

Positive Emotion Disturbance

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Abstract

The longstanding assumption has been that positive emotions and associated feelings are entirely adaptive. As a result, less scientific attention has been devoted to understanding the ways in which positive emotions might also be a source of dysfunction for our psychological health. However, the empirical tides have recently begun to change, and with it, a new wave of research has pointed to ways in which positive emotionality is also related to a range of poor health outcomes and maladaptive clinical syndromes. How might this be possible? Here, we provide cutting-edge insights into unpacking the nature of positive emotion disturbance by highlighting six key themes outlining the ways positive emotion may go awry. We conclude by providing a roadmap for future research aimed at providing an integrative model for understanding positive emotion as well as how to harness and cultivate appropriate positive feelings.

INTRODUCTION

Feeling good, or the experience of positive emotions, is a basic building block of human nature. Positive emotions motivate us to pursue important goals, allow us to savor important experiences, and reinforce adaptive behavior patterns (e.g., Fredrickson, 1998). It is no surprise that we see an overflowing amount of popular and scientific emphasis on understanding happiness, with an increasing interest in motivational speakers, psychotherapists, and scientific enterprises focused on ways to attain and maximize positive emotions (for reviews, see Lyubomirsky, King, & Diener, 2005; Seligman & Csikszentmihalyi, 2000). From this robust body of work emerges a clear theme that positive emotion is a vital ingredient of our well-being and ability to flourish.

Here, we raise an intriguing and largely underexplored question: Is positive emotion always good for us, or can experiencing positive emotions in some contexts be detrimental? In other words, can feeling too good ever be bad or unmanageable? It has long been assumed that positive emotionality is entirely adaptive, given findings that more frequent and intense

experiences of positive emotion are related to lower stress reactivity, higher social functioning, and an overall ability to better function and achieve daily life goals (e.g., Fredrickson, 1998; Lyubomirsky, Sheldon, & Schkade, 2005). As a result, less attention has been devoted to understanding the ways in which positive emotions might also be a source of dysfunction (e.g., Gruber, Mauss, & Tamir, 2011). However, the empirical tides have begun to change. A new and burgeoning wave of research suggests that positive emotionality is also related to a range of poor health outcomes both cross-sectionally and longitudinally, particularly when the magnitude and duration are inappropriate to the context (Gruber, 2011). Specifically, excessive positive emotionality robustly predicts a range of maladaptive clinical syndromes, including illegal and problematic drug and alcohol use, risky sexual behavior, bulimia, gambling, and even higher mortality rates. These findings illustrate how disturbances in positive emotion have been both understudied and underappreciated (Insel *et al.*, 2010).

CUTTING-EDGE RESEARCH

There is a wealth of insight into the nature of positive emotion disturbance, which we will highlight using six key themes (“the six S’s”) that encompass key positive emotion processes likely to be impacted by emotion disturbance, including: (i) *size* or magnitude of positive emotion response, (ii) *situation* or context in which positive emotions unfold, (iii) *specificity* of which positive emotions are experienced, (iv) *self-regulation* of one’s positive feelings, (v) *stability* or degree positive emotions dynamically change over time, and (vi) *striving* or the degree to which one exerts effort in pursuing or attaining positive feelings. Understanding these key mechanisms, critical to disruptions in normative positive emotion functioning, has been possible due to leveraging advances in neuroimaging and cognitive attention bias paradigms. We will conclude by pointing to key directions for future research aimed at translating these scientific insights into tailored interventions to cultivate adaptive positive feelings.

SIZE: IS MORE POSITIVE EMOTION REALLY BETTER?

Aristotelian definitions of emotional health argue that positive emotions are beneficial up to a moderate degree, but can incur costs when experienced too intensely. In other words, an intensely experienced level of happiness may not convey additional benefits beyond the standard; it may even lead to negative outcomes. Several empirical examples illustrate that a heightened amount of positive emotion may be associated with negative psychological health outcomes. For instance, people with high positive emotion levels are

inclined to engage in riskier behaviors, such as alcohol consumption, binge eating, and drug use, and may neglect important dangers or threats in their environment. This, in extreme forms, is associated with a greater mortality risk (for review, see Gruber, Mauss, & Tamir, 2011). The position that a greater degree of positive emotion can constitute a source of psychological disturbance also finds support in the clinical domain and may serve as a marker of psychopathology (Bentall, 1992). For example, adults with a clinical history of mania (i.e., bipolar disorder)—a severe and chronic psychiatric disorder characterized by abnormally and persistent positive mood—have been associated with inappropriate, extreme, and persistent positive emotions (Gruber, 2011). Heightened and persistent positive emotions in mania undermine the ability to experience negative emotions as well as predict a more severe illness course and greater relapse rates (Johnson, 2005). Examining individuals characterized by positive emotion disturbance enables a better understanding of how the normative function of positive emotion can break down, affording a view of the associated cognitive, biological, and social consequences of positive emotion dysfunction. These studies, along with prior conceptual work (Grant & Schwartz, 2011), converge on the conclusion that the association between happiness and beneficial outcomes is nonlinear; a greater amount or magnitude of positive emotion is not always better and may be associated with undesirable and unintended outcomes when it exceeds a certain threshold.

SITUATION: A TIME AND PLACE FOR POSITIVE EMOTIONS?

Our emotions serve important functions. Indeed, we are hard wired to experience a range of emotions to help us readily adapt to new circumstances, challenges, and opportunities. Anger mobilizes us to overcome obstacles, fear alerts us to threats and engages our fight-or-flight preparation system, and sadness signals loss of a salient object or person in our environment. These functions of emotions are suited to help us meet particular needs in specific contexts. Just as we would not want every situation to make us feel angry or sad, we should not want to indiscriminately experience positive emotion. Positive emotions help us pursue and attain important goals as well as facilitate cooperative and collaborative behavior with others. One example of positive emotion misappropriation is highlighted in a work by Maya Tamir, which reports that people induced into a happy mood performed worse than people in an angry mood when engaging in a competitive computer game task. A clinical example suggests that individuals who experience positive feelings in inappropriate contexts—such as watching sad films or listening to a distressed partner—were at greater risk for developing mania (Gruber Johnson, Oveis, & Keltner, 2008). In sum,

positive emotion has a proper contextual timing and is not always suited for every situation.

SPECIFICITY: NOT ALL POSITIVE EMOTIONS ARE CREATED EQUAL

In a research context, “positive emotion” is often referred to as a singular term, but in practice it is much more heterogeneous. There are a variety of different types of positive emotions that vary on dimensions of arousal or energy level and can even reflect the degree of social connectedness or engagement (e.g., Shiota, Keltner, & John, 2006). Many forms of happiness are associated with adaptive and prosocial outcomes, such as fostering connection to others, altruistic acts, and generosity. But, importantly, not all specific types of positive emotions appear to promote beneficial outcomes. A more nuanced analysis of different types of positive feelings suggests that some forms may actually be a source of dysfunction. One example is pride, a pleasant feeling state associated with achievement and elevated social rank or status. As such, it is often conceptualized as a self-focused type of positive emotion. Pride can be good in certain forms, such as winning a difficult prize or receiving a job promotion. However, when pride is experienced in the absence of such appropriate merits, it has been associated with negative social outcomes (e.g., Carver, Sinclair, & Johnson, 2010). This includes aggressiveness toward others, antisocial behavior, and even an increased risk for the onset of mania (e.g., Gruber & Johnson, 2009). Thus, certain kinds of positive emotions—such as those that are too self-focused—may at times hinder our ability to adaptively connect and build bonds with others around us.

SELF-REGULATION: UNABLE TO HARNESS POSITIVE EMOTIONS?

Emotion regulation has been defined as, “the process by which individuals influence which emotions they have, when they have them, and how they experience and express those emotions” (Gross, 1998, p. 227). The ability to adaptively regulate emotion has been linked to favorable health outcomes, including greater well-being and social adjustment (Tamir, John, Srivastava, & Gross, 2007) and may sustain, or even improve, mental health outcomes (e.g., Folkman & Moskowitz, 2000; Tugade & Fredrickson, 2004). By contrast, having little or no self-regulation or control over one’s emotions is associated with maladaptive mental health outcomes, such as increased symptoms of depression and anxiety. For example, decreased controllability over negative emotional experiences predicts increased depressive symptom severity as well as increased anxiety symptoms. Although important, the majority of work has primarily focused on the relative controllability (or lack thereof)

in negative emotion states, as noted above. Less work has examined consequences of *positive* emotional experiences perceived as uncontrollable versus controllable. Emerging work generally suggests that controllability over positive emotions—measured both as actively generating or increasing positive emotions and decreasing or dampening positive emotions—is associated with beneficial mental health outcomes. For example, self-reported control over positive feelings has been associated with increased resiliency in the face of stressful life experiences, as well as increased optimism, life satisfaction and self-esteem, and decreased hopelessness and depression (Tugade & Fredrickson, 2004).

Recent insights also suggest that inappropriately managed positive emotions can incur significant costs on a personal level and within broader social contexts. Individuals with bipolar disorder, for example, have trouble managing intense positive emotions central to episodes of mania. Indeed, “Manic episodes” are associated with difficulty effectively decreasing or downregulating positive emotions that lead to impulsive behaviors and risk-taking tendencies. By contrast, individuals with depression have difficulty in effectively increasing or upregulating positive emotions and a decreased ability to sustain and promote positive emotions (for review see Gruber, Dutra, Hay, & Devlin, 2014). This suggests that if positive emotions are not properly regulated—either too much or too little—the beneficial effects commonly associated with them may no longer remain.

STABILITY: POSITIVE EMOTIONS BEST KEPT STABLE?

A complete understanding of the correlates of positive emotion requires more than an understanding of its overall mean levels but rather, positive emotion can only be fully understood if we account for its dynamics. For example, two people could be identical in terms of their overall positive emotion levels but quite different from one another in their emotional variability, with one person fluctuating very little around his/her average level, while the other person fluctuating a lot. Thus, examining variation, or stability, in positive emotion is scientifically feasible. Recent research suggests that there is a high variability in positive emotions, ebbing and flowing across the course of several weeks and even causing waves within a single day. Greater oscillations in self-reported positive emotions have been associated with worse psychological health (Gruber, Kogan, Quoidbach, & Mauss, 2013), including lower well-being and life satisfaction and greater depression and anxiety. These findings are consistent with ancient Buddhist texts, which underscore the importance of attaining greater emotional stability as part of overall well-being. Specifically, too much variability and

not enough stability in one's positive feelings can be a harbinger of poor mental health outcomes.

STRIVING: SEEKING POSITIVE EMOTIONS MAY LEAD TO DECREASED WELL-BEING

By striving, we refer to the metacognitive value or premium placed on experiencing and attaining positive emotional experiences. Not surprisingly, most people want to be feel positive or happy. Groundbreaking work has recently supported the paradoxical finding that striving for positive emotions may actually cause more harm than good (e.g., Mauss, Tamir, Anderson, & Savino, 2011). In this work, participants were presented with a faux newspaper article, which either extolled the advantages of happiness or did not mention happiness. After this manipulation, participants watched either a happy or a sad film clip. Results indicated that participants who were induced to value happiness felt worse, but only in the context of the happy film, presumably because participants placed inflated importance on being happy and were disappointed after falling short of their ideals or emotional expectations. Importantly, feelings of disappointment mediated the effects of valuing happiness on feeling unhappy. These findings suggest that the pursuit of happiness may lead to maladaptive outcomes because it sets people up for disappointment. Recent work has supported this data, further suggesting that problematic clinical health outcomes can be associated with the pursuit of happiness, which also serves as a marker of individuals with a history of depression (Ford, Shallcross, Mauss, Floerke, & Gruber, in press). These findings are consistent with early observations by philosophers who observed that the pursuit of happiness does not always appear to lead to the desired outcomes. In fact, at times, the more people pursue happiness, the *less* they seem to be able to obtain it.

KEY ISSUES FOR FUTURE RESEARCH

In this essay, we have argued for a new wave of research in advancing the study of human well-being. Up to this point, the majority of work has been focused on identifying features of positive emotion that promote social, cognitive, and physical health benefits. Although important, we argue for a change of tides that also looks at the ways positive emotions may sometimes go awry. By studying positive emotion disturbance, we strive to not only increase our understanding of positive emotions, but also provide a more integrative model in understanding human emotional health. Toward this end, we identified six newly emerging themes in pinpointing some of the ways positive emotion may fail to function effectively. These themes included processes involving the size of the emotion response, situation

in which it occurs, specificity of particular positive emotion experienced, self-regulation or ability to effectively manage one's positive feelings, stability of positive emotion intensity within an individual across time, and striving or the degree to which one values and exerts effort toward experiencing positive emotions. We did this across both healthy adults and clinical populations marked by relative excesses and/or deficits in positive emotion to illustrate the application to broad domains of psychological health. In critically thinking about key issues for future research in this area, we point to broad domains including isolating mechanisms underlying and driving positive emotion disturbance (i.e., the "why" question) as well as evaluating the translational significance or ways to leverage these findings to develop effective methods to modify or change positive emotions (i.e., the "can it change" question).

ISOLATING MECHANISMS: WHY DOES POSITIVE EMOTION DISTURBANCE OCCUR?

A critical next step in understanding the nature of positive emotion disturbance is asking *why* it occurs. This includes isolating various mechanisms, but particularly those that drive the elicitation of positive emotion and those that foster the maintenance of positive emotions over time (Gruber, 2011). We believe research is needed in identifying both cognitive and neural mechanisms associated with the generation and maintenance of positive emotion, and in particular, overly heightened and persistent positive mood states that lead to risk-taking, substance abuse, and severe psychopathology such as bipolar disorder. With respect to cognitive mechanisms, it is critical to examine how measures of positive affectivity shape the way we attend to, and view, the visual world around us. For example, biased visual attention toward positive or pleasant sights could lead to a greater number and relative frequency of perceiving pleasant material, which in turn could increase and maintain an overly positive emotional state. Visual attention preferences can be measured using eye-tracking technology to continuously monitor point of gaze and identify potential patterns of attentional biases. Dot probe paradigms can also be used to more directly assess potential biases in patterns of attentional distribution.

With respect to neural mechanisms, recent work has identified neural circuitry associated with the experience of pleasure and positive emotion. Positive emotion reactivity is associated with activation of regions such as the ventral striatum, and this same network of regions is thought to underlie the processing of monetary rewards and positive reinforcement (e.g., Phillips & Vieta, 2007; Knutson, Westdorp, Kaiser, & Hommer, 2000). Work demonstrates that populations characterized by heightened positive emotion reactivity, such as those with bipolar disorder, are unique in having

disturbances in these neural systems thought to underlie positive emotion reactivity (Abler, Greenhouse, Ongur, Walter, & Heckers, 2008; Birmahol *et al.*, 2010). In contrast, individuals characterized by decreased positive emotion reactivity, such as those with major depression, show reduced neural activity in response to positive stimuli in regions such as the nucleus accumbens associated with the experience of reward (Pizzagalli *et al.*, 2009). It is critical to examine patterns of peak brain activation and connectivity between reward-related circuitry to better understand processes that guide the generation and maintenance of problematic positive emotions, as well as mapping the chronometry or temporal dynamics of neural systems that guide sustained positive emotion across time (e.g., Heller *et al.*, 2013). The goal of this work is not only to identify cognitive and neural processes that give rise to disturbances in positive emotion, but also to identify suggestive evidence that they play an important role in the vulnerability to clinical health outcomes.

TRANSLATIONAL SIGNIFICANCE: CAN WE INTERVENE?

In addition to understanding positive emotion disturbance and its associated mechanisms, a critical next step is conducting clinical translational efforts aimed at ameliorating suffering resulting from disturbances in positive emotion. This will involve a two-prong approach. First, it will be critical to continue to develop novel psychological interventions with specific foci aimed at targeting disturbances in positive emotion (e.g., Barlow, Allen, & Choate, 2004; Moses & Barlow, 2006), including intervention methods focused not only on savoring healthy positive emotions but also on those that carefully reign in and decrease overly intense or context-inappropriate positive emotions.

Second, it is urgent to integrate recent scientific discoveries on the measurement and elicitation of positive emotion in affective science with extant empirically supported treatments that include components aimed at reducing or modulating positive feelings including well-validated, cognitive-behavioral treatments (e.g., Persons, 2008). Also available are more recent mindfulness-based approaches (Geschwind, Peeters, Drukker, van Os, & Wichers, 2011) that can carefully track changes in emotion-related processes as a function of treatment across time. This will provide much-needed insight into tracking which components of emotion-related functioning (e.g., emotion reactivity versus emotion regulation) are being captured in the context of intervention delivery and enable more precise identification of core mechanisms involved in treating and changing emotion-related difficulties.

CONCLUDING COMMENTS

In conclusion, we return to the central theme guiding this essay by focusing on the intersection of positive emotion and psychological health. Empirical research on this intersection offers the promise of several conceptual gains. For affective scientists focused on understanding the basic features and origins of human emotion, the study of the relations between positive emotions and mental health still remains one of the clearest routes to understanding the function of a particular emotion. For clinical scientists, the kind of research we have detailed offers similar promise for understanding the social expression and underpinnings of different psychiatric disorders. More broadly, this research will offer answers to an abiding question concerning the boundary conditions of how and in what manner positive emotion can go awry.

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