.g., a disinhibition factor defined by event-related potential measures and self-report assessments; see Patrick et al., 2013, for recommendations for accounting for method variance when using multiple assessment types). Such an approach could be applied to our Figure 2 example. For example, researchers could examine the extent to which PVS indicators assessed at multiple levels of analysis (e.g., indicators of dopaminergic functioning, effort expenditure for reward task scores, behavioral approach self-ratings) cohere to define a common single factor using exploratory factor analysis (EFA) or confirmatory factor analysis (CFA). Identifying that these indicators all load strongly on a latent factor would provide basic evidence that they cohere to define a broad, unitary PVS.

Confirmatory bifactor analysis is one factor analytic variant that has received significant recent attention due to many studies identifying a *p* factor of psychopathology (Kotov et al., 2017). Although a detailed review of factor analytic approaches is beyond our scope here (see Markon, 2019), confirmatory bifactor models may be receiving increased attention because they often yield superior fit according to widely reported fit indices (e.g., the comparative fit index) compared to traditional CFA models (e.g., models without a general factor wherein internalizing and externalizing are modeled as correlated factors; Markon, 2019; Sellbom & Tellegen, 2019). However, bifactor models may be difficult to

interpret on theoretical grounds, because they are typically used to yield a general factor and specific factors that are orthogonal to one another (e.g., models with a general factor and residual internalizing and externalizing factors; Sellbom & Tellegen, 2019). It can then be challenging to interpret the nature of factors; for example, it is difficult to understand the meaning of specific uncorrelated disinhibited externalizing and antagonistic externalizing factors reflecting variance beyond a general factor. Researchers can allow factors to correlate and make other modifications when estimating bifactor models, but this does not resolve interpretability issues (e.g., specific factors such as internalizing and externalizing may then correlate *negatively*, among other issues; Markon, 2019).

Bifactor models still have useful applications (e.g., identifying useful items for discriminant validity purposes; Stanton et al., 2019). Nonetheless, researchers should think carefully about applying these models based solely on enhancing model fit, and we agree with recommendations that traditional EFA and CFA approaches such as those described in our PVS indicators example are more appropriate for many purposes (Sellbom & Tellegen, 2019). These approaches still can be used to model a general *p* factor, but would be performed by allowing all symptom dimensions to load on a single factor (e.g., using all PID-5 indicators to represent a general factor; see Wright et al., 2012). Additionally, as Figures 1 and 2 show, there is not necessarily a single correct level of abstraction on which to focus analyses. Even when using traditional factor analytic approaches, models with greater numbers of factors typically will yield superior model fit according to widely reported fit indices. However, if one were interested in examining how broad liabilities such as internalizing are related to treatment outcome, it would not make sense to focus solely on a model defined by many specific, lower order internalizing symptom dimensions simply because the more nuanced model appeared to show superior model fit.

Participant Recruitment

Recommendations. Historically, DSM diagnoses have often been used for participant selection. However, selecting participants based on DSM diagnostic status is inconsistent with transdiagnostic initiatives and may often not yield “pure” disorder-based samples (e.g., due to poor reliability estimates for many DSM diagnoses; see Chmielewski, Clark, Bagby, & Watson, 2015; Shankman, Katz, & Langenecker, 2016). In a similar way, unless participation is unfeasible or detrimental to the participant, screening out individuals with specific DSM diagnoses (e.g., autism spectrum disorder) may unnecessarily reduce sample sizes and the generalizability of findings. How, then, can researchers recruit samples with adequate range on measures of psychopathology constructs if not relying on DSM-based selection?

First, recruiting large community-based samples without any screening often yields sufficient range on many measures, such that key results from these samples (e.g., factor structures, longitudinal associations) often parallel those from clinical samples (Kotov et al., 2017). More specific approaches may often be necessary, however, and Table 1 presents other possible strategies (additional examples are available in online Supplemental Table S2). For instance, Conway, Craske, Zinbarg, and Mineka (2016) identified participants with elevated neuroticism for longitudinal

Table 1

Alternative Recruitment Strategy Examples

Study	Sample type and strategy
Alloy et al. (2012)	Adolescents with elevations on approach motivation and reward sensitivity measures
Conway et al. (2016)	Young adults identified via neuroticism scores
Macatee et al. (2018)	Adults with elevations on measures conferring internalizing risk (e.g., anxiety sensitivity)
Martin et al. (2018)	Adult inmates
Valentino et al. (2017)	Children and families with maltreatment history

research on internalizing symptoms. Participants can also be screened on other related social–cognitive vulnerability measures (e.g., anxiety sensitivity; Macatee et al., 2018) that are more reliable and valid than are *DSM* diagnostic categories or could simply be screened or overselected based on having a psychiatric treatment history.

Martin and colleagues (2018) demonstrated how prison samples can be used to study high levels of externalizing traits, although accessing these samples can be difficult. Recruiting participants based on broad criteria such as history of treatment for any substance use, which is linked to disinhibited externalizing traits, represents another strategy (Hyatt et al., 2019; Kotov et al., 2017). As another broad recruiting example, Valentino, De Alba, Hibell, Fondren, and McDonnell (2017) selected families by maltreatment history, which would permit group comparisons if desired (e.g., examining differences in families with and without maltreatment histories).

Maximizing sample sizes in challenging cases. Accruing large sample sizes needed for factor analytic techniques such as those described (i.e., several hundred participants or more; see Kotov et al., 2017; Watson et al., 2012) can be especially difficult when studying low base rate symptoms (e.g., psychotic symptoms). Similar difficulties arise when conducting expensive or lengthy procedures (e.g., fMRI). Again, reducing reliance on *DSM* diagnoses can increase sample sizes when studying low base rate phenomena, because selecting participants using individual *DSM* diagnoses may unnecessarily increase the time and resources needed to acquire large samples of individuals with specific diagnoses (Abram & DeYoung, 2017; Tackett et al., 2017). However, we appreciate that (a) it may still be challenging to obtain large sample sizes even when reducing reliance on *DSM* diagnoses and

(b) researchers may wish to identify participants likely to report elevated levels of very low base rate symptoms.

Recruitment approaches similar to those previously described could be used in these instances. For example, screening measures aligning with RDoC-identified mechanisms that confer risk for low-frequency symptoms can help to provide symptom range within samples (see Table 1 and Alloy et al., 2012), and scores on the PID-5 Psychoticism domain could be used to identify individuals with elevations on the thought disorder spectrum encompassing psychotic traits and symptoms (e.g., by selecting individuals a certain level above the mean). If *DSM* diagnostic status is used for selection in challenging cases, we recommend including all participants with a history of any disorder related to thought disorder (e.g., schizophrenia, schizoaffective disorder, schizotypy; Kotov et al., 2017) to maximize sample sizes. We also encourage collaborations across labs in cases where participant recruitment may be difficult (see Tackett et al., 2017; also see Hyatt et al., 2019, for a helpful example focused on examining neuroanatomical psychopathology correlates), which, along with reducing reliance on *DSM* diagnoses for participant selection, can help to bolster study sample sizes.

Conclusion

We hope these recommendations pertaining to measure selection, data analysis, and participant recruitment will be useful in guiding future transdiagnostic psychopathology research. Key take-home points for each of these topics are provided in Table 2. These recommendations and others provided have the potential to streamline psychopathology research and lead to sounder assessment practices within and across mental health research disci-

Table 2

Summary of Key Recommendations

Topic	Key recommendations
Measure selection	<ol style="list-style-type: none"> 1. Assess an array of symptom dimensions spanning multiple psychopathology spectra. 2. Measures such as the Interview for Mood and Anxiety Symptoms can be used to assess many symptom dimensions efficiently.
Data analysis	<ol style="list-style-type: none"> 1. Empirically identified symptom dimensions provide more precise targets for treatment and mechanism research than do <i>DSM</i> diagnoses. 2. Symptom relations with mechanisms can be validly examined at both broad (e.g., overarching spectra) and narrow (e.g., specific symptoms) levels of abstraction. 3. In addition to considering model fit indices, theory and interpretability should be considered when specifying factor analytic models commonly used in transdiagnostic measurement research.
Participant recruitment	<ol style="list-style-type: none"> 1. Reducing reliance on <i>DSM</i> diagnosis for participant selection can maximize sample sizes and expedite study recruitment. 2. There are sound alternatives for recruiting participants instead of relying on <i>DSM</i> diagnosis (e.g., recruiting based on psychiatric treatment history).

Note. *DSM* = *Diagnostic and Statistical Manual of Mental Disorders*.

plines. We also believe that many of these key recommendations are relevant to researchers focused on different transdiagnostic frameworks (e.g., RDoC, HiTOP, social–cognitive vulnerability perspectives), which we hope will increase dialogue and collaboration among researchers focused on advancing clinical science.

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