

The Future of Emotion Research in the Study of Psychopathology

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Abstract

Research on emotion and psychopathology has blossomed due in part to the translation of affective science theory and methods to the study of diverse disorders. This translational approach has helped the field to hone in more precisely on the nature of emotion deficits to identify antecedent causes and maintaining processes, and to develop promising new interventions. The future of emotion research in psychopathology will benefit from three inter-related areas, including an emphasis on emotion difficulties that cut across traditional diagnostic boundaries (i.e., a transdiagnostic approach), the explicit linking of emotion and cognition in behavioral and neuroimaging studies in psychopathology, and continued translation of the latest conceptualizations of emotion to the study of psychopathology.

Keywords

cognition, emotion, mental illness, psychopathology, transdiagnostic

In the past two decades, the number of studies on emotion and psychopathology has expanded greatly. A search in *PsychInfo* for peer-reviewed articles containing the most generic of keywords, “emotion” and “mental illness” or “psychopathology”, yields 613 peer reviewed articles in just the past 20 years. By contrast, 441 articles with these keywords are found for the 80 years prior to 1989. Emotion is definitely “in” with respect to recently developed psychosocial interventions, including for disorders that would appear on the surface to involve emotion disturbances, such as the mood and anxiety disorders (e.g., Fairholme, Boisseau, Ellard, Ehrenreich, & Barlow, 2009; Johnson & Fulford, 2009; Mennin & Fresco, 2009), to disorders perhaps less clearly linked with emotion difficulties, such as schizophrenia (Johnson et al., 2009) and insomnia (Harvey, McGlinchey, & Gruber, 2009). Perhaps this is not all that surprising given that most disorders in the current version of the American diagnostic system, the DSM-IV-TR (American Psychiatric Association [APA], 2000), include symptoms involving emotion disturbances (Kring, 2008). In this article, I briefly trace where we have been with respect to the study of emotion in mental illness and where I think we will most productively go in the future.

Where We Have Been

Given the ubiquity of emotion-related symptoms in psychopathology (e.g., anger, anhedonia, anxiety, excited mood, fear, flat affect, guilt, irritability, sad mood), most of the early research sought to describe emotion-related disturbances. This work helped to characterize disorders that involve excesses of emotion (e.g., specific phobia, mania), deficits in emotion (e.g., antisocial personality disorder), mismatches between the expression and experience of emotion (e.g., schizophrenia), and deficits in social emotions (e.g., autism), culminating in suggestions of separate taxonomies for emotion disturbances in mental disorders to co-exist alongside taxonomies of the disorders themselves (e.g., Berenbaum, Raghavan, Le, Vernon, & Gomez, 2003). Revisions to the DSM are well underway, with DSM-V expected in 2013, and it is likely that fruits of this descriptive research on emotion-related symptoms in various disorders will be yielded in revised diagnostic criteria that more clearly specify the nature of an emotion-related symptom or difficulty.

That much of this descriptive work on emotion and psychopathology has been influential is a reflection of the fact

that it has been constrained and informed by the theories and methods from basic affective science. For example, emotion theories dating back nearly a century emphasize that emotions are adaptive and serve important functions (see Gendron & Barrett, 2009, for a rich history of long-neglected emotion research). My colleagues and I have argued that the functions of emotion in persons with psychopathology are comparable to those for persons without psychopathology (Keltner & Kring, 1998; Kring & Bachorowski, 1999). However, emotion disturbances in psychopathology interfere with the achievement of emotion-related functions, such as effective social interaction. Contemporary emotion research has also pointed to the importance of conceptualizing emotion as having multiple components, including, but not limited to, expression, experience, physiology, and brain activation. The extent to which these emotion components correspond with one another or cohere remains a topic of debate (e.g., Barrett, 2006b; Bradley & Lang, 2000; Mauss, Levenson, McCarter, Wilhelm, & Gross, 2005) that calls into question methods for studying emotion as well as more fundamental assumptions about the definition of emotion (Barrett, 2006a). Nonetheless, this conceptualization has allowed psychopathology researchers to move beyond clinical rating scales that typically focus on just one component of emotion (e.g., reported experience of sad mood, observer-rated expression) to a more comprehensive understanding of the nature of emotion difficulties in different mental disorders. For example, we now know that schizophrenia is characterized by a deficit in emotion expression but not necessarily experience (see Kring & Moran, 2008, for a review), and we know that depression is not simply a disorder defined by too much negative emotion reactivity, including sadness, but also reflects difficulties in positive emotion reactivity (see Bylsma, Morris, & Rottenberg, 2008, for a review).

This descriptive work has paved the way for investigations of possible causal or maintaining factors as well as the development of interventions aimed at ameliorating emotion-related symptoms and difficulties. For example, influential theoretical and empirical work on emotion regulation (Gross, 2007) has been foundational in the development of a unified psychotherapy for mood and anxiety disorders (Campbell-Sills & Barlow, 2007). Basic affective science and neuroscience on the linkage between emotion and sleep (Walker & van der Helm, 2009) has pointed to possible maintaining factors in insomnia that have informed the development of new psychosocial treatments (Harvey, 2008; Harvey et al., 2009).

Moreover, newer advances in affective science have continued to pave the way for the next generation of research on the role of emotion in psychopathology. Herein lies the promising future of emotion research in psychopathology: the continued partnership between basic affective scientists and neuroscientists and psychopathology researchers will yield a far richer body of work on the descriptions of emotion-related difficulties, the mechanisms contributing to these difficulties, and the focal treatments, both psychosocial and pharmacological, that will provide relief from the more disabling emotion-related disturbances.

Where We Are Headed

At least three inter-related areas will carve out productive paths for the future of emotion and psychopathology research. First, research informed by a transdiagnostic approach to emotion and psychopathology will be fruitful with respect to the description, causes, and treatments of mental disorders. In their influential book, Harvey and colleagues adopted a transdiagnostic perspective for understanding disrupted cognitive processes (e.g., attention, reasoning, memory) that were common across different disorders and that served to maintain or exacerbate these disorders (Harvey, Watkins, Mansell, & Shafraan, 2004). This transdiagnostic approach has recently been adopted with respect to emotion difficulties (Kring & Sloan, 2009). Although psychopathology research has historically been “disorder-centric”, the winds are shifting, even at the level of the diagnostic system. Indeed, DSM-V workgroups are considering dimensions or transdiagnostic approaches for DSM-V for many different disorders historically kept separate, such as the mood and anxiety disorders (Fawcett, 2009; Phillips, 2009), personality disorders (Skodol, 2009), and developmental disorders such as autistic disorder/Asperger’s disorder (Swedo, 2009).

A transdiagnostic approach can also help the field to hone in on common mechanisms contributing to emotion disturbances, whether they are antecedents (i.e., predisposing or vulnerability factors), concomitants, or consequences (i.e., perpetuating or maintaining factors). Candidate transdiagnostic mechanisms, particularly those that are maintaining factors include disturbances in core affect, emotion awareness, emotion regulation, and emotion maintenance (Kring, 2008). Finally, a transdiagnostic approach can lead to the development of treatments that target these mechanisms, whether psychosocial or pharmacological. For example, psychosocial treatments targeting emotion regulation difficulties across disorders show promise (e.g., Fairholme et al., 2009; Mennin & Fresco, 2009), and pharmacological interventions that target the neurotransmitter serotonin, a substance that is heavily concentrated in brain regions linked with emotion (e.g., Barrett, Mesquita, Ochsner, & Gross, 2007), are effective across disorders.

A second line of future research on emotion and psychopathology that will be productive is research that explicitly links feeling with thinking. Perhaps because emotion research fought for so long to gain credibility, it needed to carve out an identity separate from other domains in psychology, such as cognition and behavior. But if the decade of the brain taught us anything, it is that the brain is simply not divided into regions specific to our psychological concepts, such as cognition and emotion. Indeed, current cognitive and affective neuroscience research points to overlapping brain regions that support thinking and feeling in interesting and complex ways (e.g., Banich et al., 2009; Barrett, 2009a; Kober et al., 2008; Miller & Cohen, 2001; Ochsner & Gross, 2005). This neuroscience research can be usefully translated to the study of psychopathology and be informative at the descriptive/diagnostic level (i.e., mental disorders do not just consist of emotion-related symptoms, but also symptoms that reflect cognitive processes (e.g., inattention,

thought disorder), behavioral processes (e.g., avoidance), and interpersonal processes (e.g., no close friends or confidants) as well as at the mechanism level. For example, disruptions in cognitive processes, such as cognitive control, working memory, attention, episodic memory, and autobiographical memory are common across diverse disorders, such as schizophrenia (e.g., Minzenberg, Laird, Thelen, Carter, & Glahn, 2009), posttraumatic stress disorder (e.g., Banich et al., 2009), autism (e.g., Solomon et al., 2009), attention deficit/hyperactivity disorder (e.g., Nigg, 2001), and major depressive disorder (e.g., Joormann & Gotlib, 2008). Although not necessarily new, research has turned greater attention towards the linkages between cognition and emotion, examining, for example, the linkage between cognitive control of maintenance of emotion in schizophrenia (Ursu et al., 2010), and memory and attention for emotional material in major depressive disorder (e.g., Joormann, Yoon, & Siemer, 2010). Additional connective dots remain to be drawn between behavioral, clinical, and functional neuroimaging research in psychopathology, and this work can be informed by both theory and research outside of psychopathology (e.g., Barrett, 2009a). This type of translational research will be most helpful towards isolating brain-behavior linkages that cut across different disorders and that reflect emotion-cognition processes supported by a network of brain regions (e.g., dorsolateral and ventral-medial areas of the PFC, amygdala, hippocampus).

Third, and perhaps most fundamentally, future research on emotion and psychopathology will be productively informed from the current theory and research surrounding the (re)conceptualization of what emotion really is. For example, Barrett's recent conceptualization of emotion holds much promise in this regard (e.g., Barrett, 2009a, 2009b). Specifically, this view starts with the non-controversial observation that mental life comprises three sources of input: (1) sensory information from the world; (2) sensory information from the body; and (3) prior experiences that combine to allow us to label our experience as emotion or cognition or perception. To label an emotion experience, people may draw upon core affect (i.e., experienced valence and arousal states), their prior conceptual knowledge of emotion categories, and their attention to sensory information and prior experience at any given time. This theory points to a wealth of possibilities for understanding how emotion may go awry in psychopathology; for example, by examining whether the so-called deficits in emotion may reflect more fundamental deficits in the building blocks or "ingredients" of mental life. In addition, the combination of the different ingredients may go awry in different disorders. People with mood or anxiety disorders have difficulties with attention that may more readily navigate the interpretation of certain sensations as aversive and increase the likelihood of drawing upon certain prior experiences to the exclusion of others that combine to heighten the experience of anxiety or depression. For example, a person with social phobia may focus attention on cues from others that are incorporated into the category of "rejection", interpret their bodily sensations as fear or shame, and build up their prior experiences with rejection. Bits and pieces of these ideas can be found sprinkled throughout the psychopathology literature; for

example, in work on cognitive and emotion deficits in depression and work on psychosocial treatments for depression that emphasize attention to the here and now (e.g., mindfulness approaches, e.g., Segal, Williams, & Teasdale, 2002; acceptance and commitment therapy, e.g., Hayes, Stroschal, & Wilson, 1999). What Barrett's emotion theory (i.e., the conceptual act model) has the great potential to do is to bring together seemingly disparate areas of research in psychopathology that will in turn productively guide the development of the next generation of treatments.

In summary, research on emotion and psychopathology has productively benefited from the translation of affective science theory and methods to the study of descriptions, causes, and treatments of diverse psychological disorders. The future of emotion and psychopathology research will be informed by a transdiagnostic approach to descriptions, mechanisms, and treatments targeting emotion-related difficulties, and a more explicit linkage of methods, theories, and treatments targeting emotion and cognitive difficulties. Finally, a critical examination of our conceptualization of emotion reveals room for new theories of emotion that will more clearly inform our understanding of how emotion goes awry in psychopathology.

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