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Review article

A TRANSDIAGNOSTIC PERSPECTIVE ON MENTAL DISORDERS

Abstract

The paper presents the current status of the transdiagnostic approach to psychopathology, an alternative model of describing and understanding mental health impairments, which attempts to bridge the gap between clinical reality and the diagnostic paradigm. By abandoning the boundaries (i.e. limitations) of diagnostic categories, this perspective provides opportunities for a more accurate conceptualization of processes underlying a wide range of disorders, either as risk factors for their occurrence or mechanisms that maintain them, as well as for proposing psychological interventions whose effectiveness transcends individual diagnostic entities. Following a brief overview of the weaknesses of categorical nosological systems, the dimensional representation of psychopathology is presented as a foundation for this perspective. Next, various approaches to defining and examining transdiagnostic processes are further presented, and empirical evidence on several extensively researched vulnerability factors is discussed. Finally, the specifics of transdiagnostic psychological interventions are briefly elaborated on, and, in conclusion, the current challenges and potential future directions of this paradigm are presented.

***Keywords**: transdiagnostic processes, vulnerability factors, transdiagnostic interventions*

For several decades the practical and research activity of clinical psychologists has been faced with growing internal pressure to bridge the gap between the actual manifestation of psychopathological phenomena and their conceptualization in traditional nosological systems - the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) and the *International Classification of Diseases* (ICD). The criticism of the diagnostic paradigm (e.g., Dalgleish et al., 2020) is most often aimed at highlighting: a) the multifactorial biopsychosocial aetiological background of disorders, as opposed to the reductionist approach; b) the empirically supported dimensional nature of psychopathological symptomatology, as opposed to the proposed categorical model; c) the predominant comorbidity of disorders, as an artefact of the structure of the classification systems; d) the heterogeneity of the diagnostic categories, that sometimes leads to thousands of possibilities of satisfying a diagnostic threshold; e) the limited range of signs and symptoms describing the disorders, as opposed to the multi-

fold representative symptoms included in measurement instruments; f) phenotype plasticity, that does not result exclusively from individual developmental changes in symptomatology, but is instead a consequence of the dichotomous representation of dimensional and dynamic constructs; g) the tendency to evaluate psychological treatments for individual disorders, as opposed to the need for flexible adaptation of interventions to the condition, needs and capabilities of clients.

Hence, it is not surprising that the so-called transdiagnostic paradigm is gaining substantial support since it currently provides an alternative model for describing and understanding mental health impairments. Moreover, by abandoning the boundaries (i.e. limitations) of diagnostic categories, this perspective provides opportunities for a more accurate conceptualization of processes underlying a wide range of disorders as risk factors for their occurrence and/or mechanisms that maintain them, as well as for proposing psychological interventions whose effectiveness transcends individual diagnostic entities.

Transdiagnostic approaches are based on extensive empirical support of the more appropriate dimensional representation of psychopathological problems. Some models propose a bifactor structure, defined by a general psychopathology factor and individual factors representing symptomatic dimensions (Caspi et al., 2014). Other models provide a more complex hierarchical structure composed of a general factor and several levels of psychopathological dimensions. The most illustrative example of such an approach and currently the most pervasive model in the literature is *The Hierarchical Taxonomy of Psychopathology* (Kotov et al., 2017; Conway et al., 2019), in which second-order dimensions are named spectra and include internalizing and externalizing psychopathology, somatoform problems, thought disorder and detachment. Situated beneath them are the subfactors, i.e. specific problems related to the spectra, such as eating problems, distress, antisocial behaviour, and so on. Below them are the syndromes, i.e. the disorders, as they are currently described in the classification systems. Finally, individual signs, symptoms and their components, as well as the maladaptive personality traits, lie at the base of the model.

Comprehensive dimensional models, similar to categorical models, are atheoretical and not explanatory and, for now, face challenges in their translation to clinical practice. Therefore, parallel to their development, research has continuously been focused on biopsychosocial processes, which increase the likelihood of occurrence of a wide range of psychopathological problems, can be factors that maintain dysfunction, while some may also serve a protective function.

Transdiagnostic processes

An initial review of empirical data on several cognitive-behavioural transdiagnostic processes was provided by Harvey et al. (2004), who have also proposed a conceptual definition for this construct. Specifically, they suggested

that a process should be called transdiagnostic if it manifests both in clinical and nonclinical populations and is implied in at least four mental disorders. According to their review, at that moment, robust empirical evidence existed for twelve so-far researched processes, including selective attention, intrusive memories, emotional reasoning, positive and negative metacognitive beliefs, behavioural avoidance, and so on. Later, Harvey et al. (2011) introduced a distinction between *descriptively* transdiagnostic processes, which are merely present in multiple disorders and *mechanistically* transdiagnostic processes, which are causally related to disorders.

At the same time, Nolen-Hoeksema and Watkins (2011) proposed a heuristic for developing models of transdiagnostic processes, highlighting the guidelines for identifying factors that explain multifinality and divergent trajectories of psychopathology, i.e. the general and specific risks of disorder onset. They suggested a distinction between *distal* and *proximal* processes, i.e. risk factors that indirectly affect the occurrence of psychopathological problems and risk factors that directly affect the onset of psychopathology. The first category includes environmental contextual factors and innate biological traits, that is, experiences or characteristics that are (usually) independent of one's actions and are also difficult to control and modify. Examples of factors from the first group include early traumatic experiences or parental mental health problems. Examples from the second group include genetic abnormalities or abnormalities of brain structures and brain functions. This category of transdiagnostic factors is always causally distant from the onset of psychopathology. However, the temporal distance between the exposure to these factors and the development of symptoms is not necessarily very long. The second category, i.e. proximal factors, mediates the relationship between distal risk factors and psychopathology. These are intrapersonal variables that precede symptoms and/or directly cause them. This category includes three groups of often interrelated factors: a) biological factors that lead to potentially maladaptive emotional, cognitive or behavioural tendencies (e.g., hyperactivity of the amygdala or hypoactivity of the prefrontal cortex); b) cognitive deficits or biases in information processing (for example, working memory deficits); c) personality dispositions that determine one's responses in a wide range of situations (such as neuroticism and emotion regulation).

The heuristics further outlines the mechanisms that link both categories of risk factors as well as the moderators of the effects of proximal factors. Nolen-Hoeksema and Watkins (2011) propose at least three mechanisms. They believe that distal factors can shape responses to the environment; they can also shape beliefs, cognitive patterns and self-image, as well as the learning processes of adaptive or maladaptive behaviour. Finally, the moderators determine specific symptoms that proximal risk factors lead to, i.e. the divergent trajectories of psychopathology. In contrast, the distal and proximal risk factors lead to multifinal psychopathological outcomes.

What follows is a brief overview of several processes that are the focus of current research efforts and for whose involvement in the onset, expression and course of various psychopathological problems there is solid empirical support. Moreover, these processes are also core components of transdiagnostic models of emotional disorders (Bullis et al., 2019; Norton & Paulus, 2017), eating disorders (Cooper & Grave, 2017), psychotic disorders (Ein-Dor et al., 2016) and externalizing psychopathology (Eaton et al., 2015).

Neuroticism. The pronounced inclination to experience primarily negative emotional responses to stressful life experiences has long been identified as a correlate of various psychopathological problems. Several conceptual models attempt to explain this strong association (Ormel et al., 2013). Namely, in addition to the *vulnerability* model, which defines neuroticism as an independent transdiagnostic factor that may have a distal and proximal causal relationship with mental disorders, four other models offer alternative explanations. For example, the *spectrum* model suggests that extreme neuroticism is a disorder in itself; the *common cause* model, on the other hand, suggests that this personality disposition is distinctive from psychopathology, but both are determined by the same genetic and environmental factors. In contrast, the *state* and *scar* models assume that the onset of psychopathological symptoms leads to temporary or permanent changes in the expression of neuroticism. Until recently, empirical evidence did not provide a conclusive answer towards model validity. However, a recent meta-analysis including 59 prospective studies and over 440,000 respondents (Jeronimus et al., 2016) that examined the effects of the history of psychopathological problems as well as of current symptomatology showed that high neuroticism was a very significant and long-term vulnerability factor for internalizing and nonspecific psychopathology, while its effect was weaker although long-lasting for externalizing psychopathology and thought disorder. One key implication of these findings is the prospect of psychological interventions directed toward "lowering" neuroticism and early prevention of the development of extreme levels of this trait. The treatment of neuroticism is already present in transdiagnostic clinical practice (Barlow et al., 2017).

Perfectionism. The tendency to expect from oneself or others extremely high, even flawless achievements that exceed the demands of the actual situation is another extensively explored personality disposition. Systematic reviews of empirical evidence on the transdiagnostic nature of perfectionism (e.g., Egan et al., 2011) demonstrate that it is a vulnerability factor, primarily for eating disorders, as well as a factor that maintains or exacerbates symptoms specific to obsessive-compulsive disorder, social anxiety and depression and that in turn unfavourably determines the treatment outcome of these disorders. In addition, high perfectionism is associated with the co-occurrence of two or more disorders. The primary clinical implication of these findings is that maladaptive aspects of perfectionism, similar to neuroticism, should become the focus of interventions from the very beginning of the psychological treatment, which could further reduce the symptoms of anxiety, depression, obsessive-compulsive dis-

order, and eating pathology, as initial research has already shown (Lloyd et al., 2015).

Emotion regulation. Deficits in the ability to modulate one's emotional experiences in accordance with contextual conditions are an extensively researched risk factor for the onset and maintenance of several internalizing and externalizing psychopathological problems as well as neurodevelopmental and psychotic disorders. Adopting a developmental perspective, Aldao et al. (2016) conducted a rigorous review of various prospective studies, which led to the conclusion that dysregulated affect could be defined as a transdiagnostic process. However, previous studies with children and adolescents have approached this phenomenon very narrowly, often not considering the relevant moderators of its potential effects. On the other hand, a systematic review of 67 studies on the outcomes of various psychological treatments with adult clients showed that regardless of treatment type or disorder type, the use of avoidance (behavioural or experiential) as a strategy for emotion regulation and overall dysregulated affect decreased parallel with the decrease of symptoms of anxiety, depression, substance use, eating pathology, and borderline personality disorder (Sloan et al., 2017). However, given that only a few of these studies included a temporal analysis, these findings do not conclusively confirm the causal role of emotion regulation in improving the psychological functioning of clients.

Rumination. Repetitive analysis of personal concerns ensued by distress and lack of active problem-solving behaviour is a cognitive vulnerability for multifinal psychopathology. It has also been defined as a (maladaptive) emotion regulation strategy; however, due to the extensive literature devoted to this process, it will be discussed separately. Robust empirical evidence suggests that rumination perpetuates and exacerbates depression disorders; however, it also intensifies symptoms of posttraumatic stress disorder, social anxiety, complicated grief, and to a lesser extent, generalized anxiety disorder (Kaplan et al., 2018; Moulds et al., 2020). In addition, rumination has been implicated in the onset and maintenance of psychotic disorders, eating disorders and alcohol dependence (Nolen-Hoeksema & Watkins, 2011; Ludwig et al., 2019; Smith et al., 2018). It has also been found to be a proximal risk factor for specific personality disorders (Kelley et al., 2021; Kovács et al., 2021). Additional support for the transdiagnostic nature of this process is provided by the finding that psychological treatment of emotional disorders reduces both rumination and psychopathological symptomatology (Sloan et al., 2017).

Intolerance of uncertainty. Difficulties in coping with the absence of necessary, sufficient, and/or important information can lead to a range of unfavourable cognitive, emotional and behavioural responses in an attempt to avoid or resolve this aversive condition. A recent meta-analysis including 181 cross-sectional studies and over 50,000 respondents found a moderate association between intolerance of uncertainty and depression, social anxiety, panic disorder, agoraphobia, generalized anxiety disorder, obsessive-compulsive disorder and eating disorders (McEvoy et al., 2019). The findings were not age-re-

lated, implying that this relationship is continuous throughout life. However, a systematic review of a small number of prospective and experimental studies indicates that there is robust empirical support for the role of this tendency as a causal mechanism primarily in anxiety disorders; the evidence is weaker regarding negative affect or mood disorders and even more limited for symptoms of obsessive-compulsive disorder (Rosser, 2019). On the other hand, a review of the effectiveness of several group therapy interventions for emotional disorders indicates the possibility that this transdiagnostic process can also be treated as a trans-therapy change factor, given that the reduction of intolerance during treatment was accompanied by a reduction of repetitive negative thoughts and symptoms of anxiety disorders, although not in symptoms of depression (McEvoy & Erceg-Hurn, 2016). At the same time, initial evidence suggests that high intolerance of uncertainty does not endanger treatment involvement and treatment engagement of clients.

Death anxiety. The inability to cope effectively with the awareness of one's mortality and the transience of life results in increased emotional distress at the thought of death and dying. The sole systematic review of the empirical literature so far (Iverach et al., 2014), which includes findings from experimental studies, suggests that the presence of this distinct anxious response is implied in the onset and development of somatoform disorders, anxiety disorders (phobias, social anxiety, agoraphobia, separation anxiety), depressive disorders, obsessive-compulsive disorder, posttraumatic stress disorder, and eating disorders. Additional empirical support for the transdiagnostic nature of this construct is provided by a recent study with a heterogeneous sample from a clinical population (Menzies et al., 2019), which found a strong association between death anxiety and a composite indicator of psychopathology, even after controlling for the effect of neuroticism. The primary clinical implication of these findings is the need to evaluate the effectiveness of interventions for this type of anxiety and the changes they could cause in overall psychological functioning.

Transdiagnostic psychological interventions

The transdiagnostic approach to psychological treatments has also developed under the influence of clinical reality, i.e. comorbidity as the norm and the heterogeneous manifestation of disorders. In this context, interventions are defined as transdiagnostic when the same treatment principles are applied to different disorders without protocol adjustment (McEvoy et al., 2009). Two broad categories of transdiagnostic interventions are identifiable in the literature: universal and modular. The first category includes unified treatments for multiple problems sharing common mechanisms (i.e. transdiagnostic processes) that maintain psychopathology and at which interventions are aimed. The advantages of these treatments are broad utility and simplified application and education of clinicians. At the same time, a disadvantage is the need for a care-

ful selection of intervention components that should address anticipated variations in clients' conditions (Sauer-Zavala et al., 2017). A typical and empirically validated example of this approach is *The Unified Protocol for Transdiagnostic Treatment of Emotional Disorders* (Barlow et al., 2017; Carlucci et al., 2019), which focuses primarily on neuroticism as a core vulnerability factor.

Modular interventions, on the other hand, consist of therapeutic modules, i.e. functional units, which are selected and combined according to the needs of each client. These treatments are individualized and primarily empirically rather than theoretically based. The advantage of this approach is precisely the increased congruence between the specifics of the intervention and the client's condition. However, at the same time, the disadvantage is the need for algorithms to select and apply individual modules (Sauer-Zavala et al., 2017). An example of this type of intervention is the *Modular Approach to Therapy for Anxiety, Depression, Trauma or Conduct Problems* (Chorpita & Weisz, 2009), which was initially designed for children and adolescents and eventually adapted for adults.

Transdiagnostic interventions were predominantly developed within the cognitive-behavioural approach to therapy, initially in the so-called third-generation therapies (metacognitive therapy, acceptance and commitment therapy, mindfulness-based interventions, dialectical behavioural therapy), followed by the emergence of distinct transdiagnostic treatments (Schaeuffele et al., 2021). However, over the past decade, psychodynamic transdiagnostic interventions for emotional disorders have also been presented (Leichsenring & Steinert, 2018), as well as a transdiagnostic reconceptualization of treatment within the humanistic-experiential approach to therapy (Timulak & Keogh, 2019).

The research volume on the efficacy and effectiveness of transdiagnostic treatments is clearly significantly smaller than the one on focal treatments (targeting individual disorders). However, existing empirical findings suggest equal or greater efficacy of transdiagnostic approaches compared with treatment-as-usual, diagnosis-specific treatment and no active intervention (Newby et al., 2015). The potential advantages of these treatments arise from their multiproblem orientation, flexible individualization and lower complexity, which are particularly important for implementation in communities with limited mental health care resources (Martin et al., 2018). However, these features are not uniformly present in all transdiagnostic interventions; thus, their utility in a wide range of contexts is currently limited.

Future directions

Further developments in the transdiagnostic perspective have been linked to several issues (Dalgleish et al., 2020). Primarily, it is necessary to develop an appropriate metatheoretical framework, which would guide the creation of new clinical approaches. Next, understanding the effect of dysfunctional transdiagnostic processes must inevitably stem from understanding the content

of these mental processes, as their content is the focus of therapeutic interventions. Furthermore, a distinction has been made between so-called "soft" and "hard" transdiagnostic approaches. The first category contains approaches that investigate common processes in different diagnoses within the existing diagnostic nosology. In contrast, the second includes approaches that attempt to substitute diagnoses with entirely different formulations. In this context, introducing a genuine alternative to the current diagnostic framework will be possible after broader acceptance of harder transdiagnostic models. The following necessary change concerns the application of a specific research methodology in the evaluation of transdiagnostic interventions. Namely, it is proposed to measure co-primary treatment outcomes, examine processes and mechanisms leading to clinical changes, and intraindividual patterns of relationships between symptoms and changes in transdiagnostic processes, which inevitably indicates the need for the development of robust transdiagnostic measurement instruments. Finally, the deep rooting of the diagnostic paradigm in health care systems, and its primacy in research and clinical practice, underscores the need to strengthen multidisciplinary collaboration, which is currently guiding the efforts to revise and refine the transdiagnostic perspective of psychopathology, the multimethod investigation of processes and the evaluation of psychological interventions.

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