

Introduction to the Special Issue: Emotion Regulation as a Transdiagnostic Process

Amelia Aldao¹

Published online: 15 March 2016
© Springer Science+Business Media New York 2016

Abstract In the past 15 years, there has been an exponential growth in the study of affective processes in psychopathology to the point that a new discipline has emerged, *clinical affective science*. In this respect, the emotion regulation framework has begun to be utilized in order identify transdiagnostic and disorder-specific aspects of dysfunction. This Special Issue seeks to advance the work on emotion regulation as a transdiagnostic factor by presenting 12 empirical articles that include the latest, most cutting edge research on emotion regulation across mental disorders. The commentary, written by James Gross and his colleagues, outlines crucial future directions for transdiagnostic work on emotion regulation and, more broadly, for the growth of clinical affective science.

Keywords Emotion regulation · Affective science · Transdiagnostic

Historically, a key question pervading both psychiatry and clinical psychology has been the identification of the elusive boundary between normal and abnormal behavior (e.g., Wakefield 1997; Widiger and Clark 2000). One specific form that this question has taken pertains to establishing meaningful boundaries between different “types” of abnormal behavior. In this respect, two opposing views have been popular over the years: (1) the “splitter” approach, which posits that the best way to understand dysfunction is by identifying an increasingly larger number of diagnoses, and (2) the “lumper” approach, which emphasizes functional

similarities across pathologies and proposes dimensional models of psychopathology (e.g., Barlow et al. 2014; Cuthbert 2005; Mennin et al. 2008).

Recently, a middle ground between these two positions emerged with the advent of the *transdiagnostic* approach (e.g., Harvey et al. 2004; Kring and Sloan 2009). Its primary goal has been to identify which pathological processes cut across different disorders (i.e., transdiagnostic) and which are confined to specific forms of psychopathology (i.e., disorder-specific). For example, elevated negative affect is present across all mood and anxiety disorders (e.g., Watson 2009) and, as such, can be conceptualized as a transdiagnostic feature of these conditions. On the other hand, reduced positive affect characterizes only depression and social anxiety disorder (e.g., Brown 2007). Thus, while it is transdiagnostic in relation to those two conditions, it is disorder-specific when taking into account the larger landscape of mood and anxiety pathology. In this way, the transdiagnostic approach retains traditional, symptom-based categories (i.e., the “splitter” approach) while seeking to identify underlying dimensions of pathological functioning (i.e., the “lumper” approach). Given this integrative nature, it is not surprising that it has become an extremely valuable framework for identifying factors leading to the development and/or maintenance of disorders and for identifying patterns of comorbidity (e.g., Aldao 2012; Gruber et al. 2008; Hofmann et al. 2012; Nolen-Hoeksema and Watkins 2011; Wade et al. 2006) as well as for treating comorbid conditions (e.g., Barlow et al. 2004; Ehrenreich-May et al. 2012; Fairburn et al. 2008; Hayes et al. 1999; Norton et al. 2004).

However, in the past few years, the growth of this transdiagnostic approach appears to have stalled as the field has once again gravitated towards the two extremes of “splitting” and “lumping”. On the one hand, the latest

✉ Amelia Aldao
aldao.1@osu.edu

¹ Psychology Department, The Ohio State University, 1835 Neil Ave, Columbus, OH 4321, USA

edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM; American Psychiatric Association 2013) has adopted a “splitter” approach, as exemplified, for example, by the creation of new disorder categories (e.g., in DSM-IV-TR obsessive compulsive disorder was in the “anxiety disorders” category whereas in DSM-5 it is the anchor disorder of its own diagnostic category). On the other hand, the National Institute of Mental Health (NIMH) has developed research guidelines that reject traditionally defined symptom-based diagnoses and emphasize the identification of underlying mechanisms. Specifically, the Research Domain Criteria (RDoC; Insel et al. 2010) embodies the essence of the “lumper” approach, as it proposes to study pathological processes (e.g., negative valence systems, systems for social processes) dimensionally and across multiple units of analyses (e.g., self-reports, behavior, physiology, circuitry, genes).

We can think about the DSM and RDoC approaches as analogous to selecting ice cream flavors. Let us imagine that all the ice cream parlors in a town undergo a major overhaul in their menus: some parlors adopt a DSM-inspired menu and others choose an RDoC-inspired one. In the parlors with DSM-inspired menus, we would find that each of the flavors had been broken down into many more flavors by taking into account combinations with toppings. For example, chocolate with sprinkles on top would become its own flavor, as would chocolate with a cherry on top. The menu would continue to grow to the point that there would be no space on the walls to display more menu boards. Customers would have a difficult time finding and remembering what they want. On the other hand, in RDoC-inspired parlors, the menus would only list ingredients. Customers would then have to figure out exactly how much milk, cream, eggs, cocoa, vanilla, etc., to request in order to get the flavor they want. Although the occasional ice cream connoisseur might have a lot of fun with this process, most customers would be very confused. Thus, both, the DSM- and RDoC-inspired ice cream parlors would generate confusion and frustration in customers and, their day-to-day operations would be quite inefficient.

One solution would be to go back to a classic menu consisting of a handful of flavors, such as chocolate, strawberry, and vanilla. From there, the parlor owners could experiment with a few variations in the menu: some menus would list flavors whereas others would list ingredients. In a similar way, a fruitful approach to maximizing the benefits from the DSM and RDoC approaches involves relying on symptom-based categories while systematically identifying dimensions of dysfunction that cut across such categories. In other words, it might be useful to go back to the “classic” transdiagnostic approach. Below I describe two ways in which this can be done.

Conducting Studies That Include More Than One Diagnostic Group

Close inspection of the clinical science literature reveals that many studies still include only one diagnostic group and one control group. Doing so is problematic because it does not allow investigators to conclude whether the observed group differences are a function of psychopathology in general or of a specific condition. By systematically including more than one diagnostic group, however, studies can separate which processes pertain to multiple forms of psychopathology versus which have a certain amount of specificity to a given diagnostic group. Thus, in order to advance our understanding of dysfunction in psychopathology, it is essential that we more systematically include multiple diagnostic groups in our studies.

Analyzing Symptoms Dimensionally

In addition to utilizing diagnosed samples, it is important to analyze symptoms dimensionally, both across clinical and healthy groups and also within clinical groups. This practice, although uncommon, is crucial in order to better understand functional overlap at the symptom level. In addition, it can help elucidate the dose-dependent relationship between symptoms and other pathological processes (e.g., do emotion regulation deficits become more pronounced as the severity of a disorder increases?). A dimensional approach can help us elucidate whether such relationships are linear or quadratic, and/or whether they are moderated by the presence of symptoms of additional conditions. Of particular importance, the adoption of a developmental psychopathology approach (Cicchetti et al. 1995) would allow one to identify risk and protective factors as well as sequential comorbidity (e.g., Beauchaine and McNulty 2013; Nolen-Hoeksema and Watkins 2011).

Goal of This Special Issue

The main goal of this Special Issue is to advance psychopathology research by assembling a collection of studies based on the classic transdiagnostic approach. To that end, I included 12 studies that either by themselves or, in combination with others, shed light onto whether pathological processes could be considered transdiagnostic or disorder-specific. In all, studies covered a wide range of conditions, including generalized anxiety disorder (GAD), social anxiety disorder (SAD), major depressive disorder (MDD), bipolar disorder (BPAD), borderline personality disorder (BPD), anorexia nervosa (AN), bulimia nervosa

(BN), substance use disorder (SUD), and oppositional defiant disorder (ODD).

In terms of the pathological process of interest, this Special Issue focused on *emotion regulation*. Three reasons guided this choice. First, the study of emotion regulation has grown exponentially in the past 15 years (Gross 2013) and it has received much attention within the clinical science literature (as reviewed in Aldao et al. 2010, 2015; Tracy et al. 2014; Sheppes et al. 2015). In fact, the term “clinical affective science” has begun to be utilized to denote this fast growing field. As such, it is an important framework to understand dysfunction. Second, there is growing evidence suggesting that emotion regulation is a transdiagnostic process that spans a wide range of conditions (as reviewed by Aldao et al. 2010; Harvey et al. 2004; Hofmann et al. 2012; Kring and Sloan 2009; Nolen-Hoeksema and Watkins 2011). Third, the process of emotion regulation is multi-faceted, and thus cuts across several units of analyses, such as subjective feelings, facial expressivity, physiological arousal, and neural activation (e.g., Aldao 2013; Mauss et al. 2005; Gross 2015). As such, it is an ideal target for the study of dimensional processes that span multiple systems (Insel et al. 2010). Below, I provide a brief overview of the scope of these articles. A more in-depth discussion can be found in the commentary written by James Gross and his colleagues.

Conducting Studies That Include More Than One Diagnostic Group

A number of studies compared emotion regulation in relation to more than one form of psychopathology. In this respect, Van Meter and Youngstrom (2015) contrasted BPAD to MDD, MacNamara et al. (2015), Seeley et al. (2015) contrasted GAD with MDD, and Naumann et al. (2015) compared AN to BN.

Analyzing Symptoms Dimensionally

Van Meter and Youngstrom (2015), MacNamara et al. (2015), and Naumann et al. (2015) examined comorbid types of psychopathology (e.g., bipolar disorder, depression, anxiety, eating disorders) both dimensionally and categorically. Also, Rosenthal et al. (2016), Shapero et al. (2015), and Hofmann et al. (2016) analyzed symptoms of comorbid conditions (e.g., anxiety and depression, BPD and PTSD).

Other studies sought to model the complex interplay between different types of symptoms and emotion regulation. In this respect, Farris et al. (2015) examined whether the link between emotion regulation difficulties and

cigarette smoking relapse would vary as a function of past year psychopathology. Poon et al. (2015) tested whether trait emotion regulation difficulties with interact with cortisol reactivity to a social stressor to predict substance abuse and symptoms of MDD and ODD. Similarly, Dixon-Gordon et al. (2015) examined the link between adolescents’ negative affect and maternal problem solving and validation and symptoms of BPD. Crucially, Heleniak et al. (2015) adopted a developmental psychopathology approach and tested whether emotion regulation would mediate the longitudinal association between child maltreatment and internalizing and externalizing symptoms. Lastly, Blalock et al. (2015) examined the daily use of regulation strategies in participants diagnosed with social anxiety disorder and healthy controls. Although they did not examine comorbid symptoms, they tested the temporal link between social anxiety and mood fluctuations. As such, this work illustrates how to elegantly assess emotion regulation outside of laboratory settings (e.g., Aldao 2013).

Concluding Remarks

In recent years, there has been much debate as to whether the study of psychopathology should adopt DSM- or RDoC-based approaches. The main goal of this Special Issue is to reconcile these perspectives by advocating for a “classic” transdiagnostic perspective that retains symptom-based categories while systematically identifying which processes are transdiagnostic versus disorder-specific. I hope that these superb studies as well as the commentary (James Gross and his colleagues) stimulate future research in clinical affective science that can help us identify the role of affective dysfunction across various forms of psychopathology as well as develop a better understanding of functional relationships among comorbid conditions.

Acknowledgments The author would like to thank Kara Christensen, Lee Dunn, Andre Plate, Ilana Seager, and Anne Wilson for their comments on earlier versions of this introduction. In addition, the author would like to express her gratitude towards and admiration of all of the stellar investigators who contributed to this Special Issue and who have been taking the field of clinical affective science in very exciting directions.

Compliance with Ethical Standards

Conflicts of Interest The author has no conflicts of interest.

Informed Consent All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (national and institutional). Informed consent was obtained from all individual subjects participating in the study. If any identifying information is contained in the paper the following statement is also necessary. Additional informed consent was obtained from any subjects for whom identifying information appears in this paper.

Animal Rights No animal studies were carried out by the authors for this article.

References

- Aldao, A. (2012). Emotion regulation strategies as transdiagnostic processes: A closer look at the invariance of their form and function. *Spanish Journal of Clinical Psychology, 17*, 261–278.
- Aldao, A. (2013). The future of emotion regulation: Capturing context. *Perspectives on Psychological Science, 8*, 155–172. doi:10.1177/1745691612459518.
- Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion regulation strategies across psychopathology: A meta-analysis. *Clinical Psychology Review, 30*, 217–237. doi:10.1016/j.cpr.2009.11.004.
- Aldao, A., Sheppes, G., & Gross, J. J. (2015). Emotion regulation flexibility. *Cognitive Therapy & Research, 39*, 263–278. doi:10.1007/s10608-014-9662-4.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC: Author.
- Barlow, D. H., Allen, L. B., & Choate, M. L. (2004). Toward a unified treatment for emotional disorders. *Behavior Therapy, 35*, 205–230. doi:10.1016/S0005-7894(04)80036-4.
- Barlow, D. H., Sauer-Savala, S., Carl, J. R., Bullis, J. R., & Ellard, K. K. (2014). The nature, diagnosis, and treatment of neuroticism: Back to the future. *Clinical Psychological Science, 2*, 344–365. doi:10.1177/2167702613505532.
- Beauchaine, T. P., & McNulty, T. (2013). Comorbidities and continuities as ontogenic processes: Towards a developmental spectrum model of externalizing psychopathology. *Development and Psychopathology, 25*, 1505–1528. doi:10.1017/S0954579413000746.
- Blalock, D., Kashdan, T. B., & Farmer, A. S. (2015). Trait and daily emotion regulation in social anxiety disorder. *Cognitive Therapy & Research, 39*, 263–278. doi:10.1007/s10608-015-9739-8.
- Brown, T. A. (2007). Temporal course and structural relationships among dimensions of temperament and DSM-IV anxiety and mood disorder constructs. *Journal of Abnormal Psychology, 116*, 313–328. doi:10.1037/0021-843X.116.2.313.
- Cicchetti, D., Ackerman, B. P., & Izard, C. E. (1995). Emotions and emotion regulation in developmental psychopathology. *Development & Psychopathology, 7*, 1–10.
- Cuthbert, B. N. (2005). Dimensional models of psychopathology: Research agenda and clinical utility. *Journal of Abnormal Psychology, 114*, 565–569. doi:10.1037/0021-843X.
- Dixon-Gordon, K. L., Whalen, D. J., Scott, L. N., Cummins, N. D., & Stepp, S. D. (2015). The main and interactive effects of maternal interpersonal regulation and negative affect on adolescent girls' borderline personality disorder symptoms. *Cognitive Therapy & Research, 39*, 263–278. doi:10.1007/s10608-015-9706-4.
- Ehrenreich-May, J., Queen, A. H., Bilek, E., Remmes, C., & Marciel, K. (2012). The unified protocols for the treatment of emotional disorders in youth. In J. Ehrenreich-May & B. Chu (Eds.), *Transdiagnostic mechanisms and treatment of youth psychopathology*. New York: Guilford Press.
- Fairburn, C. G., Cooper, Z., Doll, H. A., O'Connor, M. E., Bohn, K., Hawker, D. M., et al. (2008). Transdiagnostic cognitive-behavioral therapy for patients with eating disorders: A two-site trial with 60-week follow-up. *American Journal of Psychiatry, 166*, 311–319. doi:10.1176/appi.ajp.2008.08040608.
- Farris, C., Zvolensky, M. J., & Schmidt, N. B. (2015). Difficulties with emotion regulation and psychopathology interact to predict early smoking cessation lapse. *Cognitive Therapy & Research, 39*, 263–278. doi:10.1007/s10608-015-9705-5.
- Gross, J. J. (2013). Emotion regulation: Taking stock and moving forward. *Emotion, 13*, 359–365. doi:10.1037/a0032135.
- Gross, J. J. (2015). Emotion regulation: Current status and future prospects. *Psychological Inquiry, 26*, 1–16. doi:10.1080/1047840X.2014.940781
- Gruber, J., Eidelman, P., & Harvey, A. G. (2008). Trans-diagnostic emotion regulation processes in bipolar disorder and insomnia. *Behaviour Research and Therapy, 46*, 1096–1100. doi:10.1016/j.brat.2008.05.004.
- Harvey, A. G., Watkins, E., Mansell, W., & Shafran, R. (2004). *Cognitive behavioural processes across psychological disorders*. Oxford: Oxford University Press.
- Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. New York: Guilford Press.
- Heleniak, C., Jenness, J. L., Vander Stoep, A., McCauley, E., & McLaughlin, K. A. (2015). Childhood maltreatment exposure and disruptions in emotion regulation: A transdiagnostic pathway to adolescent internalizing and externalizing psychopathology. *Cognitive Therapy & Research, 39*, 263–278. doi:10.1007/s10608-015-9735-z.
- Hofmann, S. G., Carpenter, J., & Curtiss, J. (2016). Interpersonal emotion regulation questionnaire (IERQ): Scale development and psychometric characteristics. *Cognitive Therapy & Research, 39*, 263–278. doi:10.1007/s10608-016-9756-2.
- Hofmann, S. G., Sawyer, A. T., Fang, A., & Asnaani, A. (2012). Emotion dysregulation model of mood and anxiety disorders. *Depression and Anxiety, 29*, 409–416. doi:10.1002/da.21888.
- Insel, T., Cuthbert, B., Garvey, M., Heinssen, R., Pine, D. S., Quinn, K., et al. (2010). Research Domain Criteria (RDoC): Toward a new classification framework for research on mental disorders. *American Journal of Psychiatry, 167*, 748–751. doi:10.1176/appi.ajp.2010.09091379.
- Kring, A. M., & Sloan, D. S. (2009). *Emotion regulation and psychopathology*. New York: Guilford Press.
- MacNamara, A., Kotov, R., & Hajcak, G. (2015). Diagnostic and symptom-based predictors of emotional processing in generalized anxiety disorder and major depressive disorder: An event-related potential study. *Cognitive Therapy & Research, 39*, 263–278. doi:10.1007/s10608-015-9717-1.
- Mauss, I. B., Levenson, R. W., McCarter, L., Wilhelm, F. H., & Gross, J. J. (2005). The tie that binds? Coherence among emotion experience, behavior, and physiology. *Emotion, 5*, 175–190. doi:10.1037/1528-3542.5.2.175.
- Memlin, D. S., Heimberg, R. G., Fresco, D. M., & Ritter, M. R. (2008). Is generalized anxiety disorder an anxiety or mood disorder? Considering the multiple factors as we ponder the fate of GAD. *Depression and Anxiety, 25*, 289–299. doi:10.1002/da.20493.
- Naumann, E., Tuschen-Caffier, B., Voderholzer, U., & Svaldi, J. (2015). Spontaneous emotion regulation in anorexia and bulimia nervosa. *Cognitive Therapy & Research, 39*, 263–278. doi:10.1007/s10608-015-9723-3.
- Nolen-Hoeksema, S., & Watkins, E. R. (2011). A heuristic for developing transdiagnostic models of psycho-pathology: Explaining multifinality and divergent trajectories. *Perspectives on Psychological Science, 6*, 589–609. doi:10.1177/1745691611419672.
- Norton, P. J., Hayes, S. A., & Hope, D. A. (2004). Effects of a transdiagnostic group treatment for anxiety on secondary depression. *Depression and Anxiety, 20*, 198–202. doi:10.1016/j.brat.2011.03.007.
- Poon, J. A., Turpyn, C. C., Hansen, A., Jacangelo, J., & Chaplin, T. M. (2015). Adolescent substance use and psychopathology: Interactive effects of cortisol reactivity and emotion regulation. *Cognitive Therapy & Research, 39*, 263–278. doi:10.1007/s10608-015-9729-x.

- Rosenthal, M. Z., Neacsiu, A. D., Geiger, P. J., Ahn, R., & Laraurri, J. (2016). Emotional reactivity to personally-relevant and standardized sounds in borderline personality disorder. *Cognitive Therapy & Research*. doi:10.1007/s10608-015-9736-y.
- Seeley, S. H., Mennin, D. S., Aldao, A., McLaughlin, K. A., Rottenberg, J., & Fresco, D. M. (2015). Impact of comorbid depressive disorders on subjective and physiological responses to emotion in generalized anxiety disorder. *Cognitive Therapy & Research*. doi:10.1007/s10608-015-9744-y.
- Shapero, B. G., Abramson, L. Y., & Alloy, L. B. (2015). Emotional reactivity and internalizing symptoms: Moderating role of emotion regulation. *Cognitive Therapy & Research*. doi:10.1007/s10608-015-9722-4.
- Sheppes, G., Suri, G., & Gross, J. J. (2015). Emotion regulation and psychopathology. *Annual Review of Clinical Psychology*, 11, 379–405. doi:10.1146/annurev-clinpsy-032814-112739.
- Tracy, J. L., Klonsky, E. D., & Proudfit, G. H. (2014). How affective science can inform clinical science. *Clinical Psychological Science*, 2, 371–386. doi:10.1177/2167702614537627.
- Van Meter, A. R., & Youngstrom, E. A. (2015). Distinct roles of emotion reactivity and regulation in depressive and manic symptoms among euthymic patients. *Cognitive Therapy & Research*. doi:10.1007/s10608-015-9738-9.
- Wade, T. D., Bergin, J. L., Martin, N. G., Gillespie, N. A., & Fairburn, C. G. (2006). A transdiagnostic approach to understanding eating disorders. *The Journal of Nervous and Mental Disease*, 194, 510–517. doi:10.1097/01.nmd.0000225067.42191.b0.
- Wakefield, J. C. (1997). Diagnosing DSM-IV part I: DSM-IV and the concept of disorder. *Behaviour Research and Therapy*, 35, 633–649. doi:10.1016/S0005-7967(97)00018-1.
- Watson, D. (2009). Differentiating the mood and anxiety disorders: A quadripartite model. *Annual Review of Clinical Psychology*, 5, 221–247. doi:10.1146/annurev.clinpsy.032408.153510.
- Widiger, T. A., & Clark, L. A. (2000). Toward DSM-V and the classification of psychopathology. *Psychological Bulletin*, 126, 946–963. doi:10.1037/0033-2909.126.6.946.