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What does a 'transdiagnostic' approach have to offer the treatment of anxiety disorders?

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Purpose. The purpose of this paper is to review the rationale for 'transdiagnostic' approaches to the understanding and treatment of anxiety disorders.

Methods. Databases, searches and examination of the reference lists of relevant studies were used to identify papers of relevance.

Results. There is increasing recognition that diagnosis-specific interventions for single anxiety-disorders are of less value than might appear since a large proportion of patients have more than one coexisting anxiety disorder and the treatment of one anxiety disorder does not necessarily lead to the resolution of others. As transdiagnostic approaches have the potential to address multiple coexisting anxiety disorders they are potentially more clinically relevant than single anxiety disorder interventions. They may also have advantages in ease of dissemination and in treating anxiety disorder not otherwise specified.

Conclusions. The merits of the various transdiagnostic cognitive-behavioural approaches that have been proposed are reviewed. Such approaches have potential benefits, particularly in striking the balance between completely idiosyncratic formulations and diagnosis-driven treatments of anxiety disorders. However, caution is needed to ensure that transdiagnostic theories and treatments benefit from progress made by research on diagnosis-specific treatments, and further empirical work is needed to identify the shared maintaining processes that need to be targeted in the treatment of anxiety disorders.

The term 'anxiety disorders' refers to a group of psychiatric disorders that is characterized by a disabling overestimation of threat and danger, heightened physiological arousal, and behavioural avoidance. The *Diagnostic and Statistical Manual of Mental Disorders – 4th ed.* (DSM-IV, American Psychiatric Association [APA],

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2000) specifies 11 different anxiety disorder diagnoses including panic disorder, agoraphobia, specific phobias, social phobia, obsessive-compulsive disorder, post-traumatic stress disorder (PTSD), generalized anxiety disorder (GAD), and 'anxiety disorder not otherwise specified' (ADNOS). In the recent replication of the National Co-morbidity Survey, the lifetime and 12-month prevalence of anxiety disorders were the highest of all the psychiatric disorders studied, at rates of almost 30 and 18%, respectively (Kessler, Berglund, *et al.*, 2005; Kessler, Chiu, Demler, & Walters, 2005). Anxiety disorders have a profoundly negative impact on quality of life (Saarni *et al.*, 2007) and are the most economically costly of all psychiatric disorders (Rice & Miller, 1998). Given the prevalence and impact of anxiety disorders, there is a need for them to be conceptualized and treated as effectively and efficiently as possible.

The most effective and efficient psychological treatments for anxiety disorders are included in national guidelines such as those from the National Institute for Health and Clinical Excellence (e.g., Nathan & Gorman, 2002; National Institute for Clinical Excellence [NICE], 2004). These diagnosis-specific treatments have developed from programmes of research that have (1) specified a cognitive-behavioural model of the processes hypothesized to maintain a specific anxiety disorder and (2) devised a cognitive-behavioural treatment capable of reversing the putative maintaining processes. Such approaches have been rigorously evaluated in randomized controlled trials and have reported large and enduring effect sizes on the index anxiety disorder (Butler, Chapman, Forman, & Beck, 2006). Particular successes have been reported in the treatment of panic disorder, with 50–80% of patients achieving a good outcome (Barlow, Gorman, Shear, & Woods, 2000; Clark *et al.*, 1994), in social phobia (Clark *et al.*, 2006; Heimberg *et al.*, 1998), and in PTSD (Ehlers *et al.*, 2003; Ehlers, Clark, Hackmann, McManus, & Fennell, 2005). Although such studies are encouraging, it should also be noted that many treatment trials do not report such high success rates; for example, in Schnurr *et al.*'s (2007) randomized controlled trial of PTSD, only 15% of a sample of 284 patients achieved total remission. It is also important to consider that this move towards diagnosis-specific treatments is a relatively recent phenomenon, beginning perhaps with the specific treatment of panic disorder (Barlow, 1986; Clark, 1986). Prior to this, treatments were typically driven by the phenomenology of the presenting problem. Behaviour therapy – incorporating systematic desensitization and exposure therapy – did not differentiate between the treatment of anxiety due to the fear of having a heart attack, spiders, or being contaminated (Eysenck & Rachman, 1965). Similarly, cognitive theory and therapy, as originally developed by Beck in 1976 was for 'emotional disorders' rather than specifically for depression. The move towards disorder-specific treatments has brought with it enormous benefits, but as argued below, this has come at the price of the relative neglect of the development of treatments for patients with more than one anxiety disorder, or non-standard presentations (ADNOS), and thus, has limited the clinical effectiveness of the therapies.

The need for transdiagnostic treatments

Given that there are now efficacious treatments for many of the individual anxiety disorders, what areas remain to be addressed? We suggest that two of the most important challenges for the effective treatment of anxiety disorders are (1) the development of treatments for patients with more than one coexisting anxiety disorder,

or ADNOS and (2) ensuring that evidence-based treatments are effectively applied in routine clinical settings. We propose that a transdiagnostic approach to treating anxiety disorders may go some way to addressing both of these challenges.

The current paper does not attempt to provide a systematic review of transdiagnostic approaches to anxiety disorders (see Norton & Philipp (2008) or McEvoy, Nathan, & Norton (2009) for recent reviews of transdiagnostic approaches to anxiety or emotional disorders) but to outline the issues relevant to considering the applicability of a transdiagnostic approach to treating anxiety disorders. In order to review the literature relating to these issues, a literature search was carried out. Publications were searched through February 2009 using the following methods. Databases were searched (PsychInfo, Scopus, Psychnet, PubMed, Web of Science) using combinations of the keywords 'transdiagnostic', 'anxiety', 'anxiety disorder not otherwise specified', 'ADNOS', and 'treatment' (generating only four relevant papers and one book). An ancestry search was also completed using the reference lists of retrieved articles (generating a further 12 relevant papers) and author searches were performed for those authors whose articles most directly addressed the issue of transdiagnostic approaches to treating anxiety disorders (generating a further four relevant papers). Studies identified were reviewed by two of the authors to determine if their content was relevant to the transdiagnostic theory or treatment of anxiety disorders. Because of the small number of relevant papers generated, none were excluded because of methodological limitations but these limitations are mentioned in the text and the conclusions that are drawn are mindful of the quality of the papers on which they were based. It is a limitation that there are a small number of papers that are directly relevant to this topic, and that standard literature search methods identified mostly papers that were not relevant to the topic (largely because the words 'transdiagnostic' and 'anxiety' were used in separate contexts, e.g., in a study about headaches or eating disorders). Additional studies are cited as necessary to support the arguments being made (e.g., in relation to the epidemiology and co-morbidity of anxiety disorders, in relation to processes that may operate across the anxiety disorders, and in relation to the effectiveness of treatment for anxiety disorders and the effects of treating co-morbid anxiety disorders).

The prevalence of multiple co-occurring anxiety disorders and ADNOS

Anxiety disorders commonly coexist. In the largest study of patients referred to an anxiety clinic ($N = 1,127$), 43% of patients currently had more than one anxiety problem, and 54% had met criteria for more than one anxiety disorder in their lifetime (Brown, Campbell, Lehman, Grisham, & Mancill, 2001). Other studies have also found that approximately half the patients seeking treatment have more than one coexisting anxiety disorder. For example, in the Harvard/Brown Anxiety Research Program, 55% of patients with GAD met criteria for another anxiety disorder (Keller, 2002), and in a sample of 539 primary care patients over 60% had more than one anxiety disorder (Rodriguez *et al.*, 2004). Overall, it is estimated that 40–80% of patients with an anxiety disorder meet diagnostic criteria for at least one other anxiety disorder at the same time (Goisman, Goldenberg, Vasile, & Keller, 1995; Kessler, Berglund, *et al.* 2005). Similarly, epidemiological studies report varying estimates of the prevalence of ADNOS: from 8% of 711 patients in the Harvard/Brown Anxiety Research Program (Keller, 2002) to two-thirds of over 6,000 anxiety disorder patients (McLaughlin, Geissler, & Wan, 2003).

The frequent coexistence of anxiety disorders has been discussed extensively in the literature and could be for a variety of reasons including an overinclusive classificatory system (First, 2005) and the existence of shared maintaining mechanisms. The exact reason for the co-morbidity may influence the treatment approach adopted. For example, if depression is secondary to an anxiety disorder, then simply treating the anxiety disorder should reverse the depression (or vice versa). If both disorders are maintained by a common factor such as perfectionism or low self-esteem, then treating this common factor should impact on both disorders. However, the situation is likely to be more complicated for many people since disorders may have both common and independent maintaining mechanisms that need to be addressed (Rachman, 1991).

The high occurrence of co-morbidity in anxiety disorders is a problem for clinicians since the evidence-based anxiety disorder treatments are diagnosis specific and most have only been tested on patients with a single anxiety disorder diagnosis. Thus, the clinician must decide whether (1) to use evidence-based interventions to tackle one disorder and hope that it impacts on the second, (2) to implement evidence-based treatments for the different anxiety disorders sequentially or to combine evidence-based interventions despite there being no data on how to do this, or (3) to address shared maintaining mechanisms 'transdiagnostically'. ADNOS represents an additional challenge for the clinician as, with the exception of one single case study (Shafran, McManus, & Lee, 2008), there is no existing research on how to treat it.

Treating multiple coexisting anxiety disorders

(1) Treat one disorder and evaluate impact on co-morbid disorders?

The limited research that has been done on coexisting anxiety disorders and their response to treatment suggests that the presence of one or more co-occurring anxiety or mood disorders does not predict a worse outcome for the index disorder (Brown, Antony, & Barlow, 1995; Erwin, Heimberg, Juster, & Mindlin, 2002) and that treating one disorder has some benefit on the co-occurring ones (Allen, Ehrenreich, & Barlow, 2005; Borkovec, Abel, & Newman, 1995; Brown *et al.*, 1995; Tsao, Mystkowski, Zucker, & Craske, 2002, 2005). However, whilst treating one disorder may have some benefit for co-morbid disorders, the reduction in co-morbidity when addressing the index disorder is limited. Reports vary from 51 to 17% (Brown *et al.*, 1995), from 46 to 31% (Allen *et al.*, 2005), and from 67 to 40% (Tsao *et al.*, 2005). This indicates that, despite the benefit that a specific intervention may confer on coexisting disorders, the majority of patients retain the co-morbid diagnosis at the end of treatment (Allen *et al.*, 2005; Tsao *et al.*, 2002). Furthermore, even in cases where diagnostic criteria for the co-morbid disorder are not met at the end of treatment, there may still be relatively high levels of residual anxiety disorder symptoms (Corominas, Guerrero, & Vallejo, 2002).

It is also worth noting that while treating one anxiety disorder may have an impact on co-morbid disorders, there is some evidence of propensity to relapse in the co-morbid anxiety disorder. For example, Brown *et al.*'s (1995) study of 126 patients undergoing cognitive behavioural therapy (CBT) for panic disorder reported that co-morbidity reduced from 51 to 17% after treatment for panic disorder, but by 2-year follow-up, one-third of patients again met criteria for a co-morbid mood or anxiety disorder other than panic disorder. Similarly, a study of 55 patients with GAD found that while the presence of additional diagnoses decreased with successful treatment of GAD, 52% of those with an additional anxiety disorder diagnosis before treatment retained

their co-morbid diagnosis after treatment (Borkovec *et al.*, 1995). Moreover, 19% of patients sought further treatment in the 2 years following treatment, despite maintenance of treatment gains in GAD. Taken together, these data suggest that diagnosis-specific treatments of anxiety disorders do have some impact on co-morbid disorders, but that there is certainly room for improvement.

(2) Apply evidence-based treatments sequentially or combine evidence-based treatments?

What other options, then, might be available to improve outcome for co-morbid anxiety disorders and ADNOS? One obvious option is to apply evidence-based treatments sequentially. However, the resource implications make this a less attractive option to service providers and this may be the reason why there are no published reports of the efficacy of applying evidence-based treatments for co-morbid diagnoses in a sequential manner. A more attractive option from the resource point of view is to attempt to combine evidence-based treatments for the specific disorders. Reports of small case series suggest that combining evidence-based interventions for specific disorders can be effective for patients with panic disorder and GAD (Labrecque, Dugas, Marchand, & Letarte, 2006; Labrecque, Marchand, Dugas, & Letarte, 2007). However, contrary to what might be expected, the two larger studies that address this issue indicate that simply combining therapies for different diagnoses can dilute their efficacy. First, Craske *et al.* (2006) reported on a trial in which 65 patients with panic disorder were randomly allocated to either a dual target intervention focusing on panic disorder and their most severe co-morbid problem or to an intervention focusing only on their panic disorder. Surprisingly, those whose intervention focused only on panic disorder had a better outcome not only in terms of their panic disorder, but also in terms of the severity of their co-morbid disorder. Results from this study suggest that remaining focused on the single evidence-based treatment for panic disorder may result in better outcome for both the primary and co-morbid diagnoses than attempting to combine evidence-based treatments. Similar findings are reported by Randall, Thomas, and Thevos (2001). In a randomized clinical trial, 93 patients with social phobia and alcoholism received either 12 weeks of cognitive therapy for alcoholism and social anxiety combined or treatment for alcoholism alone. Patients receiving the combined treatment had a worse outcome for alcoholism than those treated for alcoholism alone, and showed no benefit in terms of their social anxiety. To conclude, the limited current evidence suggests that, contrary to what might be expected, simply combining evidence-based interventions in patients with co-morbid conditions may actually dilute the efficacy of the treatment for the primary disorder and does not lead to a significant improvement in the co-morbid condition.

(3) Address shared maintaining mechanisms 'transdiagnostically'?

Given the limitations of both single evidence-based interventions and combining interventions, it is necessary to find an alternative means of addressing co-morbid anxiety disorders and ADNOS. 'Transdiagnostic' approaches to the understanding and treatment of psychopathology are those that transcend the diagnostic boundaries set out by classification schemes such as DSM-IV-TR (APA, 2000). They can completely transcend such boundaries as exemplified by interventions such as acceptance and commitment therapy (Hayes, Strosahl, & Wilson, 2004) and mindfulness-based cognitive therapy (Segal, Williams, & Teasdale, 2002) or they can apply to specific

categories of diagnosis such as the transdiagnostic approach to eating disorders (Fairburn, Cooper, & Shafran, 2003). In this review, we are considering only the latter approach as evidence for the effectiveness of the former general approaches in treating anxiety disorders is limited (Ost, 2008) whereas there is strong evidence for the effectiveness of CBT in treating a variety of individual anxiety disorders (NICE, 2004, 2005a,b). Furthermore, the case for transdiagnostic, or 'unified' approaches that transcend all diagnostic boundaries has been outlined elsewhere (Barlow, Allen, & Choate, 2004; Harvey, Watkins, Mansell, & Shafran, 2004; Mansell, Harvey, Watkins, & Shafran, 2009; McEvoy *et al.*, 2009).

The transdiagnostic approach to eating disorders arose from the observations that eating disorders have common distinctive clinical features that appear to be maintained by shared mechanisms and that patients move between eating disorder diagnostic categories over time. This transdiagnostic approach (to eating disorders) is not generic, applying only within the general diagnostic category of 'eating disorder'. The theory is concerned with the processes that maintain eating disorder psychopathology and the treatment based on this approach aims to target this psychopathology rather than any particular diagnostic grouping/disorder. Thus, within this approach, binge eating is addressed in the same way regardless of whether the patient has a diagnosis of anorexia nervosa, binge eating disorder, bulimia nervosa, or an eating disorder not otherwise specified. Similarly, patients who are significantly underweight (predominantly, but not exclusively, those receiving a diagnosis of anorexia nervosa) would receive a specific intervention to regain weight. The transdiagnostic treatment has been evaluated in a two centre randomized controlled trial comparing two forms (broad vs. focused) of the transdiagnostic treatment with an 8 week wait list control condition. One hundred and fifty-four patients with an eating disorder who were not markedly underweight were included. While there was little change in symptom severity in the wait list condition, there was substantial and equivalent change in the two treatment conditions which was maintained at the 60-week follow-up. The results also indicate that what was initially designed as a treatment for bulimia nervosa can be modified and extended across the range of eating disorders making it suitable for over 80% of out-patients with an eating disorder. There were no differences in response between those with a diagnosis of bulimia nervosa and those with a diagnosis of eating disorder not otherwise specified with both diagnostic groups achieving substantial changes in eating disorder psychopathology which were maintained at 60 weeks (Fairburn *et al.*, 2009).

'Transdiagnostic' approaches to anxiety disorders: Theory

With the exception of the temporal movement of patients between diagnostic categories, a similar argument to that which has been made for a transdiagnostic approach to eating disorders can be applied to anxiety disorders. First, the anxiety disorders share common clinical features; and second, these features appear to be maintained by common processes.

(1) Common clinical features

The hallmark of anxiety disorders is the overestimation of threat and of the potential consequences of threat (Beck, 1976). For example, in obsessive-compulsive disorder

(OCD), people overestimate the threat posed by their intrusive thoughts (Rachman, 2002); in PTSD people overestimate the threat presented by the occurrence of the trauma and its consequences (including their PTSD symptoms; Ehlers & Clark, 2000) and in social phobia, people overestimate both the probability and potential cost of the threat of negative evaluation by others (Uren, Szabo, & Lovibond, 2004). Across the anxiety disorders, the appraisal of threat is accompanied by both somatic symptoms of arousal and a desire to avoid or otherwise mitigate the threat (Kessler, Berglund, *et al.*, 2005). While these clinical features are common across the various anxiety disorders, they are unique to the category of 'anxiety disorder' (Beck, 1976; Salkovskis, 1996), just as the overevaluation of shape is shared by and peculiar to the eating disorders (Fairburn *et al.*, 2003).

There are also a range of common symptoms which occur across the anxiety disorders. Similar to binge eating in the eating disorders, panic attacks are not specific to panic disorder but can occur in all anxiety disorders. OCD and PTSD are both characterized by unwanted persistent thoughts, images, or impulses that are perceived as intrusive and cause marked anxiety (Huppert *et al.*, 2005). The repeated checking that is a hallmark of obsessive-compulsive problems also occurs in GAD (Schut, Castonguay, & Borkovec, 2001). Similarly, almost two-thirds of patients with panic disorder have at least one symptom of OCD (Torres, Dedomenico, Crepaldi, & Miguel, 2004).

To a large extent, it is unsurprising that there are common symptoms across the anxiety disorders as the disorders themselves are difficult to differentiate at a conceptual level. For example, there is some overlap in the definitions of social phobia and agoraphobia. Social phobia is primarily defined as a fear of situations in which embarrassment may occur and agoraphobia is defined as anxiety about situations in which escape might be difficult or *embarrassing* (APA, 2000). Similarly, there is overlap between GAD and other anxiety disorders as in GAD the sufferer is prone to worry about a range of situations, which may well include social situations, fears of embarrassment, or anxiety about physical symptoms (as in panic or agoraphobia). The high degree to which symptoms are shared across the anxiety disorders is acknowledged in DSM-IV, and as a result extensive guidance is given on differential diagnosis. In addition, DSM-IV has a series of 'trumping rules' to help clinicians make specific diagnoses when the common symptoms render diagnosis difficult.

(2) Common maintaining processes across anxiety disorders

Empirical support for the argument that the anxiety disorders are maintained by common processes comes from studies of anxiety disorder psychopathology. For example, a seminal experimental study of 162 anxiety disorder patients by Arntz, Rauner, and Van den Hout (1995) demonstrated emotional reasoning (*ex-consequentia* reasoning) across patients with simple phobia, social phobia, and panic disorder, as well as in a mixed anxiety disorder group. Similarly, data from information-processing tasks indicate that patients across the anxiety disorders pay selective attention to threatening external and internal stimuli, and that there is attentional avoidance of threat in specific phobia, social phobia, and GAD (Harvey *et al.*, 2004; Mansell *et al.*, 2009). Although these information-processing tasks demonstrate selective attention to distinctive stimuli in individual patients, the process of selective attention to threat appears to be common across the anxiety disorders (Bar-Hiam, Lamy, Pergamin, Bakermans-Kranenburg, & Van Ijzendoorn, 2007). Furthermore, many studies have failed to find specificity in the nature of the threat that is attended to, or failed to find differences between the index

anxiety disorder group and comparison groups of other equally anxious patients (e.g., Ehlers & Breuer, 1996). As well as attentional biases, interpretive and expectancy biases have been found across the anxiety disorders. The former refers to the tendency to interpret ambiguous information in a threatening way, and the latter refers to the tendency to expect that negative events are likely to happen. A variety of paradigms including homophone and lexical decision tasks have provided data that converge to demonstrate that such biases are common across anxiety disorders (Harvey *et al.*, 2004; Hirsch & Mathews, 2000; Mathews, Richards, & Eysenck, 1989) suggesting that common processing biases maintain the different anxiety disorders.

While neither aetiological data nor treatment outcome data can provide direct evidence that anxiety disorders are maintained by common processes, the findings from both are consistent with such a notion. For example, biological data suggest a shared general biological vulnerability across anxiety disorders (Etkin & Wager, 2007; Hettema, Prescott, Myers, Neale, & Kendler, 2005), and the most effective pharmacological and psychological interventions for the different anxiety disorders are the same (selective serotonin reuptake inhibitors (Bandelow, Zohar, Hollander, Kasper, & Moller, 2002) and cognitive-behaviour therapy (Nathan & Gorman, 2002; Roth & Fonagy, 2005)). The data reviewed above showing some (albeit not total) improvement in co-morbid anxiety when the primary anxiety disorder is targeted (e.g., Brown *et al.*, 1995) also indicates that the anxiety disorders share some common processes. Additionally, structural equation modelling has shown commonalities in latent structure across anxiety disorders (Brown, Chorpita, & Barlow, 1998). In summary, the conceptual overlap among the anxiety disorders, their shared clinical features, and the data supporting the existence of common maintaining processes suggest that a 'transdiagnostic' approach to their understanding and treatment is possible.

'Transdiagnostic' treatments for anxiety disorders: Practice

In recent years, several research groups have independently proposed transdiagnostic theoretical accounts of anxiety disorders (e.g., Barlow *et al.*, 2004; Craske, 1999; Norton, 2006). Motivations behind these proposals are both theory driven (see below) and pragmatic with authors noting the cost-benefits of group treatments, the practical advantages of being able to include patients with differing diagnoses in the same treatment group and additional benefits of the ease of dissemination of a single treatment for anxiety disorders (McEvoy & Nathan, 2007; Norton & Philipp, 2008). In terms of underlying theory, the best specified of these approaches is outlined by Barlow and Craske and colleagues (Barlow & Craske, 2000; Barlow *et al.*, 2004; Craske, 1999, 2004). Craske (1999, 2004) argues that the anxiety disorders differ only in the content of the perceived threat (e.g., negative evaluation by others in social phobia and catastrophic misinterpretation of bodily sensations in panic disorder). Craske (1999, 2004) identifies the common mechanisms maintaining anxiety disorders as hypervigilance to threat and supportive physiology, danger-laden judgments, and avoidant behaviour. Similarly, Barlow considers anxiety disorders (and depression) to be maintained by the similar processes – maladaptive cognitive appraisals, poor emotion regulation, emotional avoidance, and behaviour congruent with the disordered emotion (Barlow *et al.*, 2004; Moses & Barlow, 2006). The resulting intervention is a generic one, a 'unified protocol' for treating anxiety and mood disorders that involves altering antecedent cognitive appraisals, modifying emotion-driven behaviours, and preventing

emotional avoidance (Moses & Barlow, 2006). This unified protocol has been evaluated in two small ($N = 3$ and 6, respectively) case series of adult and adolescent patients (Allen *et al.*, 2005; Ehrenreich, Goldstein, Wright, & Barlow, 2009) with positive outcomes being demonstrated for the majority of patients. In addition, a forthcoming paper reports results from two open trials with 18 and 15 patients, respectively. The protocol was modified on the basis of the first trial with the result that the proportion classified as treatment responders increased from 56 to 73% (11 of the 15 patients) in the second trial (Ellard, Fairholme, Boisseau, Farchione, & Barlow, 2010). However, it is worth noting that the research into the effectiveness of transdiagnostic approaches to anxiety disorders is at a very early stage – the published evaluations in existence are clinically driven studies with small sample sizes, no control groups, limited 'unblind' measurement, and they report completers analyses only (e.g., Erickson, 2003; Garcia, 2004; Norton, 2008; Norton & Hope, 2005). In addition, only one study of a generic group approach to treating anxiety disorders transdiagnostically has attempted any form of benchmarking to compare the transdiagnostic approach to results achieved by diagnosis-specific treatments (McEvoy & Nathan, 2007). Hence, further research is needed before firm conclusions about the efficacy of transdiagnostic treatments for anxiety disorders can be drawn.

It is too early to say which, if any, of the transdiagnostic approaches will yield significant improvement in the efficacy of CBT for anxiety disorders beyond that of the existing evidence-based diagnosis-specific interventions. It has already been acknowledged that data about possible shared pathology is necessary before it is possible to apply a single diagnosis of 'anxiety disorder' to account for all symptoms and reduce diagnostic complexity (First, 2005) yet such data are lacking in anxiety disorders. To provide such data, and determine which of the approaches is most efficacious, we suggest that what is needed is a psychological approach to co-morbidity along the lines suggested by Rachman (1991). This would involve the systematic experimental and therapeutic manipulations of each of the variables of interest to determine the impact on the others. For example, if hypervigilance is a common maintaining mechanism across anxiety disorders, then increasing hypervigilance should increase psychopathology in patients with multiple anxiety disorders and decreasing hypervigilance should consequently decrease psychopathology across the diagnoses. At the same time, developing empirically grounded interventions to address the common processes will also provide useful data to inform and distinguish between competing transdiagnostic models of psychopathology.

Advantages of 'transdiagnostic' treatment

Were there to be an empirically supported transdiagnostic treatment for anxiety disorders, as exists for eating disorders, the lack of evidence-based treatment for multiple co-occurring anxiety disorders and ADNOS could potentially be addressed. This is important given the limitations of single-diagnosis interventions (Brown *et al.*, 1995) and indications that dual target interventions do not improve outcome (Craske *et al.*, 2006; Randall *et al.*, 2001). Such an intervention may also have the potential to be more easily disseminated, since it may be easier to train clinicians in one approach rather than in a different protocol for each of the different anxiety disorders (Barlow *et al.*, 2004). This is of critical importance since less than 30%, of patients receive evidence-based treatments in routine settings for a single-diagnosis disorder and this

figure may be declining rather than increasing (Goisman, Warsaw, & Keller, 1999). Even when evidence-based treatments are applied, the effect size is often smaller than that found in the original research trials. For example, intent-to-treat analyses of CBT for panic disorder in a randomized controlled trial of 80 patients in a managed care setting (Addis *et al.*, 2004) found only 31.7% of patients showed clinically significant improvement at the end of panic control treatment and there were also high rates of drop-out (60%) and relapse (Addis *et al.*, 2006). Given these findings there is a clear need to develop evidence-based treatments with a high degree of fidelity to the original research protocols that can be disseminated more broadly.

Conclusions

The transdiagnostic approach to the understanding and treatment of the eating disorders has been shown to have numerous strengths. The treatment, CBT-E, is derived from the transdiagnostic theory and its particular form depends upon a highly personalized formulation rather than a DSM-IV-based one. Thus, one of its main benefits is its ability to combine the flexibility achieved by a treatment based on an analysis or formulation (much like functional analyses of earlier behavioural treatments) of the individual's psychopathology with the more structured and specified style of empirically validated manual-based treatments. By identifying the mechanisms that maintain the patient's particular eating disorder and targeting them using existing evidence-based treatment procedures the approach offers clinicians the possibility of a unified method of treatment which takes account of individual difficulties while not neglecting the benefits of previously established and well-validated treatment procedures. In this paper, it has been argued that a comparable approach to the understanding and treatment of the anxiety disorders might lead to similar benefits as well as additional practical ones such as increased ease of dissemination. Most importantly, it would allow the common clinical challenge of having to treat multiple co-occurring anxiety disorders to be addressed. The development of transdiagnostic approaches to the treatment of the anxiety disorders would also facilitate the dissemination of evidence-based treatments for anxiety into routine clinical practice. Such approaches need to ensure that the baby is not thrown out with the bathwater – diagnosis-specific approaches have been essential to understanding mechanisms that maintain psychopathology, generated large effect sizes in published trials (e.g., Clark *et al.*, 1994) and have resulted in large numbers of patients making a full and lasting recovery. As McEvoy *et al.* (2009) point out, the development of transdiagnostic approaches to anxiety disorders is in its infancy and evaluation has been limited to uncontrolled research designs which leave open the possibility that factors other than the intervention account for any observed improvement. The real test for transdiagnostic approaches to treating anxiety disorders will be to incorporate the benefits of diagnosis-specific approaches and extend them so as to achieve transdiagnostic evidence-based treatments that are available to the majority of patients with anxiety disorders.

In terms of future research, the need for both (1) experimental studies carefully testing hypothesized transdiagnostic maintaining mechanisms across anxiety disorders and (2) randomized controlled trials evaluating the comparative efficacy and effectiveness of interventions designed to reverse those hypothesized maintaining mechanisms has been outlined above. In addition, it is important that these studies are carried out with clinically representative patient samples that include patients with co-morbid anxiety states and ADNOS.

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