Brad Earl Bowins Research Summary

Brad Earl Bowins (born February 27, 1959) is a psychiatrist and researcher, with several novel theories pertaining to mental illness and health, psychological defense mechanisms, sexual orientation, motion sickness, and consciousness and unconsciousness, presented in peer reviewed papers and books. His research emphasizes the continuous nature of psychological entities pertaining to mental illness countering the discrete emphasis of major diagnostic systems such as the Diagnostic and Statistical Manual of Mental Disorders 5th Edition (DSM-5). He founded the Centre For Theoretical Research In Psychiatry & Clinical Psychology (psychiatrytheory.com) to promote this form of research, provide guidelines, and offer assistance. His approach emphasises how solid science progresses from a healthy balance of theoretical and empirical approaches, and that cross-discipline research is typically required to discover the truth about complex issues. His research incorporates information from diverse areas including psychology and psychiatry, neuroscience, anthropology, sociology, and physics.

BACKGROUND

Parents, Mildred Jean Hanna and father Earl Bowins, his mother of Northern Irish descent and father Canadian for many generations but initially from England. He was born and grew up in east Toronto, partaking in various sports with skiing a favorite. He developed an interest in the marine environment and became a certified scuba diver at 15 years of age. Both skiing and scuba diving led to adventure travel exposing him to some of the most unique and scenic regions of the world, and also diverse cultures with scuba diving. His interest in travel progressed to writing travel articles and photography. These activities and experiences align with the exploratory nature of his research.

Education consists of University of Toronto Science B.Sc. (1980-84), University of Toronto Medical School (1985-89), and psychiatry training also at University of Toronto (1990-94). During his training in psychiatry he practiced general medicine, having acquired a general license following internship. He chose to practice adult psychiatry in an independent practice, due to how the research focus at the time of his graduation emphasized pharmaceutical research. Theoretical and exploratory research was not valued, related to how psychiatry and clinical psychology tend to reject theory. He has advocated for the value of grounded theoretical research in revealing true outcomes. His theories are also grounded in extensive clinical experience providing diverse forms of psychotherapy in an eclectic fashion, and also psychopharmacology. In addition to his independent psychiatry practice, he worked part-time for 10 years at the University of Toronto Health Service, acquiring experience with student mental health issues.

RESEARCH

His research has generated unique perspectives based on extensive readings, such that the theories represent a "best of fit" with the available data. Key themes include mental illness variables representing continuums, regulation, and psychological defense, with the concepts summarized in the peer reviewed book, ***Mental Illness Defined: Continuums, Regulation, And Defense*** (Routledge, 2016).

Research is presented in the following sections:
Psychological Defense Mechanisms
Regulation
Continuums
Personality Disorders
Repetitive Maladaptive Behavior (Repetition Compulsion)
Psychosis
Depression
Anxiety
Eating Disorders
Addictions
Psychotherapy
Consciousness
Motion Sickness
Sexual Orientation
Social & Environmental Justice
Men's Health
Spirituality

PSYCHOLOGICAL DEFENSE MECHANISMS:

In, ***Psychological Defense Mechanisms: A New Perspective*** *(The American Journal of Psychoanalysis, 2004, 64(1), 1-26)*, Dr. Brad Bowins proposes that psychological defense mechanisms are largely organized as two evolved templates—Dissociation and positive cognitive distortions. He proposed the Amplification Effect, whereby the evolution of human intelligence amplifies emotional states via cognitive activating appraisals underlying emotions. The root emotion of depression is sadness with loss orientated conscious or unconscious thoughts (cognitive activating appraisals) triggering sadness. The root emotion of anxiety is fear, with threat or danger conscious or unconscious thoughts triggering fear. Human intelligence amplifies emotional states by making the cognitive activating appraisals more intensive, extensive, and adding a temporal dimension. For instance, a person loses their job and thinks of all the associated losses (intensification), considers how this loss impacts on other areas such as not being able to get another good job (extends), and thinks about the loss over time (temporal aspect). Amplified sadness and fear contribute to depression and anxiety, respectively. Another contributor to the Amplification Effect, is how cognitions and emotions mutually reinforce each other: Thoughts about loss trigger sadness, the emotional climate of sadness fosters further loss oriented cognitions, leading to more sadness, and so on and so

forth. The Amplification Effect aligns with how humans have been described as the most emotional of all animals.

Amplified sadness (depression) and amplified fear (anxiety) are viewed as dysfunctional, such that during our evolution in hunting and gathering groups, they would have reduced evolutionary fitness. To counter this negative influence, psychological defense mechanisms evolved, the two primary templates consisting of dissociation and positive cognitive distortions. Dissociation provides the capacity to adaptively detach from disturbing emotional states, and cognitive distortions place a positive often self-enhancing spin on experience. Milder forms of both defenses are seen as being adaptive, while the most intense are usually less functional, although they can be adaptive for severe stress such as occurs with abuse. Milder forms of dissociation consist of emotional numbing, absorption with or without imaginative involvement, and compartmentalization. Absorption consists of immersion in positive activities to block out negative emotional states. Meditation is considered to be a form of dissociative absorption. Absorption aligns with the perspective that instead of the pursuit of happiness, the happiness of pursuit (absorption) is what counts. Compartmentalization enables stressful areas to be set aside, and prevents stress from one area intruding into other areas of functioning. More extensive forms of dissociation, such as amnesia and personality fragmentation, as with Dissociative Identity Disorder, are adaptive at the time of trauma, but tend to limit functioning overall.

Positive cognitive distortions also occur on a spectrum. Mild versions involve placing a sugar coating on events, spinning occurrences in a self-enhancing fashion, and favorable attributions for events. Moderate level cognitive distortions consist of excessive fantasy involvement, magical thinking, and over-valued ideas. Superstitious thoughts and belief in fortune tellers are examples of magical thinking. Extreme cognitive distortions that lose contact with reality comprise psychotic delusional thought. Hence, the thought content aspect of psychosis is the extreme range of the cognitive distortion continuum.

Classical defense mechanisms, described in the psychoanalytic literature, are viewed as representing a form of cognitive distortion with some containing strong elements of dissociation. An inverse relationship occurs between defense mechanism maturity and the degree of cognitive distortion: More mature defenses such as humor involve milder more adaptive degrees of cognitive distortion, while immature defenses such as schizoid fantasy and projection entail extensive cognitive distortions.

In, ***How Psychiatric Treatments Can Enhance Psychological Defense Mechanisms*** *(The American Journal of Psychoanalysis, 2006, 66(2), 173-194)*, Dr. Brad Bowins demonstrates how psychotherapy and antidepressants actually work, at least in part, by enhancing the psychological defense mechanisms of positive cognitive distortions and dissociation. Through both specific and non-specific factors, various forms of psychotherapy are demonstrated to induce a positive shift in a person's outlook, favoring positive cognitive distortions. Antidepressants have been demonstrated to foster positive shifts in basic emotional information processing, such as interpreting ambiguous facial expressions as indicating positive emotions. This shift in basic emotional information processing in turn fosters positive cognitive distortions. Dissociation from adverse emotional states transpires from the positive shift in perspectives and thoughts. For instance, if a person focuses on the gain aspect of events

(happiness) they are less likely to adhere to negative emotional stimuli, and hence dissociate from these negative inputs.

In, ***Hypomania: A Depressive Inhibition Override Defense Mechanism*** *(Journal of Affective Disorders, 2008, 109, 221-232)*, Dr. Brad Bowins postulates that hypomania is an evolved defense for depression, and also to some extent anxiety of social origins. The central component of depression—depressive inhibition—by greatly reducing physical, social, and mental behavior, ensured that depression was fitness reducing within the context of our evolutionary hunting-gathering past. It is proposed that hypomania evolved to counter the detrimental impact. As with other psychological occurrences, hypomania exists on a continuum with mania: Subthreshold hypomania-hypomania-subthreshold mania-full-blown mania. Hypomania-mania involves increased physical, social, and mental behavior, opposite to depression. Highly relevant to depression and hypomania-mania are two ancient motivational systems: Behavioral Approach/Activation System (BAS) and Behavioral Inhibition System (BIS). Research has demonstrated that depression is unique in that it involves decreased BAS and increased BIS, whereas anxiety and other conditions only entail reduced BIS. Hypomania-mania involves enhanced BAS and reduced BIS, enabling hypomania to defend against depressive inhibition.

The defense is postulated as depressive inhibition override in nature, meaning that it works in the moment to offset the negative impact of depression. A key consideration here is that the brief now is where it happens from an evolutionary fitness perspective. If a person is mentally and physically inhibited and misses the approach of a predator, then evolutionary fitness suffers. Likewise, if a person is too socially inhibited to respond to a good mating opportunity, then their evolutionary fitness is diminished. Hypomania by increasing physical, social, and mental behavior in the moment, overrides depressive inhibition to restore adaptive functioning, thereby maintaining and even advancing evolutionary fitness. Override mechanisms have been documented with intense emotional and physical states overriding behavioral inhibition, and predator detection systems overriding sleep. Relative to depression, and even relative to normal functioning for many people, hypomania produces more adaptive behavior.

The proposal aligns with several aspects of hypomania: The modal time frame of a hypomanic episode is 1-3 days, consistent with it overriding depressive inhibition in the moment. Mixed depressive and hypomanic symptoms are normal, which follows from hypomania being brief and not eliminating depression entirely. Irritability is the most common mood state in bipolar disorder, likely arising from dissonance experienced from the simultaneous presence of depressive and hypomanic-manic symptoms. Research has demonstrated a 1:1 ratio of depression and hypomania, indicating that hypomania is as common as depression, consistent with its hypothesized defensive role. A personality form of hypomania—Hyperthymic Personality—conveys success over the lifespan and provides resilience to depression. The perspective is countered by the Diagnostic and Statistical Manual (DSM IV and DSM 5) maintaining that hypomania is a minimum of 4 days, and so more severe. This time frame might be capturing the transition to full mania. Another potential critique of the model is that mania is maladaptive. As with most defenses milder forms (hypomania) tend to be adaptive and more extreme variants (mania) less so. Dr. Bowins proposes that the problem is deficient regulation

over the hypomanic defense, such that it progresses to mania. Hence, with intact regulation hypomania does not progress, but with impaired regulation it can proceed to full-blown mania. In the book, ***Mental Illness Defined: Continuums, Regulation, And Defense***, he identifies the likely role of negative symptoms in impairing regulation over the hypomanic defense. Hypomania is then not a problem to treat, but a treatment of sorts for depression. Dr. Bowins advocates inducing hypomanic episodes by encouraging people with depression to be more physically, socially, and mentally active, a recommendation that aligns with Behavioral Activation Therapy.

For defensive dissociation linked to trauma see, ***Repetitive Maladaptive Behavior: Beyond Repetition Compulsion*** *(The American Journal of Psychoanalysis, 2010, 70(3), 1-17),* under REPETITIVE MALADAPTIVE BEHAVIOR (REPETITION COMPULSION).

For how defense processes pertain to personality disorders see, ***Personality Disorders: A Dimensional Defense Mechanism Approach*** *(American Journal of Psychotherapy, 2010, 64(2), 153-169)*, under PERSONALITY DISORDERS.

REGULATION

In, ***A Cognitive Regulatory Model of Schizophrenia*** *(Brain Research Bulletin, 2011, 85, 36-41)*, Dr. Brad Bowins proposes that psychosis arises from impaired or damaged regulation over psychotic level cognitions, and in some instances relaxation of this regulatory process for psychological defense. Psychotic level thought content (delusions), thought form, and sensory perceptual experiences are viewed as the extreme end of naturally occurring cognitive continuums. The evolution of human intelligence provides us with an extensive range of these cognitive parameters. Psychotic level cognitions routinely occur during sleep, referred to as psychotic equivalents. He raises the question of why they are not commonly encountered during the conscious and awake state? The answer appears to be that to facilitate reality congruency, necessary for adaptive functioning, the brain filters out (regulates) these extreme cognitions from this state. In the case of schizophrenia, this capacity is damaged and psychotic level cognitions routinely intrude into the conscious and awake state. He proposes that it is largely the prefrontal cortex and related regions that exert regulatory control. This perspective aligns with several findings: During sleep when dreaming, the prefrontal cortex is less active, and the bizarreness of dreams correlates with the reduction in functioning of this region of the brain. Hallucinogenic agents, such as psilocybin, appear to induce psychosis by reducing activity in controlling, regulating regions of the brain such as the prefrontal cortex. The greater the reduction in activity within these brain regions, the more intense the self-reported psychedelic experience. Creativity, often linked to psychosis, involves reduced activity of the regulating regions of the brain, while implementation of the products of this creativity entail increased activation.

The theory presented identifies the relationship between positive and negative symptoms in schizophrenia. Positive symptoms are psychosis. Negative symptoms are the reduction of human specific cognition—Basic cognition, social cognition, and motivational states. With

schizophrenia, there is a long prodrome of negative symptoms followed by positive symptoms, countering the popular notion that a single disease process causes both. Furthermore, if a single disease process accounts for both there should be a tight correspondence between negative and positive symptoms—the more negative symptoms the more positive symptoms—but this is not the case. Dr. Bowins hypothesizes that the disease process underlying negative symptoms damages or impairs cognitive regulation over psychotic level cognitions, allowing them to routinely intrude into the conscious and awake state. The role of negative symptoms in psychosis is elaborated upon in the book, ***Mental Illness Defined: Continuums, Regulation, And Defense*** *(Routledge, 2016)* in the **Negative Symptom** chapter: Essentially, the neural dysconnectivity associated with negative symptoms impairs the connectivity necessary for adequate regulation over psychotic level cognitions. The role of negative symptoms in weakening regulation over the hypomanic defense, allowing hypomania to progress to mania in bipolar disorder, is also identified. The proposed relationship between negative and positive symptoms, helps explain why psychosis often occurs with mania: Negative symptoms can damage regulation over both processes.

In, ***Psychosis: A Synthesis of Motivational and Defect Perspectives*** *(The American Journal of Psychoanalysis, 2012, 72, 152-165)*, the role of psychological defense in psychosis is elaborated. Psychoanalysis considers motivational aspects of psychosis, typically in terms of unconscious material being too powerful and consequently breaking through into consciousness. In this paper, Dr. Brad Bowins expresses how cognitive regulation over psychotic level thought processes can be relaxed for psychological defense. For instance, when a person loses someone close to them, it is quite common to experience auditory, visual, and general feeling hallucinations of the person. Cognitive regulation over psychotic level sensory perceptual experiences are relaxed to restore the lost emotional stimuli. Likewise, when facing extreme circumstances, such as being kidnapped, reassuring psychotic level thoughts (delusions) can arise, with cognitive regulation relaxed to facilitate defensive functioning. This perspective counters the notion that excessively strong unconscious material produces psychosis, as psychosis outside of schizophrenia and mania is much more tailored to circumstances.

In, ***Cognitive Regulatory Control Therapies*** *(American Journal of Psychotherapy, 2013, 67(3), 215-236)*, Dr. Brad Bowins demonstrates how cognitive behavioral and related psychotherapy techniques probably work, at least in part, by restoring psychological regulation. Several standard (monitoring, reappraisal, response inhibition, relaxation training) and more novel (suppression therapy, willful detachment, cost-benefit analysis, normalization, defense mechanism training) psychotherapy techniques, compensate for cognitive regulatory control impairments, and their success probably aligns with this capacity. Some of the techniques improve regulation over excessive emotional states present in depression, anxiety, and personality disorders. This occurrence aligns with how cognitive behavioral therapy reduces limbic system hyperactivity linked to intense emotions, by increasing prefrontal cortical activity involved in regulating emotions. Psychotic thought content (delusions) can be treated by normalization techniques. Mania is also possible to treat in self-aware individuals by having the person engage in various relaxation responses when hypomania is progressing to mania.

Psychotherapy in general promotes a shift from immature to mature defense mechanisms, the latter providing for robust emotional regulation.

CONTINUUMS

A theme throughout the various theories is how continuums apply to all mental illness and health behavior. In the first paper in this section, Dr. Brad Bowins proposes the Continuum Principle: Natural phenomena tend to occur on a continuum, and any instance of hypothesized discreteness requires unassailable proof. The Diagnostic and Statistical Manual (DSM) and International Classification of Diseases (ICD) list numerous discrete conditions, but the evidence is weak and conditions are not sufficiently differentiated from one another.

In, ***Depression: Discrete or Continuous?*** *(Psychopathology, 2015, 48(2), 69-78),* Dr. Brad Bowins indicates that despite 100 years of research no discrete form of depression has been validated. Some evidence indicates melancholic depression as unique, but no criteria sufficiently distinguishes it from other supposed forms. Most evidence supports depression as a continuum, with sub-dimensions of severity and duration. Combining the dimensions of severity and duration provides an optimal way to characterize the quantitative and related qualitative aspects of depression, and describe the overall degree of dysfunction. The illusion of discreteness can arise from quantitative variation yielding qualitative variation as an emergent property. Hence, a seemingly discrete type of depression—melancholic—represents the most severe end of the depression continuum. According to the proposed model, circumstances activate the depression continuum, as opposed to representing discrete types. For example, major losses can trigger depression, as can disease processes such as thyroid conditions and cancer, but do not comprise distinct types.

In the **Anxiety** chapter of the book*, **Mental Illness Defined: Continuums, Regulation, And Defense** (Routledge, 2016),* Dr. Brad Bowins proposes that anxiety is on a continuum, as is the case with depression, and can also be characterized by the sub-dimensions of severity and duration. As with depression, quantitative variation can yield qualitative variation as an emergent property. Hence, panic attacks representing the most severe end of the anxiety continuum, yield a seemingly different “type” of anxiety by triggering the fight-fight-freeze response. Anxiety as a continuum is supported by evidence that within current discrete “types” there is no support for subdivisions. For example, with “social anxiety” a specific focus, as with public presentations, and multiple foci, occur on a continuum with more fears indicating greater severity. In addition, criteria used to distinguish discrete “types” have been shown to have a continuous distribution. For instance, worry applied to distinguish generalized anxiety, is actually continuously distributed in anxiety, depression, and stress. Further evidence supporting a single continuum of anxiety include: Neuroscience research revealing a common fear circuit, emotional information processing with amplified fear producing anxiety, common classical and operant conditioning processes pertinent to anxiety, and how trans-diagnostic approaches to cognitive behavioral therapy for anxiety rely on common features. These sources of evidence align with a single continuum of anxiety. As with depression, circumstances activate anxiety and

can influence the presentation. For example, in the case of a shy introverted person, new social contacts can activate anxiety, with personality features, such as the shyness, and perceived low social status influencing the presentation, although the anxiety component itself is a single continuum.
According to the model proposed, continuums interact with one another, such as the depression and anxiety continuums commonly occurring together, based on similar emotional information processing: Circumstances involving loss are often threatening or dangerous, and vice-versa.

In, the **Eating Disorders** chapter of the book, ***Mental Illness Defined: Continuums, Regulation, And Defense*** *(Routledge, 2016)*, Dr. Brad Bowins posits that there are anorexic, bulimic, and overweight-obesity continuums. Binge eating is on the bulimic continuum, with binge eating being milder than purging, and the combination most severe. Although it is feasible that overweight-obesity is on the anorexic continuum, the unique pathology of anorexia suggests that it is distinct. Proximal and ultimate continuums are proposed to underlie eating disorders. Regarding proximal continuums, anorexia links to drive for thinness, exercise addiction, compulsivity/perfectionism, and body image cognitive distortions favoring weight reduction. Bulimia links to impulsivity and a lesser drive for thinness, more limited exercise addiction, and body image cognitive distortions involving body dissatisfaction but not favoring thinness. Ultimate causation continuums explain why eating disorders occur, and why females are more prone to them. These continuums consist of first, food consumption style (quality) as with consuming in fewer larger meals derived from the predator style, and consuming in frequent smaller portions based on the grazing style of herbivores. Second, quantity of food consumed, and third, activity level. A propensity to consume little food, and high activity predisposes to anorexia, whereas a predisposition for infrequent eating, and larger amounts, makes an individual vulnerable to bulimia. Higher quantity of food consumed and low activity predisposes to overweight-obesity. Having to carry themselves and offspring throughout evolution, females are more sensitivity to the styles most adaptive for a given environment, that are conveyed by societal norms. Hence, if the most adaptive pattern emphasizes thinness women are more vulnerable to anorexia.
Regulation and defense play major roles in eating disorders, as with bulimia where regulation over binges is impaired, and malnutrition from anorexia can impair regulation. With anorexia, though, there is typically over-control and perfectionism, based on a defensive response to perceived under-control in the person's life; eating restrictions and exercise give the person a sense of control.

In the **Reinforcement-Based Disorders** chapter of the book, ***Mental Illness Defined: Continuums, Regulation, And Defense*** *(Routledge, 2016)*, Dr. Brad Bowins puts forth a new model for understanding "addictive" behavior. Such behavior is variously described as addictions, compulsions, and impulsivity, but there is too much conceptual and practical overlap between these terms to clearly distinguish behaviors on this basis. For example, is excessive shopping an addiction, compulsion to perform the behavior, or impulsive upon seeing or thinking about stimuli associated with shopping? Furthermore, there exist common neurological mechanisms for substance and behavioral "addictions" suggesting a common

process—Reinforcement. Another issue is that the current system of identifying potential problem behaviors, researching them to determine if they best fit as an addiction, compulsion, or impulse control disorder, then determining criteria, takes decades and Internet and digital based behaviors can come and go in a much shorter time frame. It is proposed that the central feature—reinforcement—and associated processes be rated on continuums for any potentially problematic behavior. These ratings include:
Positive reinforcement: How directly rewarding a behavior is.
Negative reinforcement: The extent to which the behavior reduces aversive states.
Frequency of the behavior: More frequent typically representing a more severe problem.
Intensity: This includes tolerance, withdrawal effects, cravings, conscious focus and attention to the substance or behavior, resistance to alteration as evidenced by the extent of rationalizing cognitive distortions, and capacity to inhibit the behavior.
Cost/Benefits: When costs >> benefits, the behavior is more of an issue.
The model provides for the rapid assessment of any problematic behavior, and offers information relevant for treatment. For example, if the behavior greatly reduces adversity, then efforts are best directed to improving a person's circumstances so they are no longer so aversive. The model also reduces the number of "discrete" conditions listed under current diagnostic systems.

PERSONALITY DISORDERS

In, ***Personality Disorders: A Dimensional Defense Mechanism Approach*** *(American Journal of Psychotherapy, 2010, 64(2), 153-169)*, Dr. Brad Bowins proposes that personality disorders arise from severe and enduring expressions of defense processes. Current efforts to understand personality disorders rely on the trait approach successful with normal personality disorders, but these have faltered for abnormal personality, in part because extremes of normal personality dimensions do not yield personality disorders.
Largely unconscious defensive strategies, however, adaptive in a mild to moderate range, do yield the personality disorders clinical experience has revealed as valid when expressed in a severe and enduring fashion.
Avoidant Personality Disorder: Avoiding damaging and threatening agents is a natural defensive process, but when it extends to avoiding potentially rewarding experiences, as with this condition, it is maladaptive.
Dependent Personality Disorder: Humans are a social species and we rely on others for emotional and physical support, and to defensively cope with stress. However, when dependency becomes so extreme that the person cannot function independently it is maladaptive.
Narcissistic Personality Disorder: Narcissism is a normal defensive process, whereby weaknesses and insecurities are compensated for by strengths. For example, if a person is physically awkward but intelligent, he or she is likely to apply herself or himself to scholastic pursuits. When insecurities are profound, such as a core sense of worthlessness, extreme compensatory behavior including attitudes can occur, that annoy other people and compromise functioning.

Obsessive-Compulsive Personality Disorder: Obsessions generate anxiety, while compulsions help to contain it. Ritualized behavior, both individually, such as preparing for a sporting match, and societally, as with religious services, contain anxiety. Mildly compulsive behavior, such as cleaning, contains anxiety, and about 90% of the population demonstrates this type of behavior. More generalized anxieties can be funneled into obsessions, and then contained by compulsions. For example, anxiety about illness and death might be channeled into an obsession about germs, and contained by handwashing and cleaning. When this defensive process becomes severe and the obsessions and compulsions interfere with normal functioning it is maladaptive.

Antisocial Personality Disorder: Although certain researchers point to brain damage, it appears that this personality issue represents an advanced and evolved form of deceit. Most studies of antisocial individuals occur in prisons which likely over-represent violence and brain damage. Rarely are white collar criminals convicted and studied. Antisocial personality disorder appears to be an advanced capacity to deceive and manipulate, evolved from the defensive dissociation template as a more extensive variant. With this capacity, an antisocial individual is capable of monitoring potential victims' emotional reactions to adjust the deception, but is not disturbed by negative reactions, thereby increasing the chances of successful deceit. This perspective aligns with frequency dependent selection, in that when such individuals become too numerous they historically have been easier to detect, killed off, stabilizing their numbers at a low frequency.

Borderline Personality Disorder: When an individual is traumatized defense mechanisms are intensely applied to deal with the stress. If this occurs during childhood or the teenage years, immature defenses, such as splitting, acting out, idealization-devaluation, projective identification, are used to such an extent that they come to characterize personality. The regulation of defense mechanism also appears to "freeze" at the level of development when the trauma occurs. This conjecture aligns with how these individuals experience enormous social friction and psychological turmoil, largely due to their extensive use of immature defense mechanisms, and how long term psychotherapy has been shown to shift them from immature to mature defenses.

According to the model of personality disorder proposed, "normal" personality traits predispose a person to certain personality disorders. For example, a person high in conscientiousness is likely with sufficient stress from a young age to develop an obsessive-compulsive personality disorder. An individual who is low on openness to experience is more likely to develop avoidant personality disorder than a person high on this dimension of normal personality.

Practical therapeutic intervention strategies follow from this model of disordered personality. For example, with Avoidant Personality Disorder the landscape of perceived and real threats is distinguished, with real threats avoided while perceived ones that offer the potential for reward are approached. In the case of Narcissistic Personality Disorder, insecurities are addressed to help improve core confidence, while moderating the over-compensation.

REPETITIVE MALADAPTIVE BEHAVIOR (REPETITION COMPULSION)

In, ***Repetitive Maladaptive Behavior: Beyond Repetition Compulsion*** *(The American Journal of Psychoanalysis, 2010, 70(3), 1-17),* Dr. Brad Bowins addresses a common issue in psychotherapy, maladaptive behavior that repeats, referred to in the psychoanalytic literature as repetition compulsion. He divides such behavior into non-traumatic and traumatic. The former is postulated to arise from an evolutionary based process, whereby patterns of behavior demonstrated by caregivers are adopted (internalized), particularly if they fit with an individual's temperament (early personality). For instance, a pattern of approach is likely to fit with a temperament characterized by openness to experience, whereas an avoidant pattern is less likely to fit. The hypothesized mechanism facilitates the acquisition of patterns of behavior adaptive for the given environment a person grows up in. However, maladaptive patterns can be internalized as well. In our evolutionary hunting-gathering group context an individual was exposed to multiple groups members, an occurrence that would have increased the likelihood of adaptive patterns being acquired, and reduced the acquisition of maladaptive patterns. In our modern-day context of perhaps two or even one caregiver, there is an increased likelihood of maladaptive patterns being acquired. To unlearn a largely unconscious maladaptive pattern of behavior, adaptive patterns have to be over-learned through conscious repetition until they become automatic. For example, if a person has a pattern of avoidance, approach behavior must be consciously applied on every reasonable opportunity.

Traumatic patterns of behavior are hypothesized to result from a defensive dissociative process: The cognitive and emotional aspects of any experience are fused by a psychobiological program. In the case of traumatic experiences, these aspects have to achieve conscious awareness to motivate alterations in behavior ensuring that the threat does not occur again. However, when this fusion is too painful at a conscious level, the various cognitive and emotional aspects are dissociated, repeating endlessly as flashbacks, images, partial memories, thoughts, dreams, emotions, somatic sensations, and behavioral re-enactments. This aligns with how in Post-Traumatic Stress Disorder (PTSD) various aspects of the trauma seem disconnected. Other features of PTSD, such as hypervigilance and avoiding stimuli associated with the trauma, are logical from an evolutionary context: If a person survives the trauma then being highly vigilant for threats and avoiding anything that could repeat the experience is adaptive. With the various emotional and cognitive aspects of the traumatic experience persisting in an unfused state, these additional symptoms are more likely to persist.

In contrast to this dissociative defensive response accounting for repetitive maladaptive behavior of traumatic origins, the grieving process is a natural defensive process facilitating the fusion of elements arising from major losses. Since trauma always involves loss of some form, such as physical or mental integrity, grieving also extends to trauma. Activating the grieving process by identifying losses associated with the traumatic event, then provides a novel way of addressing the problem.

PSYCHOSIS

See, ***A Cognitive Regulatory Model of Schizophrenia*** *(Brain Research Bulletin, 2011, 85, 36-41),* and, ***Psychosis: A Synthesis of Motivational and Defect Perspectives*** *(The American Journal of Psychoanalysis, 2012, 72, 152-165),* under the REGULATION heading.

In, ***Delusions and Self-Esteem****, B. Bowins & G. Shugar (Canadian Journal of Psychiatry, 1998, 43, 154-158),* an empirical approach is applied to assess the relationship between the content of delusions and hallucinations, and self-esteem. The degree to which the content of delusions, but not hallucinations, is self-enhancing and self-comforting was found to be positively correlated to global self-esteem: Higher global self-esteem is associated with more self-enhancing and self-comforting content of delusions. This relationship did not hold for specific types of self-esteem, other than self-regard, which was actually measuring global self-esteem. Despite numerous suggestions that the content of psychosis is influenced by psychological variables, this is the first empirical study to demonstrate a linkage. Although correlational studies cannot indicate direction, it appears that self-esteem is more likely to influence the content of delusions, given that self-esteem only changes gradually, while the content of delusions shifts much faster.

DEPRESSION

See, ***Depression: Discrete or Continuous?*** *(Psychopathology, 2015, 48(2), 69-78),* under the CONTINUUM heading.

ANXIETY

See the **Anxiety** chapter of the book*,* ***Mental Illness Defined: Continuums, Regulation, And Defense*** *(Routledge, 2016),* under the CONTINUUM heading.

EATING DISORDERS

See the **Eating Disorders** chapter of the book, ***Mental Illness Defined: Continuums, Regulation, And Defense*** *(Routledge, 2016),* under the CONTINUUM section.

ADDICTIONS

See the **Reinforcement-Based Disorders** chapter of the book, ***Mental Illness Defined: Continuums, Regulation, And Defense*** *(Routledge, 2016)*, under the CONTINUUM section.

PSYCHOTHERAPY

See, ***Cognitive Regulatory Control Therapies*** *(American Journal of Psychotherapy, 2013, 67(3), 215-236),* under the REGULATION heading.

In, ***Augmenting Behavioural Activation Treatment with the Behavioural Activation and Inhibition Scales*** *(Behavioural and Cognitive Psychotherapy, 2012, 40, 233-237*), Dr. Brad Bowins shows how the Behavioral Approach/Activation System (BAS) and Behavioral Inhibition System (BIS) scales can be applied to enhance behavioral activation therapy, and also extend this form of therapy to the treatment of anxiety. The BAS and BIS scales provide a great deal of

information about various aspects of approach and inhibition behaviors, and this information can be utilized to guide more effective interventions. Case studies are presented to demonstrate how this approach works for both depression and anxiety. Behavioral activation therapy has been shown to be as, or even more, effective than antidepressants for severe depression, and more effective than cognitive therapy for intense depression. Prior to this paper behavioral activation therapy had not been extended to the treatment of anxiety. The BIS scale provides the information needed to manage the consequence of anxiety—inhibition.

In, ***Therapeutic Dissociation: Compartmentalization & Absorption*** *(Counselling Psychology Quarterly, 2012, 25(3), 307-31)*, Dr. Brad Bowins indicates how milder dissociation in the form of compartmentalization and absorption can be applied to treat anxiety, depression, and other adverse emotional states. Segmenting various aspects of experience in separate compartments, enhances functioning by containing sources of stress, thereby preventing them from negatively influencing other areas of functioning. Absorption in positive mental and physical foci detaches a person from negative emotional states, and counters negative cognitive-emotion cycles that amplify anxiety and depression. Meditation is demonstrated to work by absorption. Case examples are provided to illustrate how therapeutic compartmentalization and therapeutic absorption can be applied. The paper represents a significant departure from how dissociation is typically viewed as only a problem, and aligns with the continuous nature of dissociation with milder forms being highly adaptive.

CONSCIOUSNESS

In, ***Consciousness & Time: A Time-Based Model of the Evolution of Consciousness*** *(Journal of Behavioral and Brain Science, 2017, 7(1), 9-20)*, Dr. Brad Bowins presents a unique model of time, and how consciousness evolved on the basis of the present moment. It is proposed that the future represents potentialities, the present the actualization of certain potentialities, and the past a record of actualized potentialities (the quantum actualization record). Actualization of potentialities derives from micro quantum wave function collapses, with specific constellations corresponding to macro level form; wave function collapse cannot occur at a macro level, but numerous micro wave function collapses can, generating macro level form. The distinguishing feature of consciousness is awareness, given that attention also transpires with unconscious cognitive activity. Consciousness provides for an awareness of potentialities being actualized in the present, the time frame of consciousness closely aligning with the time frame of potentialities being actualized in the moment. Considering the ensuing motivation, enabling behavior to be altered in the moment to minimize the actualization of maladaptive potentialities, and maximize the actualization of adaptive potentialities, the evolution of conscious awareness is highly probable. The model also provides a logical proof for the occurrence of time distinctions: Natural selection is a real process being well validated scientifically. Consciousness has largely or fully evolved (natural selection) on the basis of time distinctions, providing awareness of potentialities being actualized in the present to optimize evolutionary fitness. Hence, time distinctions must be real, because if invalid they could not influence evolution.

In, ***The Rational Unconscious: Implications for Mental Illness & Psychotherapy*** *(American Journal Of Psychotherapy, 2018, 71, 28-38),* Dr. Brad Bowins posits that even though the unconscious mind is frequently viewed as only consisting of irrational processes, there are actually many rational aspects. Rational and reality congruent unconscious processes facilitating adaptive functioning, consist of, emotional and non-emotional information processing, action preparedness, psychological defense mechanisms, cognitive regulatory control processes, and human specific cognition (the intact aspect of negative symptoms). In total these processes make for a highly rational unconscious, providing further support for the prominence of the unconscious mind. Implications for mental illness and psychotherapy of each rational unconscious process are outlined. For example, with depression and anxiety action preparedness is slanted towards loss and threat respectively, and psychotherapy shifts this unconscious action preparedness in a positive direction away from loss and threat.

MOTION SICKNESS

In, ***Motion Sickness: A Negative Reinforcement Model*** *(Brain Research Bulletin, 2010, 81, 7-11)*, Dr. Brad Bowins proposes that motion sickness evolved to terminate aberrant motion, given how such motion increases the probability of injury and/or predation. The mechanism, as with pain, induces a highly aversive sensation, motivating the individual to cease the motion that causes it. Negative reinforcement occurs when a behavior eliminates or reduces an aversive experience, hence the model proposed is negative reinforcement based. Typically, it is sensory conflict or postural instability signaling aberrant motion. While it is feasible that motion sickness represents an "illness" due to the vestibular system being unable to process certain motion experiences, this perspective is countered by how motion sickness occurs throughout the animal kingdom, except in species that seem to have evolved aberrant motion to escape predators. Every human with a fully or partially intact vestibular system is vulnerable to it. In addition, the sensation is potently aversive, as with pain, strongly motivating a certain behavior, namely cessation of motion.

Alternative ultimate causation mechanisms proposed—the neurotoxin hypothesis and discouragement of motion programs leading to vestibular conflict—fail to explain why motion sickness is rare in infants and toddlers, an occurrence that should transpire based on these perspectives. The negative reinforcement model proposed accounts for this occurrence, given that it does not make sense for the mechanism to be active before the child has the capacity to control their motor actions enough to cease the offending motion. In addition, infants and toddlers had to be carried during evolution, a scenario that at times would have represented aberrant motion.

SEXUAL ORIENTATION

In the book, ***Outing the TRUTH about Sexual Orientation*** *(Science & Humanities Press, 2016)*, and the peer-reviewed papers, ***What Is Sexual Orientation All About? Explaining An Evolutionary Paradox*** *(International Journal Of Social Science Studies, 2015, 3(2), 79-94)* and, ***A Four-Component Model Of Sexual Orientation & Its Application To Psychotherapy*** *(American*

Journal Of Psychotherapy, 2016, 70(3), 251-277), Dr. Brad Bowins proposes a four-component model of sexual orientation. Currently, it is framed as discrete homosexual and heterosexual identities, an occurrence producing inner conflict when sexual fantasies and behaviors do not align with sexual orientation. This framing also fuels discrimination by generating in-group and out-group distinctions. Furthermore, bisexuality is difficult to process in a framework of discrete homosexual and heterosexual identities. The evolutionary paradox of how homosexuality blocking reproduction could ever evolve suggests that our understanding is not accurate, particularly given how existing theories cannot adequately explain this paradox, and suggest different mechanisms for male and female sexual orientation when a common mechanism is more parsimonious. The four components to the model consist of: Sexual orientation dimensions, activation and deactivation of these dimensions, erotic fantasy, and social construction.

Separate homoerotic and heteroerotic dimensions within each of us capture the diversity of sexual orientation, with "homosexuality" transpiring when homoerotic > heteroerotic motivation regardless of the degree, "heterosexuality" when heteroerotic > homoerotic motivation regardless of the degree, bisexuality, with approximately equal motivation regardless of the degree, and "asexuals," very low motivation for both. The homoerotic, as well as heteroerotic, dimension is derived from animal templates with numerous species ranging in cognitive capacity from insects through to primates demonstrating homoerotic behavior.

Activation and deactivation of sexual orientation dimensions, aligns with how sexual orientation behavior can vary with circumstances. Typically, the more dominant dimension will be active, but circumstances and inner stimuli can activate the less dominant dimension. This process can account for puzzling sexual orientation behavior, such as how same-sex settings typically result in more homoerotic behavior that returns to lower levels in other-sex settings, and the confusing impact of sexual abuse on sexual orientation behavior.

Erotic fantasy adds an entire level of sexuality, and serves as a dimension activator. For example, if a person fantasizes about a same-sex sexual encounter, then the homoerotic dimension is activated.

Social construction refers to how sexual orientation behavior is understood or "constructed" at a given time. Prior to industrialization, "homosexuality" and "heterosexuality," did not exist, with homoerotic and heteroerotic behavior being understood in various alternative ways. We have socially constructed identities that serve as a deactivating influence when thoughts or behavior consistent with the less dominant dimension are considered.

The evolutionary paradox is eliminated by the four-component model, because given how homoerotic and heteroerotic behaviors are on separate dimensions, they do not interfere with one another; we can engage in both consistent with our motivation level. It is only when sexual orientation is framed as an identity that the paradox arises, because identification with one, blocks activation of the other dimension.

SOCIAL & ENVIRONMENTAL JUSTICE

Dr. Brad Bowins is concerned about the environment and the damage that human activity is inflicting. For approximately 5 years (2002-2007), he conducted volunteer work for the Ontario chapter of the Sierra Club of Canada, acting at various times in the roles of Chapter Chair, Vice-

Chair, Director of the Forest & Wildlife committee, and Conservation Chair. From this experience, he came to appreciate how environmental and social justice issues are very interconnected.

In, ***At The Tipping Point: How To Save Us From Self-Destruction*** *(Infinity Press, 2014)*, he shows how collectively we are engaging in self-destructive behavior. Greed, irregular regulation, out of control development, global warming, biased research, and the obesity epidemic, are focused on. It is also shown how our defense mechanisms often hinder us from appreciating what is really occurring, and hence can limit us from taking steps to correct these problems. He draws attention to the shadow economy and how it plays a key role in social and environmental injustice. In the Global Warming chapter, he concludes that the best way to address this major issue is by converting our major annual crops to perennials, given how this strategy can ramp up the fast soil carbon sink, save dwindling fresh water, and reduce our reliance on toxic herbicides, pesticides, and fungicides. In the Research Bias chapter, he calls for independent and objective testing of pharmaceutical, biotechnology, and chemical products, due to the extensive bias characterizing research.

MEN'S HEALTH

Acquiring a general medical license following medical internship, Dr. Brad Bowins practiced general medicine part-time while in training to be a psychiatrist, and for a few years after becoming a psychiatrist. He encountered a pain condition that he felt needed to be presented in a book format.

In, *Vasectomy:* ***The Cruelest Cut Of All, The Modern Medical Nightmare Of Post-Vasectomy Pain Syndrome*** *(Infinity Press, 2006),* he debunks the "safe and simple procedure" myth and calls for an end to vasectomy. A life-long pain condition, known as Post-Vasectomy Pain Syndrome (PVPS), can be caused by the procedure. Months or years after being vasectomized, close to 15% of men will experience pain in one or both testicles, with the pain being severe in approximately 5%. Frequently, the pain is worsened by sex and other physical activities, motivating the sufferer to avoid pleasurable pursuits. Too embarrassed to speak up about the problem, many men suffer in silence, and if they do raise the issue with a physician the problem is often misdiagnosed, particularly when years have passed since the vasectomy. In third world countries where vasectomy is intensely promoted as a "safe and simple procedure," effective treatment is essentially non-existent. Treatment for PVPS often involves sophisticated microsurgery that is very expensive, not covered by most health insurance plans, and not widely available. For those lucky enough to access treatment there is often no resolution of the pain, as it can recur on the treated side and arise in the second seemingly unaffected testicle. While other suspected problems associated with vasectomy, such as heart attacks and prostate cancer, appear to lack validity, PVPS is a real entity that can be avoided by not having a vasectomy. Hence Dr. Bowins calls for an end to vasectomy.

SPIRITUALITY

In, ***The Informative God*** *(Game Changer Publications, 2018)* Dr. Brad Bowins extends his model of time (*Consciousness & Time: A Time-Based Model of the Evolution of Consciousness*, Journal of Behavioral and Brain Science, 2017, 7(1), 9-20), to provide an answer for what might transpire in terms of an afterlife. The book presents material pertaining to major world religions, past and present, and quantum physics, in a lighter fiction and travelogue format. The basic notion of the book is that actualized occurrences are recorded forever in a record, referred to as the quantum actualization record. This concept is similar to the Akashic record concept of a permanent recording of events. Given the quantum physics basis of the proposed quantum actualization record, the minutest of details are preserved, raising the possibility that this record is active ongoing, meaning that we might relive our life endlessly—Immortality. The quantum actualization record is also of immense value due to how all information is contained within it. For instance, by accessing this information we can learn about and potentially even communicate with other intelligent life forms. The Informative God is groundbreaking in terms of first, providing a method of merging science and religion/spirituality, and second the unique model of the universe it generates.

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