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A Simple Algorithm for Medication of Patients with Complex Trauma-Related Disorder

Andreas Laddis, MD

International Society for the Study of Trauma and Dissociation
TRAUMA AND DISSOCIATION. IT HEALS HERE.

Frontiers in the Psychotherapy of Trauma & Dissociation
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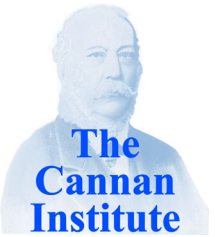

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TRAUMA AND DISSOCIATION. IT HEALS HERE.

ARTICLE

A SIMPLE ALGORITHM FOR MEDICATION OF PATIENTS WITH COMPLEX TRAUMA-RELATED DISORDER

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The benefit of various psychiatric drugs for mitigation of irrational fear, anger, anxiety and impulsivity during episodes of complex trauma-related disorder is well documented. Those episodes consist of frantically making unreasonable demands, alternating with just as frantic acts of repentance and ingratiation during a crisis of trust in a current relationship. They also include flashbacks that rehearse a similar scenario retrospectively, for past experiences of traumatic betrayal. In mitigating such emotions, medication expedites psychotherapy. It restores patients' ability to discern good will and expertise in others' offer to jointly reappraise a patient's reasons to cope with danger of betrayal in that manner. Psychodynamic therapists then help patients retrieve and reappraise reasons that often are latent to patients themselves. This paper notes the similarity of episodic disorder, as well as the similarity of pharmacotherapy's outcomes among patients diagnosed variously with Complex Posttraumatic Stress Disorder, Borderline Personality Disorder or Dissociative Identity Disorder. The author proposes that these three disorders are causally related, all variants of "complex trauma-related disorder." Therefore, it is reasonable to cite findings from the treatment of patients with all three disorders interchangeably. In summary, it is intriguing that various psychiatric drugs, i.e., antianxiety drugs, antidepressants, antipsychotics and mood stabilizers, all selectively mitigate irrational anxiety, fear, anger and impulsivity, regardless of the family name that

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they earned in the treatment of other disorders. In contrast, for patients with complex trauma-related disorder, the evidence for benefit strictly according to a drug's family name (except for antianxiety drugs) has been inconsistent beyond comprehension. This paper presents an algorithm that simplifies reasoning about the order in which we test drugs by relinquishing expectations for an effect by a drug's family name, e.g., "antidepressant," in addition to mitigating irrational anxiety, fear, anger and impulsivity, which all four families do, more or less. This algorithm simply chooses depending on a drug's potency, speed and duration of action, and desired or undesirable side-effects. In addition to the algorithm, this paper clarifies the logic of comparing symptom changes with and without a certain medication, in order to continue it, change the dosage or replace it. To attribute symptom changes to medication changes, we must control for symptom changes in the disorder's natural course. Symptoms wax and wane with bad and good turns in patients' judgment of others' trustworthiness, which often greatly mask the true effect of medication changes.

KEYWORDS adjunct to psychotherapy, symptom relief, reparative treatment, efficacy, algorithm

A. INTRODUCTION. THE EVIDENCE

This paper is addressed to psychiatric prescribers as well as to psychotherapists in non-medical disciplines. Its single purpose is to simplify the reasoning for the order in which clinicians test a particular drug in the treatment of patients with complex trauma-related disorders, and then decide when to continue it, change the dosage or replace it, collaboratively between prescribers and non-medical psychotherapists. This paper's reasoning should be easy for psychotherapists to understand because it derives from (a) the evidence of various drugs' efficacy measured by behavioral outcomes, and (b) only generic knowledge of each drug's pharmacological properties, like speed and duration of action and likelihood of grave side-effects. It omits subtler prescribing considerations, e.g., dosage range, adjustments for age, drug-drug interactions, or lesser side-effects. Prescribers hopefully will share such information with patients and psychotherapists, as it may become relevant for adjustments to the algorithm in the particular case.

For interested readers, four Appendices provide more detail about the theory and empirical research that supports certain unconventional concepts.

Variants of Complex Posttraumatic Disorder

This paper is about the benefit of medication for patients with "complex trauma-related disorder." In this term I subsume the diagnoses of Complex Posttraumatic Stress Disorder (cPTSD), Borderline Personality Disorder (BPD) and Dissociative Identity Disorder (DID). Elsewhere (Laddis, 2018), I explain why I consider those entities to be causally related, all due to a characteristic psychological fixation and immaturity in the aftermath of entrapment in mistrusted caretaking relationships (see Appendix A).

Without reference to such etiological affinity among the three diagnoses, early treatment guidelines and reviews of pharmacotherapy's efficacy for cPTSD and DID nonetheless often extrapolated from findings of efficacy for BPD. Those guidelines and reviews found empirical studies for medication of patients specifically with cPTSD and DID to be few and often with many methodological limitations (Chu, 2011; Friedman, Davidson, & Stein, 2009; International Society for the Study of Trauma and Dissociation [ISSTD], 2011; Opler, Grennan, & Ford, 2009). For that reason, they drew generalizations from studies, reviews and guidelines for the treatment of (a) patients with simple Posttraumatic Stress Disorder (PTSD) (American Psychiatric Association, 2010; Institute of Medicine, 2008; Ipser, Seedat, & Stein, 2006; Keane, Marx, & Sloan, 2009; National Institute for Health and Clinical Excellence, 2005; Raskind, 2009), and (b) patients with BPD (American Psychiatric Association, 2001; Schatzberg, Cole, & DeBattista, 2010; Soloff, 2005; Tyrer, P., & Bateman, 2004; Zanarini, 2004). Those early guidelines and reviews cited ample empirical evidence that the benefit of medication as an adjunct to psychotherapy was similar among patients with any variant of trauma-related disorder (Laddis, 2011b). Treatment guidelines for the treatment of PTSD published subsequently further support those earlier generalizations (American Psychological Association, 2017; Foa, Keane, Friedman, & Cohen, 2009a; Phoenix Australia, 2013; Veterans Administration, 2017). Recent reviews of pharmacotherapy practices for BPD also support them (Bridler et al., 2015; Hancock-Johnson, Griffiths, & Picchioni, 2017; Patton, Crawford, Bhatti, Patel, & Barnes, 2015). In that earlier article (Laddis, 2011), I explained why it is reasonable to extrapolate from research on pharmacotherapy's benefit for patients with PTSD and BPD to cPTSD and DID. I will restate my reasoning briefly in Appendix A.

Various Psychiatric Drugs Have a Similar Behavioral Effect

In the same article mentioned in the previous section (Laddis, 2011), I abandoned expectations for an effect according to a drug's family name as antianxiety, antidepressant, antipsychotics or mood stabilizer. Raskind (2009) had summarized the evidence that drugs from all those families mitigate the same cluster of irrational emotions, fear, anger and anxiety. Others had concluded that antipsychotics and mood stabilizers are very

effective for the psychosis of schizophrenia and the mood swings of bipolar disorder respectively, but much less so for similar symptoms in complex trauma-related disorder (American Psychiatric Association, 2001; Grossman, 2002; ISSTD, 2011; Loewenstein, 2005; Mercer, 2007; Opler et al., 2009; Raskind, 2009; Tyrer & Bateman, 2004; Zanarini, 2004). Reviews and practice guidelines published subsequently gave me no reason to doubt the merit of that simplification (American Psychological Association, 2017; Bridler et al., 2015; Foa et al., 2009a; Hancock-Johnson, et al., 2017; Patton et al., 2015; Phoenix Australia, 2013; Veterans Administration, 2017).

Oldham et al. (2005) provide evidence that my psychiatric colleagues similarly abandon expectations for symptom reduction according to a drug's family name, even counter to our psychiatric association's practice guidelines (American Psychiatric Association, 2001). They probably do so intuitively, from clinical experience alone, without the sources of theoretical and empirical support for that judgment, which I cite here. See Appendix B for details of that survey by Oldham et al.

A Summary of the Evidence. A Psychodynamic Explanation

What follows is, in my view, a reasonable summary of the evidence that various psychiatric drugs are similarly likely to improve one kind of symptom instead of another (Laddis, 2011).

- Perhaps with the exception of mood stabilizers, drugs from various families reliably mitigate aggression and impulsivity, some of them more and some less.
- Less reliably, various drugs mitigate fear, anxiety, mood lability, depression and hypervigilance.
- The evidence of efficacy is inconclusive at best for reduction of psychotic symptoms.
- There is barely evidence that any psychiatric drugs improve moods of resignation and helplessness in the intervals between crises.
- Some studies also found modest improvement in global social functioning; however, they did not make the distinction between functioning in casual or close, intimate relationships.

This summary is corroborated by Raskind's (2009) similar insight from outcome studies with pharmacotherapy of PTSD. He indicates that his reasoning applies similarly to the evidence from the treatment of patients with complex posttraumatic disorder, to which he refers as "chronic PTSD." Raskind (2009) understood that many psychiatric drugs, with various pharmacological properties, all selectively reduce "hyperarousal, anxiety, startle

. . . and other 'fight or flight' responses" (p. 339). That insight intrigued him because "readiness to flee or fight," seemingly the function of a noradrenergic brain mechanism, is moderated by drugs with little or no antiadrenergic action. In Appendix C, I describe the course taken by Raskind and by others with subtler knowledge of neurobiology (Berridge, 2009; Liberzon & Garfinkel, 2009; Rainnie & Ressler, 2009) searching for the "physiopathology" of PTSD-like behavior. In the end, their very findings led some (Liberzon & Garfinkel, 2009) to understand that the explanation for PTSD-like behavior lies in dysfunction of psychological mechanisms, not neurobiological ones (see Appendix C).

Elsewhere (Laddis, 2015, 2018), I propose such a psychological explanation. According to that explanation, the psychological impairment of persons with complex trauma-related disorder is a flawed working model for testing the trustworthiness of others' reasons to be failing promises they made and expectations they fostered (Laddis, 2018). The sufferers' behavior conspicuously manifests their compulsion to discern the intentions of a greatly needed, as well as a greatly feared, partner despite repeatedly failing it. This flawed working model is legacy of childhood relationships with manipulative caretakers who kept the child powerless to test their own trustworthiness. Sufferers frantically make unreasonable demands, alternating with just as frantic acts of repentance and ingratiation. At intervals, they suffer flashbacks. With the same urgency and single-mindedness, they rehearse a similar scenario retrospectively, i.e., for past danger of traumatic betrayal, which they had then failed to flee or fight. Appendix D describes normal coping with danger of life-crippling betrayal and then explains how our patients' disorder-specific psychological impairment causes them to fail.

One particular attribute of this typical presentation suggests which biological mechanism medication modulates. Clinicians become familiar with this attribute during crises of trust in the therapeutic relationship itself. Our patients then endlessly misconstrue a tone of voice and certain gestures or words as cues of the therapist's selfishness, punitiveness and deception. They seem blind to concurrent cues of goodwill and expertise on the patient's behalf. That bias of attention is tenacious, though effortless. It manifests the normal biological mechanism of "goal shielding," whereby the chemistry of commitment to a goal "primes" attention for what pertains to that goal's conclusion, which in this instance is to prove the therapist's benevolent reasons and intentions false (Moskowitz, 2009). Adding urgency and special value to that goal greatly amplifies priming and attention bias. Clinicians know how difficult it is then to "ground" patients, i.e., to draw their attention to would-be competing needs and wants, which ordinarily patients themselves would find useful. It is quite obvious that various drugs moderate that extreme bias of attention, more or less. In Appendix C, I propose a rudimentary explanation for how drugs with disparate properties and biological effects have the same effect on the overall brain's function.

B. SYMPTOM RELIEF EXPEDITES PSYCHOTHERAPY

We may use medication for patients with complex trauma-related disorder merely for mitigation of irrational, unstoppable emotions, as medication is proven to do, thus making symptom relief the end of treatment in itself. However, many clinicians, psychiatrists as well as psychotherapists from other disciplines, have faith in pharmacotherapy's reparative or remedial power for complex trauma-related disorder. Two practice guidelines (American Psychiatric Association, 2010; Foa et al., 2009a), which do not discriminate between simple PTSD and cPTSD, cultivate faith in discovering drugs that will "promote recovery from presumed neurobiological alterations" (American Psychiatric Association, 2010, p. 26). They lament that, "despite [hopeful] scientific findings [pertinent to other disorders], pharmacotherapy for PTSD has primarily been guided by empirical evidence that a specific drug has efficacy against a specific symptom" (Foa et al., 2009a, p. 563).

In the immediately preceding section, I stated my psychodynamic explanation for the relentlessness of behavior that is typical for complex trauma-related disorder. Many others have used similar reasoning to argue against pursuing cure with medication. Soloff (1997) argues eloquently why the benefit of medication for patients with BPD is by means of facilitating social-psychological maturation, notwithstanding the possibility of "acquired neurophysiologic defects." The American Psychiatric Association (2001) guidelines for the treatment of BPD states that drugs are useful for treatment of "acute symptomatic expression" of "chronic vulnerability" from certain temperamental traits, like impulsivity, but they "do not cure character" (p. 24).

From discussions with colleagues, I think that illusory faith in the reparative potential of medication is born of two kinds of reasoning:

1. Two families of psychiatric drugs have been shown to end psychotic symptoms for patients with schizophrenia (antipsychotics) and mood swings for bipolar disorder (antipsychotics and mood stabilizers), presumably by remedying physiological mechanisms that are specific for these symptoms. To obtain that effect, especially in patients treated belatedly, it takes testing several drugs, in large doses and combinations, even waiting for a novel drug in the market. That presumption, however, is questionable because antipsychotics do not reduce psychotic symptoms, nor do mood stabilizers stabilize moods nearly as reliably in other disorders, e.g., in dementia, PTSD or cPTSD (American Psychiatric Association, 2001, 2010; ISSTD, 2011). For some, occasional modest benefit corroborates that presumption and false hope of getting remediation with a similar chase for patients with complex trauma-related disorder.

Similarly, antidepressants lessen depression in complex trauma-related disorder modestly and unreliably. It seems that they do so mainly indirectly, by empowering patients to recover their social roles with reduction of fear, anger and anxiety (Keating, Tasca, & Bissada, 2015). My clinical experience fully concurs with that judgment.

2. Another kind of reasoning that fosters faith in chasing reparative medication for complex trauma-related disorder is created by misattributing quick and sizable improvement of symptoms to a new or newly increased medication, in disregard of other variables like the placebo effect. Yet a better explanation is that quick and large improvement coincides also with a hopeful turn in a valued troubled relationship, of which clinicians are unaware. I had the means to document that coincidence while studying many patients' course over many years at a community mental health center.

The consequence of false faith in reparative medication for complex trauma-related disorder is ever chasing the vision of reparation in the "right" mega-dose or mega-combination of drugs and, sooner or later, looking out for the "true" next drug on the market, like a mirage.

Separating the Effect of Medication Changes From That of Coincidental Social Developments

Medication is most indicated during repetition compulsion in the phase of engagement. Then, prescribing boldly often provides fast relief. But we should remember that triggers of disorder, mostly a crisis of trust in a current valued relationship, pause and resurge in their natural course, i.e., with little or no treatment of any kind, and symptoms wane and wax accordingly. Similarly, in the phase of disengagement, moods shift because of developments in the natural course of the person's social experiences. The effect of these various responses to social developments is often more potent than that of coincidental medication changes and, importantly, often outside the clinicians' awareness. I became aware of such coincidences while working in community mental health centers, from reports of clinicians in day treatment and group homes, who had round-the-clock knowledge of patients' life events outside treatment. That information was crucial for appraisal of a medication's efficacy, especially for slow-acting and modestly or unreliably effective drugs, like antidepressants, mood stabilizers and antipsychotics. Correct appraisal of efficacy, in turn, is necessary for judgments of taking reasonable risks with drugs that are potentially more toxic. I will describe two scenarios of how coincidences gone unnoticed create illusions of a drug's efficacy.

1. *"The medication worked for a while, but then it stopped working."* The initial effect of medication, if any, coincided, more or less, with a good turn in the natural course of the disorder, which, in turn, was due to a hopeful turn in social developments. Later, symptoms that surge with the next, also latent, social crisis rendered that drug's true effect, if any, unimportant. Because of disregard for the effect of social developments, this sequence of observations creates the illusion of an initial large effect, which the drug somehow later lost.[1]

2. *"The patient was doing well while taking his medication, but then he stopped and he got worse."* At first, patients do well, with little or no episodic disorder, which is typical in the phase of disengagement, whether with the help of a true medication effect or without. Then patients begin getting worse before they may consequently end the medication. They stop taking it because they feel no symptom relief, or, if they do, it does not amount to making their life better, which is typical of somehow failing to concurrently make good use of psychotherapy. Here again, because of disregard for the effect of social developments, this sequence of observations creates the illusion of an initial good effect, which the patients somehow decided to throw away.

In both scenarios, the causal relation between social developments and relapse remains obscure for both clinicians and patients. Those who have faith in medication's reparative potential are more likely to take note of illusory correlations between medication changes and symptom changes selectively, i.e., of correlations that affirm their faith. Such illusions subsequently foster the mirage of eventually obtaining radical and lasting control of complex trauma-related disorder symptoms with medication alone.

Acute Emotion Dysregulation and Chronic Mood Disorder

Though not reparative, medication expedites psychotherapy. It facilitates exposure to events that resemble past entrapment in grave danger. It moderates the force and tenacity of unstoppable fear, anger and anxiety for the purpose of learning how to ascertain that resemblance as true or false and then, if true, learn to master such danger. Only successful learning experiences, usually with psychotherapy, gradually remove the reasons for emotions of that intensity and tenacity during episodes of acute disorder.

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[1] Worse yet, sometimes bingeing on thrill-seeking behavior (another behavioral development in the phase of disengagement), is interpreted as a swing to mania due to an antidepressant. It is usually easy to rule out mania with a few questions about reasons to disregard the consequences of such behavior. Patients with complex trauma-related disorder seek thrill with recklessness, with deliberate disregard for consequences in the future. During mania, on the other hand, patients anticipate managing the consequences with all kinds of grandiose beliefs about their social importance and special assets.

Learning to ascertain and master danger of betrayal should furthermore avert the development of patients' chronic personality attributes of cynicism about others' benevolence and self-derogation about themselves deserving benevolence. Patients suffer haunting negative moods, such as apprehension and anxiety, while they resist temptation for a long-term commitment, but they mostly suffer hopelessness, resentment and depression. These moods resemble the emotions during acute disorder, but they arise differently, from reasoning about possibilities for fulfillment in the long term (Luborsky, Popp, Luborsky, & Mark, 1994; Moran, 2006; Opler et al., 2009). Patients make a way of life based on that reasoning, and they pursue social opportunities in that light (Figure 1).

Psychotherapy has no quick way of modifying that faulty reasoning. Unlike during acute disorder, quick, good and bad turns in a current event, including psychotherapy, do not vary those judgments. That is why medication that modulates irrational emotions during acute disorder does so less and unreliably for these moods. The evidence comes from studies that recruited patients without discrimination between simple and complex PTSD presentation. Still, some reviewers identify "chronicity" (Foa, Keane, Friedman, & Cohen, 2009b) and certain "treatment refractory" PTSD populations (Friedman, et al., 2009) as a greater challenge for pharmacotherapy, "more difficult to treat" (Foa et al., 2009b, p. 6). Soloff, a leader in the work group for the American Psychiatric Association guidelines for treatment of patients with BPD, believes that the effect of medication is "modest" and that "residual symptoms are the rule" (Soloff, 2005, p. 69). Reviewers who are more keen on making that discrimination note that certain drugs "may be useful in reducing the PTSD component [triad], even if they have limited or unknown effectiveness with the complex PTSD/DES [Disorders of Extreme Stress] symptoms" (Opler et al., 2009, p. 335).

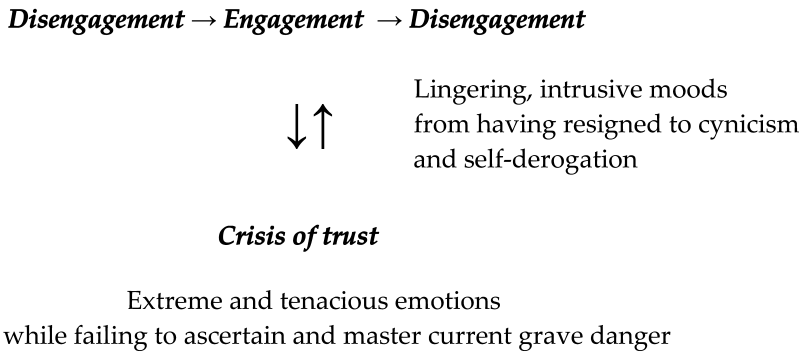

FIGURE 1 Emotions and moods in different phases of complex trauma-related disorder.

C. REASONING ABOUT CHOOSING A DRUG. AN ALGORITHM

A medication algorithm displays the stepwise logic for choices of drugs to use (Figure 2). For the algorithm that follows, I adopt Raskind's insight (2009), as clinicians did intuitively in the Oldham et al. study (2005). I disregard the classification of drugs in families named after their seemingly reparative action in other disorders. I target, instead, fear, anger, anxiety and impulsivity with drugs chosen for potency, speed and duration of action, and desired or undesirable side-effects. My preferences change with variation of symptoms in phases of the disorder. For example, in crises I give priority to mitigation of aggression and impulsivity, followed by reduction of anxiety in order to make sense of events, which then ends aggression and

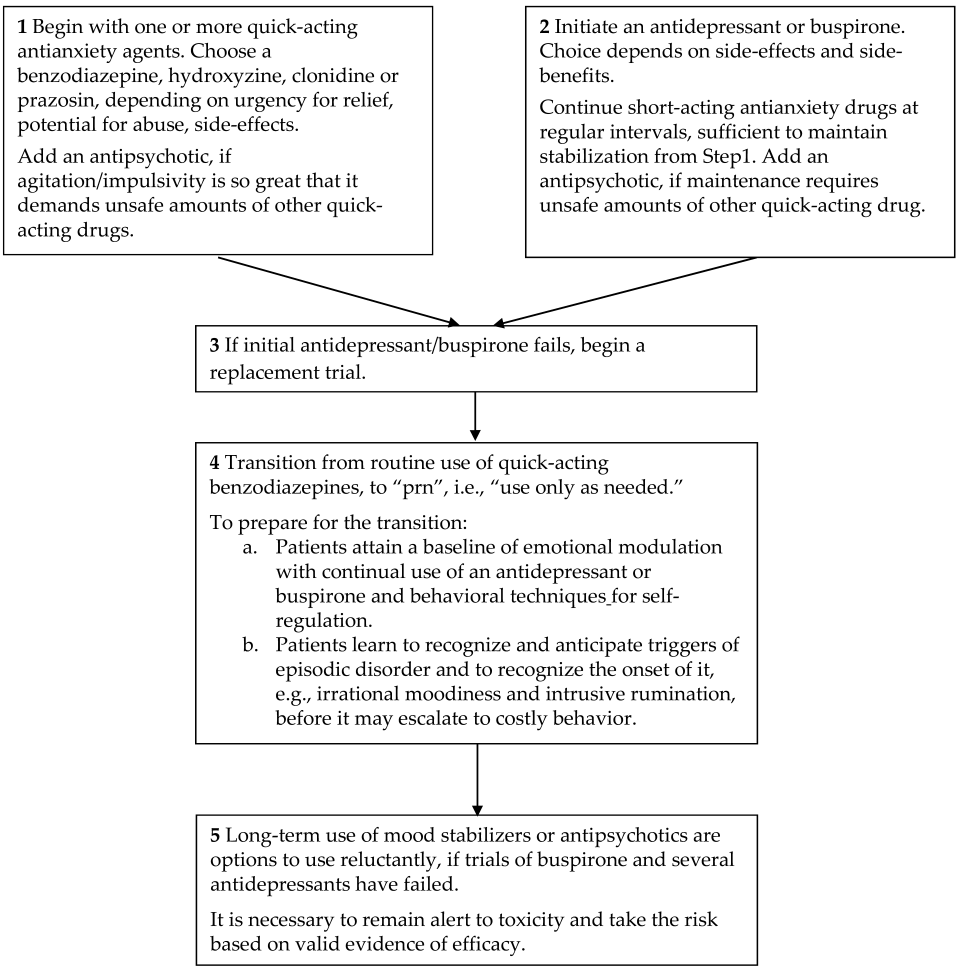

FIGURE 2 An algorithm for medication of complex posttraumatic disorders.

impulsivity. I have found out that depression often remits if patients recover some social fulfillment with medication for anxiety. Antidepressants mitigate anxiety, too, however, as modestly and unreliably as they mitigate depression, whereas short-acting benzodiazepines act quickly, potently and reliably. I count on the twin action of antidepressants mainly in the intervals between crises.

I give special attention to making the use of benzodiazepines contingent on good use of psychotherapy, which, in my experience, reliably averts the risk of habituation and addiction, a common concern in other algorithms. It is always necessary to improve patients' sleep because insomnia compounds vulnerability to anxiety by reducing the person's cognitive capacity. Sedation is a desired side effect of drugs that mitigate fear, anger and anxiety, if the sedation does not extend to waking hours.

Step 1.

During behavioral crises, short-acting benzodiazepines like lorazepam, clonazepam and alprazolam act in a fraction of an hour. Among them, one or another acts potently, quickly and with a few, infrequent side-effects, like drowsiness, weakness of attention and immediate recall. They provide much relief from anxiety, as well as from fear, anger and impulsivity, for a few hours at a time. They contribute to bedtime sedation, more or less, if desired. Habituation and addiction with short-acting benzodiazepines is usually easy to avoid, if they are prescribed on a "take only as needed" basis (Schatzberg et al., 2010). Hydroxyzine or over-the-counter Benadryl (diphenhydramine) sometimes reduce anxiety enough to replace a benzodiazepine now and then, if medication is necessary several times a day and for weeks. Prazosin and clonidine also reduce anxiety, modestly but quickly, and may supplement the use of benzodiazepines. They are alpha-1-blockers, used primarily for reduction of blood pressure; therefore, it is necessary to limit the frequency and total daily dosage. First or second generation antipsychotics are modestly effective for anxiety and impulsivity, several of them with sedation added. They act quickly if given by injection. They may be given safely when extreme agitation requires unsafe amounts of benzodiazepines. The short-term side-effects of antipsychotics are treatable and tolerable.

Step 2.

While unstoppable and intense fear, anger and anxiety are contained with various quick-acting drugs, introduce an antidepressant or buspirone. All antidepressants take weeks to show results with depression and/or anxiety, if at all. Their different chemical classes (e.g., tricyclics, SSRIs, SNRIs, etc.) show statistically similar efficacy, but we cannot know the likelihood of success for a particular individual. Each class has different side effects

and side benefits (e.g., sedation, reduction of neuropathic pain, smoking cessation). It makes sense to begin with an antidepressant proven useful in the patient's blood relative. Buspirone, an antianxiety drug, has similarly shown efficacy slowly (in 10–14 days) and inconsistently. Antidepressants and buspirone (as well as hydroxyzine, prazosin and clonidine) often lessen the frequency of long-term use of benzodiazepines and the risk of habituation and addiction to them.

Step 3.

If the initial antidepressant or buspirone fails, there is little reason to end testing the next one until you may find one that has a measurable effect, without important side effects. Below I offer some principles about how to measure efficacy.

Step 4.

Sooner or later, it will become necessary to transition from routine use of quick-acting benzodiazepines, to "prn" use, i.e., "take only as needed," in order to avert habituation and save the benzodiazepine effect for when it matters most. Having attained a baseline of emotional modulation with continual use of an antidepressant or buspirone and behavioral techniques for self-regulation does not end the need for additional, fast-acting and reliable medication when episodic complex trauma-related disorder emerges. Having attained that baseline, however, makes the transition to prn use of benzodiazepines easier. Other preparation for the transition entails learning to recognize and anticipate triggers of episodic disorder and to recognize the onset of it, e.g., irrational moodiness and intrusive rumination, before it may escalate to costly behavior.

Step 5.

If buspirone and several antidepressant trials fail, it is reasonable to test long-term use of a mood stabilizer or antipsychotic. There is no evidence that mood stabilizers reduce the frequency or intensity of fear, anger, anxiety or depression in complex trauma-related disorder. At best, there is inconsistent evidence that a couple of them reduce impulsivity; they somehow make it easier for patients to suspend enactment of such emotions. Incidence of toxicity with mood stabilizers is relatively low, but it could become grave. Antipsychotics, on the other hand, mitigate irrational emotions, especially anxiety and anger, reliably, albeit modestly. There is higher risk of two kinds of cumulative toxicity from antipsychotics. One kind, tics and involuntary movements, may become disabling. The other kind, derangements of metabolism, often shortens life expectancy.

While staying alert to toxicity from mood stabilizers and antipsychotics, it is necessary to document their efficacy in order to justify the risks. It is necessary to avoid certain illusions of efficacy that clinicians often suffer by overlooking factors in the episodic disorder's natural course, which vary the disorder's frequency, intensity and duration. The clinicians' illusion consists of misattributing variations in the disorder's natural course to medication changes.

D. CONCLUSION

The algorithm proposed in this article represents my logic in prescribing for patients with complex trauma-related disorder who often are also in psychotherapy with me. I have derived my reasoning from clinical experience, but I have also supported it with references to theories and empirical findings about various drugs' efficacy in complex trauma-related disorder.

The algorithm's logic should be easy to understand for psychotherapists of all disciplines because it pertains only to how various drugs moderate differently the same cluster of danger-related emotions, i.e., fear, anger and anxiety. The discrimination to make among drugs is only about potency, speed and duration of action and side-effects. Antianxiety drugs, particularly short-acting benzodiazepines, are most reliably potent. Step 4 describes how to confidently avoid the risk of habituation and addiction. I assert that there is no medication specific for improvement of irrational depression and alternating moods or psychosis of complex trauma-related disorder, as the classification of drugs in antidepressants, mood stabilizers and antipsychotics implies. Still, antianxiety drugs, as well as the other three families, reduce those three symptoms indirectly, inasmuch as they may mitigate fear, anger and anxiety. They do so by improving patients' ability to become thoughtful and collaborative, amenable to others' direction and reasoning.

A drug's benefit during acute disorder is less evident for lingering moods in the intervals because those moods derive from judgments of hopelessness and helplessness into the future, which are very slow to modify with psychotherapy. In both phases, only novel learning experiences, usually with psychotherapy, may eventually remove the reasons that underlie emotions of irrational intensity or tenacity.

REFERENCES

Aikins, J. W., Howes, C., & Hamilton, C. (2009). Attachment stability and the emergence of unresolved representations during adolescence. *Attachment & Human Development*, *11*(5), 491–512. http://doi.org/10.1080/14616730903017019.

American Psychiatric Association. (2001). Practice guideline for the treatment of patients with borderline personality disorder. *American Journal of Psychiatry*, *158*(Suppl. 10), 1–52.

American Psychiatric Association (2010). Practice guideline and resources for treatment of patients with acute stress disorder and posttraumatic stress disorder. Retrieved from https://psychiatryonline.org/pb/assets/raw/sitewide/practice_guidelines/guidelines/acutestressdisorderptsd.pdf.

American Psychological Association (2017). Clinical practice guideline for the treatment of posttraumatic stress disorder (PTSD). Retrieved from http://www.apa.org/about/offices/directorates/guidelines/ptsd.pdf.

Berridge, C. W. (2009) The Locus Coeruleus-Noradrenergic System and Stress: Implications for traumatic stress disorder. In P. J. Shiromani, T. M. Keane, & J. E. LeDoux (Eds.), *Post-traumatic stress disorder: Basic science and clinical practice* (pp. 213–230). New York, NY: Humana.

Brewin, C. R., Gregory, J. D., Lipton, M., & Burgess, N. (2010).Intrusive images in psychological disorders: Characteristics, neural mechanisms, and treatment implications. *Psychological Review*, *117*(1), 210–232. http://doi.org/10.1037/a0018113.

Bridler, R., Häberle, A., Müller, S. T., Cattapan, K., Grohmann, R., Toto, S., . . . Greil, W. (2015). Psychopharmacological treatment of 2195 in-patients with borderline personality disorder: A comparison with other psychiatric disorders. *European Neuropsychopharmacology*, *25*(6), 763–772. doi:10.1016/j.euroneuro.2015.03.017

Briere, J., & Rickards, S. (2007). Self-awareness, affect regulation, and relatedness: Differential sequels of childhood versus adult victimization experiences. *Journal of Nervous and Mental Disease*, *195*(6), 497–503.

Chu, J. A. (2011). Pharmacology for trauma-related disorders. In J. A. Chu, *Rebuilding shattered lives: Treating complex PTSD and dissociative disorders* (2nd ed.) (pp. 246–254). New York, NY: Wiley.

Clark, M. S., & Aragón, O. R. (2013). Communal (and other) relationships: History, theory development, recent findings, and future directions. In J. Simpson & L. Campbell (Eds.), *The Oxford handbook of close relationship* (pp. 255–280). New York, NY: Oxford University Press.

Cloitre, M., Cohen, L. R., & Scarvalone, P. (2002). Understanding revictimization among childhood sexual abuse survivors: An interpersonal schema approach. *Journal of Cognitive Psychotherapy*, *16*(1), 91–111. http://doi.org/10.1891/jcop.16.1.91.63698.

Cools, R., Nakamura, K, & Daw, N. D. (2011). Serotonin and dopamine: Unifying affective, activational, and decision functions. *Neuropsychopharmacology*, *36*(1), 98–113. http://doi.org/10.1038/npp.2010.121.

Curtis, R. C. (1991). Preface. In R. C. Curtis (Ed.), *The relational self: Theoretical convergences in psychoanalysis and social psychology* (pp. 7–9), New York, NY: The Guilford Press.

Davidson, J. (1994). Issues in the diagnosis of posttraumatic stress disorder. In R. S. Pynoos, (Ed.), *Posttraumatic stress disorder. A clinical review* (pp. 1–15). Lutherville, MD: Sidran Press.

Foa, E. B., Keane, T. M., Friedman, M. J., & Cohen, J. A. (Eds.). (2009a). Index: Treatment Guidelines. In E. B. Foa, T. M. Keane, M. J. Friedman, & J. A. Cohen (Eds.), *Effective treatments for PTSD. Practice guidelines from the International Society for Traumatic Stress Studies* (pp. 537–613). New York, NY: The Guilford Press.

Foa, E. B., Keane, T. M., Friedman, M. J., & Cohen, J. A. (2009b). Introduction. In E. B. Foa, T. M. Keane, M. J. Friedman, & J. A. Cohen (Eds.), *Effective treatments for PTSD. Practice guidelines from the International Society for Traumatic Stress Studies* (pp. 1–22). New York, NY: The Guilford Press.

Fonagy, P., & Bateman, A. (2004). *Psychotherapy for borderline personality disorder: Mentalization based treatment*. New York, NY: Oxford University Press.

Forbes, D., Lockwood, E., Phelps, A., Wade, D., Creamer, M., Bryant, R. A., . . . O'Donnell, M. (2014). Trauma at the hands of another: Distinguishing PTSD patterns following intimate and nonintimate interpersonal and noninterpersonal trauma in a nationally representative sample. *Journal of Clinical Psychiatry*, *75*(2), 147–153. http://doi.org/10.4088/JCP.13m08374.

Friedman, M. J., Davidson, J. R. T., & Stein, D. J. (2009). Psychopharmacotherapy for Adults. In E. B. Foa, T. M. Keane, M. J. Friedman, & J. A. Cohen (Eds.), *Effective treatments for PTSD. Practice guidelines from the International Society for Traumatic Stress Studies* (pp. 245–268). New York, NY: The Guilford Press.

Grossman, R. (2002). Psychopharmacologic treatment of patients with borderline personality disorder. *Psychiatric Annals*, *32*(6), 357–370.

Hackmann, A., Ehlers, A., Speckens, A., & Clark, D. M. (2004). Characteristics and content of intrusive memories in PTSD and their changes with treatment. *Journal of Traumatic Stress*, *17*(3), 231–240.

Hancock-Johnson, E., Griffiths, C., & Picchioni, M. (2017). A focused systematic review of pharmacological treatment for borderline personality disorder. *CNS Drugs*, *31*(5), 345–346. http://doi.org/10.1007/s40263-017-0425-0.

Herman, J. L. (1992). Complex PTSD: A syndrome in survivors of prolonged and repeated trauma. *Journal of Traumatic Stress*, *5*(3), 377–391. http://doi.org/10.1007/bf00977235.

Holmes, E. A., Grey, N., & Young, K. A. (2005). Intrusive images and "hotspots" of trauma memories in Posttraumatic Stress Disorder: An exploratory investigation of emotions and cognitive themes. *Journal of Behavior Therapy Experimental Psychiatry*, *36*(1), 3–17.

Hyland, P., Murphy, J., Shevlin, M., Vallières, F., McElroy, E., Elklit, A. . . . Cloitre, M. (2017). Variation in post-traumatic response: The role of trauma type in predicting ICD-11 PTSD and CPTSD symptoms. *Social Psychiatry and Psychiatric Epidemiology*, 52(6), 727–736. http://doi.org/10.1007/s00127-017-1350-8.

Institute of Medicine. (2008). *Treatment of posttraumatic stress disorder: An assessment of the evidence*. Washington, DC: National Academies Press.

International Society for the Study of Trauma and Dissociation. (2011). Guidelines for treating dissociative identity disorder in adults, third revision. *Journal of Trauma & Dissociation*, *12*(2), 115–187. http://doi.org/10.1080/15299732.2011.537247.

Ipser, J., Seedat, S., & Stein, D. J. (2006). Pharmacotherapy for post-traumatic stress disorder—A systematic review and meta-analysis. *South African Medical Journal*, *96*(10), 1088–1096.

Keane, T. M., Marx, B. P., & Sloan, D. M. (2009). Post-traumatic stress disorder: Definition, prevalence, and risk factors. In P. J. Shiromani, T. M. Keane, & J. E. LeDoux (Eds.), *Post-traumatic stress disorder: Basic science and clinical practice* (pp. 1–19). New York, NY: Humana.

Keating, L., Tasca, G. A. & Bissada, H. (2015). Pre-treatment attachment anxiety predicts change in depressive symptoms in women who complete day hospital treatment for anorexia and bulimia nervosa. *Psychology and Psychotherapy*, *88*(1), 54–70.

Laddis, A. (2010). Outcome of crisis intervention for borderline personality disorder and post traumatic stress disorder: A model for modification of the mechanism of disorder in complex post traumatic syndromes. *Annals of General Psychiatry*, *9*(19). http://doi.org/10.1186/1744-859X-9-19.

Laddis, A. (2011). Medication for complex posttraumatic disorders. *Journal of Aggression, Maltreatment & Trauma*, *20*(6), 645–668. http://doi.org/10.1080/10926771.2011.596137.

Laddis, A. (2015). The pathogenesis and treatment of emotion dysregulation in borderline personality disorder. *The Scientific World Journal*, *2015*, 1–11. http://doi.org/10.1155/2015/179276.

Laddis, A. (2018) The disorder-specific psychological impairment in complex PTSD: A flawed working model for restoration of trust. *Journal of Trauma & Dissociation*, March, 1–21. http://doi.org/10.1080/15299732.2018.1451804.

Liberzon, I. & Garfinkel, S. N. (2009). Functional neuroimaging in post-traumatic stress disorder. In P. J. Shiromani, T. M. Keane, & J. E. LeDoux (Eds.), *Post-traumatic stress disorder: Basic science and clinical practice* (pp 297–317). New York, NY: Humana.

Loewenstein, R. J. (2005). Psychopharmacologic treatments for dissociative identity disorder. *Psychiatric Annals*, *35*(8), 666–673.

Luborsky, L., Popp, C., Luborsky, E., & Mark, D. (1994). The core conflictual relationship theme. *Psychotherapy Research*, *4*(3&4), 172–183.

Lyons-Ruth, K. (2008). Contributions of the mother-infant relationship to dissociative, borderline, and conduct symptoms in young adulthood. *Infant Mental Health Journal*, *29*(3), 203–218. http://doi.org/10.1002/imhj.20173.

Marmar, C. R., Foy, D., Kagan, B., & Pynoos, R. S. (1994). An integrated approach for treating posttraumatic stress. In R. S. Pynoos (Ed.), *Posttraumatic stress disorder: A clinical review* (pp. 99–132). Lutherville, MD: Sidran Press.

McNally, R. J. (2004). Conceptual problems with the DSM–IV criteria for posttraumatic stress disorder. In G. M. Rosen (Ed.), *Posttraumatic stress disorder: Issues and controversies* (pp. 1–14). Chichester, England: Wiley.

Mercer, D. (2007). Medications in the treatment of borderline personality disorder 2006. *Current Psychiatry Reports*, *9*(1), 53–62.

Moran, M. (2006). Interpersonal relationships predict course of BPD. *Psychiatric News*, *41*(13), 24.

Moskowitz, G. B. (2009). The compensatory nature of goal pursuit: From explicit action to implicit cognition. In G. B. Moskowitz & H. Grant (Eds.), *The psychology of goals* (pp. 304–336). New York, NY: Guilford Press.

National Institute for Health and Clinical Excellence (2005). Post-traumatic stress disorder: The management of PTSD in adults and children in primary and secondary care. Leicester, UK: Gaskell.

Oldham, J. M., Bender, D. S., Skodol, A. E., Dyck, I. R., Sanislow, C. A., Yen, S., . . . McGlashan. (2005). Testing an APA practice guideline: Symptom-targeted medication utilization for patients with borderline personality disorder. *Focus*, *3*(3), 484–488.

Opler, L. A., Grennan, M. S., & Ford, J. D. (2009). Pharmacotherapy. In C. A. Courtois & J. D. Ford (Eds.), *Treating complex traumatic stress disorders: An evidence-based guide* (pp. 329–350). New York, NY: Guilford.

Patton C., Crawford, M. J., Bhatti, S. F., Patel, M. X., & Barnes, T. R. (2015) The use of psychotropic medication in patients with emotionally unstable personality disorder under the care of UK mental health services. *Journal of Clinical Psychiatry*, *76*(4), e512–e518. http://doi.org/10.4088/JCP.14m09228.

Perkonigg, A., Pfister, H., Stein, M. B., Höfler, M., Lieb, R., Maercker, A., et al. (2005). Longitudinal course of posttraumatic stress disorder and posttraumatic stress disorder symptoms in a community sample of adolescents and young adults. *American Journal of Psychiatry*, *162*(7), 1320–1327.

Phoenix Australia. (2013). Australian guidelines for the treatment of acute stress disorder and posttraumatic stress disorder: Guidelines summary. Melbourne, Australia: Phoenix Australia: The Centre for Posttraumatic Mental Health.

Pietromonaco, P. R., & Feldman Barrett, L. (2000). The internal working models concept: What do we really know about the self in relation to others? *Review of General Psychology*, *4*(2), 155–175. http://doi.org/10.1037111089-2680.4.2.155.

Rainnie, D. G., & Ressler, K. J. (2009). Physiology of the amygdala: Implications for PTSD. In P. J. Shiromani, T. M. Keane, & J. E. LeDoux (Eds.), *Post-traumatic stress disorder: Basic science and clinical practice* (pp. 39–78). New York, NY: Humana.

Raskind, M. A. (2009). Pharmacologic treatment of PTSD. In P. J. Shiromani, T. M. Keane, & J. E. LeDoux (Eds.), *Post-traumatic stress disorder: Basic science and clinical practice* (pp. 337–362). New York, NY: Humana.

Reis, H. T., & Patrick, B. C. (1996). Attachment and intimacy: Component processes. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 523–563). New York, NY: The Guilford Press.

Schatzberg, A. F., Cole, J. O., & DeBattista, C. (2010). *Manual of clinical psychopharmacology* (7th ed.). Arlington, VA: American Psychiatric Publishing.

Soloff, P. (1997). Special feature: Psychobiologic perspectives on treatment of personality disorders. *Journal of Personality Disorders*, *11*(4), 336–344.

Soloff, P. H. (2005). Pharmacotherapy in borderline personality disorder. In J. G. Gunderson & P. D. Hoffman (Eds.), *Understanding and treating borderline personality disorder: A guide for professionals and families* (pp. 65–82). Washington, DC: American Psychiatric Publishing.

Stepp, S., & Pilconis, P. A. (2008). Age-related differences in individual DSM criteria for borderline personality disorder. *Journal of Personality Disorders*, *22*(4), 427–432.

Teicher, M. H., Samson, J. A., Polcari, A., & McGreenery, C. E. (2006). Sticks, stones, and hurtful words: Relative effects of various forms of childhood maltreatment. *American Journal of Psychiatry*, *163*(6), 993–1000. http://doi.org/10.1176/appi.ajp.163.6.993

Tyrer, P., & Bateman, A. W. (2004). Drug treatment for personality disorders. *Advances in Psychiatric Treatment*, *10*, 389–398.

Veterans Administration. (2017). Clinical Practice Guidelines for Management of Post-Traumatic Stress Disorder and Acute Stress Reaction. Retrieved from https://www.healthquality.va.gov/guidelines/MH/ptsd/VADoDPTSDCPGFinal.pdf

Zanarini, M. C. (2004). Update on pharmacotherapy of borderline personality disorder. *Current Psychiatry Reports*, *6*(1), 66–70.

Zanarini, M. C., Frankenburg, F. R., Reich, D. B., Silk, K. R., Hudson, J. I., & McSweeney, L. B. (2007). The subsyndromal phenomenology of borderline personality disorder: A 10-year follow-up study. *American Journal of Psychiatry*, *164*(6), 929–935.

Zimmer-Gembeck, M. J., & Skinner, E. A. (2016). The development of coping: Implications for psychopathology and resilience. In D. Cicchetti (Ed.), *Developmental Psychopathology* (3rd ed., Vol. 4, pp. 485–545). New York, NY: Wiley.

Appendix A

REASONS TO EXTRAPOLATE FROM RESEARCH ON PHARMACOTHERAPY'S BENEFIT FOR PATIENTS WITH PTSD AND BPD TO CPTSD AND DID

In all three presentations, of PTSD, cPTSD and BPD, the irrational, uncontrollable emotions that we target with medication comprise a similar scenario: first, avoiding events that resemble old entrapment in grave danger; then, hypervigilance for cues of such an event's advent; finally, flashbacks where the sufferer tries to master that old grave danger retrospectively (Brewin, Gregory, Lipton, & Burgess, 2010; Forbes et al., 2014).

The content and course of flashbacks in cPTSD are similar to those of BPD and different from flashbacks of simple PTSD (Davidson, 1994; Marmar, Foy, Kagan, & Pynoos, 1994; McNally, 2004). The flashbacks of both cPTSD and BPD are a composite event, made of details from consecutive traumatic events. Furthermore, the danger is specifically of grave betrayal (Brewin et al., 2010; Forbes et al., 2014). Patients refashion the failed course of coping with the old danger of betrayal by including third others' help and, in turn, added betrayals. In addition to the similarity in content, flashbacks in cPTSD and BPD often happen in the context of a crisis of trust in a current relationship (Curtis, 1991; Laddis, 2010) during which patients behave in a manner that has been traditionally recognized as "repetition compulsion" (Cloitre, Cohen, & Scarvalone, 2002). That behavior consists of frantically making unreasonable demands, alternating with just as frantic acts of repentance and ingratiation. Patients' and therapists' expectation for help with medication is mainly for these moods and actions in phases of acute disorder. Pharmacotherapy's efficacy in this phase is proven good for patients with BPD. It is reasonable to extrapolate the evidence to such moods and actions in cPTSD.

Patients with cPTSD and BPD similarly have periods of weeks or months without crises of trust and disorder in the manner of repetition compulsion (Figure 1; Laddis, 2018). Our patients are then generally competent in their self-care, and they resolve crises of trust in their casual relationships without irrational, unstoppable moods and actions. But they remain apprehensive for closeness in relationships, i.e., when partners make commitment to jointly taking care of each other's long-term needs and purposes. They explain that apprehension with cynicism and self-blame, having little faith in others' benevolence or in themselves deserving it (Perkonigg et al., 2005; Zanarini et al., 2007; Stepp & Pilconis, 2008). They make a way of life of those judgments and traits. Our patients then suffer occasional bouts of moderate anxiety, when tempted to return to long-term commitments. More typically, they suffer longer periods of emptiness and depression for having resigned to a future without close relationships. We have no good evidence for pharmacotherapy's benefit for this kind of mood disorder, in either BPD or cPTSD (Foa, Keane, Friedman, & Cohen, 2009b; Friedman et al., 2009).

It seems that BPD is a variant of complex posttraumatic disorder, as are cPTSD and DID. In addition to the phenomenological similarities enumerated above, evidence is accumulating for a strong correlation between meeting diagnostic criteria for BPD and, on the other hand, childhood history of entrapment in mistrusted caretaking relationships (Briere & Rickards, 2007; Hyland et al., 2017). It seems that the correlation gets stronger in studies that include childhood history of grave neglect and betrayal, even if without violence and exploitation (Lyons-Ruth, 2008; Teicher, Samson, Polcari, & McGreenery, 2006).

Appendix B
THE SURVEY OF PSYCHIATRISTS' PRESCRIBING PATTERNS BY OLDHAM ET AL.

For lack of sufficient research findings, the American Psychiatric Association (2001) guidelines for treatment of patients with BPD relied mostly on expert opinion of senior clinicians and made recommendations in levels of "clinical confidence" (p. 8). The guidelines provided three algorithms for choice of drugs, each targeting a different "behavioral dimension": (a) Affective dysregulation, "manifested by symptoms such as mood lability, rejection sensitivity, inappropriate intense anger, depressive 'mood crashes,' and temper outbursts" (p. 10); (b) Impulsive-behavioral dyscontrol, i.e., "impulsive aggression, self-mutilation, or self-damaging behavior, like promiscuous sex, substance abuse, reckless spending, an affective attribute that presumably medication moderates independently of moderating a particular emotion" (p. 11); (c) Cognitive-perceptual difficulties, such as "suspiciousness, referential thinking, paranoid ideation, illusions, derealization,

depersonalization, or hallucination-like symptoms" (p. 11). A few years after publication of the guidelines, Oldham and colleagues (2005) found that practitioners often pursued moderation of a particular symptom with drugs outside the indicated algorithm. The authors speculated that practitioners need to search for novel drugs often, broadly and in combinations, because many drugs' symptom-specific efficacy is overstated by the experts.

Appendix C
THE NEUROBIOLOGY OF COMPLEX TRAUMA-RELATED DISORDER

Raskind attributes his inability to understand this similarity of outcomes among drugs with disparate pharmacological properties to how little we know about the "pathophysiology" of PTSD. His reasoning implies faith in pharmacotherapy's potential for a curative effect, provided we could first discern lasting "synaptic dysregulations," which traumatization purportedly inflicts. He begins by noting that "excessive adrenergic activity produces hyperarousal, anxiety, startle . . . and other 'fight or flight' responses" (Raskind, 2009, p. 339). For Raskind, that explains the effect of "antiadrenergics," drugs like prazosin and clonidine. These drugs were invented for the treatment of hypertension, however, they also moderate other adrenergic functions in a network of neural pathways and hormones, which comprises readiness to flee or fight. That effect corresponds to the behavioral components of coping with danger which psychiatric drugs mitigate most reliably, i.e., aggression and impulsivity. But Raskind cannot explain why drugs whose action is not primarily antiadrenergic are even more effective in moderating impulsivity and relentlessness of the typical PTSD-like behavior. Still, he remains faithful in the development of "rational psychopharmacology of PTSD" (Raskind, 2009, p. 337).

Others with subtler knowledge of neurobiology (Berridge, 2009; Liberzon & Garfinkel, 2009; Rainnie & Ressler, 2009) look for lasting biological "alterations" that could impair the stepwise response of the brain as a whole, subsequently to the reflexive arousal for flight or fight. Thus, they focus on a superordinate brain function that comprises the amygdala, medial prefrontal cortex (mPFC), hippocampus and anterior cingulate cortex (ACC). That function is carried out by means of various neurotransmitters and it organizes a course of "stimulus contextualization" (Liberzon & Garfinkel, 2009). For Liberzon & Garfinkel, "contextualization" entails "higher order cognitive and emotional-interactions like appraisal, reappraisal and meta-awareness" (p. 298), the meaning of the stimulus in the context of current events and, then, their value for the person's future purposes. That is how people either generalize or extinguish old cues of danger. All that obviously echoes the concept of reappraisal, whereby the

person may give new meaning to the stimulus (cue of betrayal) by tending to its current context. Finally, Liberzon and Garfinkel (2009) postulate that the PTSD-specific impairment is "dysregulation of the contextualization process" (p. 297).

Liberzon and Garfinkel, however, still search for certain neurobiological impairment(s), presumably necessary for such "dysregulation of the contextualization process." Instead, my psychological explanation proposes that recurrent failure and irrational repetitiveness in the pursuit of reappraisal (contextualization) is essentially due to a flawed working model by which persons with complex trauma-related disorder test others' trustworthiness. They are powerless to urgently become certain of a greatly needed and greatly feared partner's intentions, one way or the other. Neurobiological impairments may or may not compound that powerlessness.

While discussing the neurobiology of complex trauma-related disorder, I will risk a rudimentary explanation for how the effects from drugs with disparate properties converge on the mechanism that strongly biases attention for cues of the feared other's selfishness and deception. I think that this mechanism constitutes a final common pathway for distribution of attention and working memory, which computes inputs about how singularly valuable and urgent the current goal is. People make such determinations about several fundamental motivational attributes for a goal, with employment of specialized brain functions which operate with function-specific neurotransmitters, such as dopamine or serotonin (Cools, Nakamura, & Daw, 2011). For example, the serotonergic function is to (a) enhance a sense of satiation and contentment, (b) process likelihood and cost of danger in the pursuit of a desire, and (c) moderate the pace (impulsivity) of pursuing that desire, thus allowing time for periodic reappraisal of risk. Medication moderates the normal biology of pursuing a goal with urgency and singularity of purpose, while it is recurrently induced with ever more crude cues of danger.

Appendix D

NORMAL COPING WITH DANGER OF LIFE-CRIPPLING BETRAYAL AND OUR PATIENTS' PSYCHOLOGICAL IMPAIRMENT THAT RECURRENTLY ABORTS COPING

The course of coping with adversity consists of (a) appraisal of the danger's potential for damage, and (b) appraisal of one's ability to flee or fight it (Zimmer-Gembeck & Skinner, 2016). Coping specifically with danger of traumatic betrayal entails appraisal of the danger's two attributes that constitute the experience of traumatization (Herman, 1992; Laddis, 2018):

1. The danger is potentially mortal. In the social meaning of "mortal," the danger is likely to inflict certain damages whose consequences would cripple "life," i.e., the future, as the sufferer has been led to expect with others' collaboration.

2. The danger's course renders the sufferer powerless to flee or fight without such grave damage.

After a cue of traumatic danger, appraisal is the first step of coping. People respond instantly with intent to discern the advent of pivotal steps in the danger's course (contextualization), as the person has known it, not just with a generic urge to flee or fight. Flashbacks serve remembering what seemed pivotal before, as well as rehearsing a better outcome retrospectively, i.e., with current knowledge, abilities and assets (Hackmann, Ehlers, Speckens, & Clark, 2004; Holmes, Grey, & Young, 2005). During danger of betrayal in particular, the most critical, pivotal development to discern in the current context is the feared partner's intentions (Aikins, Howes, & Hamilton, 2009; Pietromonaco & Feldman Barrett, 2000). That is where patients with complex trauma-related disorder stumble, for reasons latent to themselves, therefore unlikely to discern and correct on their own. Concurrently with discerning what resembles old danger of betrayal, the person may take note of novel developments pertinent to coping. Among them, potentially most powerful is the presence of others (e.g., the therapist) who may contribute their knowledge and interventions on the sufferer's behalf.

During appraisal, the singularly pivotal development to discern is the feared partner's reasons to act in a manner that resembles betrayal of promises made and expectations fostered. Our patients are known to "hypermentalize" others' intentions during crises of trust (Fonagy & Bateman, 2004). To restore trust in intimate relationships, ordinarily the failing partner takes responsibility to disclose reasons of selfishness or convenience and promises to prove remedying them, in reasonable time and with the aggrieved partner's help. Intimate relationships are those where partners commit to jointly care for each other's long-term goals, regardless of foreseeable changes in either partner's needs and ability to contribute (Reis & Patrick, 1996; Clark & Aragón, 2013). Our patients' psychological impairment is a working model which perverts the respective roles and responsibilities for restoration of trust with intimacy (Aikins et al., 2009; Laddis, 2018; Pietromonaco & Feldman Barrett, 2000). Instead of expecting failing partners to take the burden of proving their reasons and intentions true, they assume the burden to prove the partners' reasons and intentions false. Such is the end that drives frantically making unreasonable demands, alternating with just as frantic acts of repentance and ingratiation.

The urgency and single-mindedness with which our patients pursue that end severely primes their attention for cues that seem to belie their

partners' reasons and intentions. Some partners respond with exploitation, punishment or estrangement. The benevolent ones may set harsh limits to the odd wants and sacrifices that corrupt their role. All partners justify their reactions with a multitude of reasons, which often become new semblances of deception for the patients to sort out as true or false and compound their nagging uncertainty. The outcome of each round of testing leaves patients more uncertain than before and regenerates their self-blinding commitment, faster than they could gather cues of goodwill. Medication reliably supplements all kinds of behavioral techniques to make room in patients' attention for such cues, in reality or in memory, and room for reasoning about them. All that may become the source of a nascent will to regulate the urge to flee or fight.