

Distortion, Bias, and Ethical Informed Consent: Presentations of Etiological and Treatment Factors in Abnormal Psychology Textbooks

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Concerns have been made highlighting the need for true informed consent and choice when patients and/or parents are confronted with seeking treatment for severe emotional states and crises. Yet, psychosocial treatments are often derided or recommended only in conjunction with psychotropic medications because of the assumed biological basis of mental distress. At the same time, the benefits of medications are often inflated, whereas the harmful effects are drastically minimized or not reported at all. This misinformation is distributed to the public, and to patients, in part through the education of students and trainees. Early educational experiences can shape the thinking of trainees as they begin to formulate their respective approaches to clinical populations, and textbooks are a fundamental part of this education. The purpose of this study was to analyze popular abnormal psychology textbooks to evaluate their representation of the current scientific literature regarding psychopathology. Content areas that were explored were those related to depression, attention-deficit/hyperactivity disorder, and schizophrenia. Misrepresentations of the literature were pervasive in areas associated with biological findings. In addition, there were multiple omissions or biased statements related to psychosocial findings, distortions regarding the efficacy of and adverse effects of various treatments, and a lack of reports of the existence of effective alternative approaches to standard mental health care. Concerns regarding the dissemination of distorted and false information in higher education as it pertains to ethics and informed consent are discussed.

Keywords: informed consent; textbooks; ethics; medical model; education

Many recent articles in the scientific literature and in the general public domains have highlighted the need for true informed consent and choice when patients and/or parents are confronted with seeking treatment for severe emotional states and crises (e.g., Caplan, 2011; Gartner, 2011; Morrison, Hutton, Shiers, & Turkington, 2012). To provide informed consent, clinicians must receive education that reflects the current scientific literature, even when findings do not adhere to prevailing assumptions. This has become essential in light of the accumulating evidence in the last two decades regarding the efficacy of psychosocial and relational approaches to treating serious mental illness (Butler, Chapman, Forman, & Beck, 2006; Linehan, 1993; Pelham & Fabiano, 2008; Pilling et al., 2002; Priebe, Burns, & Craig, 2013; Ross, 2007) and the lack of support for any superior benefits, in the aggregate, of psychotropic medications (e.g., Breggin, 2003;

Whitaker, 2010). In addition, although millions of dollars have been spent on decades of research dedicated to finding the biological causes of psychological disorders, there has yet to be any major replicable discoveries (Priebe et al., 2013) or a single biomarker found for any categorical disorder. Kupfer (2013), head of the *Diagnostic and Statistical Manual of Mental Disorders*' fifth edition (DSM-5; American Psychiatric Association, 2013) task force, recently issued a statement through the American Psychiatric Association stating, "We've been telling patients for several decades that we are waiting for biomarkers. We're still waiting."

Although this statement makes it patently clear that psychiatry has yet to find any verifiable support for biological or genetic anomalies associated with any specific DSM-defined disorder, the dominant paradigm, nonetheless, embraces a neurobiological understanding of mental illness (Breggin, 2003; Priebe et al., 2013). More specifically, mental illnesses are commonly thought by the public to be caused by "chemical imbalances"; a theory heavily promoted by pharmaceutical companies and psychiatrists (Caplan, 2011; Lacasse & Leo, 2005; Moncrieff, 2008). Yet, as one psychiatrist states, "The chemical imbalance notion was always a kind of urban legend—never a theory seriously propounded by well-informed psychiatrists" (Pies, 2011). This biological misunderstanding of the cause of emotional distress not only has little to no empirical support (Lacasse & Leo, 2005), but it also leads to increased stigma and community rejection of individuals suffering from extreme emotional states (Pescosolido et al., 2010; Read, Haslam, Sayce, & Davies, 2006).

Furthermore, although there is a great deal of focus on the role of genes and epigenetics, in addition to neurotransmitters, in the development of mental disorders, studies continuously show that chronic stress and trauma change gene expressions and the length of telomeres (Epel et al., 2004; Grady, 2013; Hoffman & Willi, 2008; Labonte et al., 2012; Tyrka, Price, Marsit, Walters, & Carpenter, 2012) as well as the structure of the brain and neuronal activity (Read, Perry, Moskowitz, & Connolly, 2001; van der Kolk, 2003). Childhood trauma, including bullying (Kelleher et al., 2013), discrimination, low socioeconomic status, poverty (Read, Goodman, Morrison, Ross, & Aderhold, 2004; Read & Ross, 2003), and child abuse (Janssen et al., 2004; Read, 1997; Read, van Os, Morrison, & Ross, 2005), has even been shown to have a likely causal relationship with psychosis, in a dose-response fashion. Epigenetic studies (Labonte et al., 2012) and neurological abnormalities shown to be a direct result of childhood trauma (Heim et al., 2000; Read et al., 2001) have provided examples of how biological changes can be caused by adverse experiences and result in psychotic illness as well as depression and anxiety (Kelleher et al., 2013). These findings support the idea suggested recently by the British Psychological Association that biology essentially mediates one's environment in most cases (British Psychological Society, 2013).

Although it is important for science to embrace all theories of etiology when examining abnormal states of being, a problem arises when dogmatism prevents recognition of alternative perspectives at the cost of true informed consent and autonomous decision making. In particular, when biological theories are asserted as truths, whereas psychosocial theories are undermined or dismissed outright, then assumptions may be made that all persons suffering from severe emotional distress must take medications for life to stabilize an allegedly damaged brain. Although some psychotropic medications may play a role in helping to temporarily alleviate extreme emotional states, the idea that they target underlying chemical imbalances or fix damaged brains has been described as deceptive and serving the vested interests of the pharmaceutical industry, psychiatry, and society's status quo (Breggin, 2007; Gartner, 2011; Moncrieff, 2008). The harmful effects of these drugs are frequently

minimized while the clinical benefits are greatly exaggerated (Breggin, 2003; Morrison, Hutton, Shiers, et al., 2012). Remarkably, the belief in the biological etiology of mental illness directly relates to a decrease in the likelihood one will provide or find it necessary to provide informed consent regarding the effects of drugs and alternative psychosocial treatment options for patients (Magliano, Read, Sagliocchi, Patalano, & Oliviero, 2013).

The need for clinicians to learn and disseminate accurate information is crucial to the patient's ability to make an informed risk/benefit decision of preferred treatment, especially when the risks and benefits are not readily available to the public. The media recently presented a number of articles focused on the pharmaceutical industry's misrepresentation of the dangers and effectiveness of various drugs, including both medical (e.g., Thomas, 2013) and psychotropic medications (e.g., Naish, 2013). These articles include the following themes: hiding results of unfavorable studies that found little to no effect (Thomas, 2013), indications that antidepressants (Sanders, 2013) and stimulants (Schwartz, 2013) may be associated with the onset of psychosis, assertions and lawsuits finding evidence that antidepressants and antipsychotics may cause an increase in suicide and violence (Breggin, 2009; Faulk, 2013; Leamer, 2012; Naish, 2013; Vedantam, 2006), and the resounding link between antidepressants and mass shootings (Gramigna, 2012; Rosenberg, 2012; Starr, 2013; Sullivan, 2013).

These public articles are based on robust scientific findings that also find an association with psychotropic medications and increased depression, mania, psychosis, and anxiety symptoms (Henderson & Hartman, 2004; Marks, Breggin, & Braslow, 2008; Whitaker, 2010); suicidal and homicidal ideation (Breggin, 2009; Dealberto, Marino, & Bourgon, 2006; Healy, Herxheimer, & Menkes, 2006; Henderson & Hartman, 2004; Khan, 2002; Kraus, 2006; Marks et al., 2008); and early death (Colton & Manderscheid, 2006; Joukmaa et al., 2006). The most frequently cited drugs causing some of these reactions are selective-serotonin reuptake inhibitors (SSRIs) and benzodiazepines, and/or their combination (Breggin, 2007). In fact, benzodiazepines have been questioned since at least the 1980s because of evidence of their tendency to produce irritability, defiance, hostility, aggression, rage (Dukes, 1980), and increased homicidal impulses (Wise, 1989).

Extensive literature exists that provides research-based evidence and clinical case examples describing the long-term harm caused by psychiatric medications (Bentall & Morrison, 2002; Carlat, 2010; Kirsch, 2010; Moncrieff & Leo, 2010; Whitaker, 2010), but the message, at large, presented to mental health professionals and the general population promotes the safe and necessary use of psychiatric medications for patients presenting with most mental health conditions (American Academy of Child & Adolescent Psychiatry, 2010; National Alliance on Mental Illness, 2011; National Institute of Mental Illness, 2012). This can be detrimental to patients when longitudinal studies consistently find superior outcomes for those not on long-term medications, even for serious conditions like psychosis (Harrow, Jobe, & Faull, 2012; Wunderink, Nieboer, Wiersma, Sytma, & Nienhuis, 2013). It has also been found in the courts that pharmaceutical companies specifically design studies to minimize risks and avoid having to report adverse effects (Faulk, 2013), suggesting that questions regarding the clinical efficacy and potential harm of psychotropic medications have been actively suppressed. A recent *New York Times* article derides doctors for being silent and allowing pharmaceutical executives to value profits over patients' health, stating, "While . . . doctors have an ethical obligation to warn their peers about bad drugs . . . they often do not do so" (Meier, 2013).

With the public now questioning the value of psychotropic medications, and the empirical evidence for their potential life-threatening harm, it is imperative that clinicians have the necessary education that enables them to provide a fully informed professional recommendation regarding the use of these drugs and alternative treatment options and possibilities for recovery. This study questions how much, if any, of the overall current research findings are relayed in an unbiased manner to students in the mental health field. Or, asked a different way, is it possible for trainees and early career professionals to provide true informed consent to their patients in a manner consistent with ethical guidelines?

CONTENT ANALYSIS OF FIVE POPULAR PSYCHOPATHOLOGY TEXTBOOKS

Scientific study should be free from pragmatism and should reflect an honest search for the truth rather than political warfare and the vested interests of corporations and society. Information that emerges from methodologically sound research should be disseminated freely and honestly, regardless of whether it conforms to prevailing thought or the status quo. One way that information is distributed to the public, and to patients, is through the education of students and trainees. Namely, textbooks are regularly used to provide uniform distribution of scientific findings from a broad range of areas within a particular topic. The quality of textbooks depends on their ability to cover up-to-date research developments in various areas (Wright, 1996). Early educational experiences can shape the thinking of trainees as they begin to formulate their respective approaches to clinical populations, and textbooks are a fundamental part of this education that can have a major influence on students' career choices (Griggs & Proctor, 2002; Steuer & Ham, 2008).

Analyzing the content of textbooks as a means to evaluate the accuracy, bias, and omission errors that exist in specific areas has precedence both within the mental health field (e.g., see Benjamin, Whitaker, Ramsey, & Zeve, 2007; Goodwin, 1991; Letourneau & Lewis, 1999; Marecek, 1993; Rescorla, 1988; Sheldon, 2002; Todd & Morris, 1983; Zehr, 2000) and other areas of academia (e.g., Wright, 1996). These analyses often find multiple errors (Steuer & Ham, 2008) and tend to focus on the misinformation that may be widely distributed as part of what Todd and Morris (1992) call "academic folklore" (p. 1441). Continued assessment and evaluation of the content of textbooks is necessary to prevent persistent circulation of false or distorted information.

Henry and Deka (2004) suggest that teaching inaccurate information can be avoided by professors assigning and reading the newest editions of a textbook. The following study investigated the extent to which popular textbooks published in the present year, 2013, in abnormal psychology covered the research that has accumulated over the last two decades regarding psychopathology, without prejudice or extensive omission of data. Objective reports of the popularity of textbooks based on sales were not possible to obtain. The five representative textbooks included in this analysis were chosen through an online search of each publisher's website. Popularity was assessed by the total number of editions, location in the search results as the one of the first three, and high regards based on reviews. To reduce the subjectivity of this process, three volunteers were recruited to independently create a list of what they believe to be the most popular textbooks on psychopathology. The final five textbooks were then chosen based on overall agreement.

The analysis was limited to only five textbooks because of a lack of resources to conduct a more systematic review of the vast number of available textbooks. Although the small number of books analyzed may result in a biased sample, the overall popularity of these books suggests that they are representative of what is being taught in a large number of programs in the United States, which is more the concern of this study. These books were borrowed from a local bookstore with no affiliation to psychological orientation or faculty members from the author's university.

The greatest evidence base, and the greatest controversy, in this author's awareness, that has accumulated in recent years associated with the superior or comparable efficacy of psychosocial over medical approaches to treating purported biologically based mental disorders has been for depression, attention-deficit/hyperactivity disorder (ADHD), and schizophrenia. Content analysis consisted of evaluating the accuracy of presentations and various information regarding etiological and treatment factors related to these specific disorders. The goal of this study was to evaluate the information being disseminated to students through popular abnormal psychology textbooks that may be representative of common educational experiences; the goal was not to criticize any particular author and/or publisher who are, more than likely, reflecting the mainstream paradigm. Therefore, a list of the textbooks analyzed can be obtained by contacting the author.

The content analysis of the textbooks focused on (a) how is the disorder described; (b) what etiological factors are described and how are they presented (i.e., as theory or fact); (c) the treatment recommendations provided; (d) what information is specified concerning the adverse effects of treatment and outcomes; and (e) discussion regarding the possibility for recovery. The author specifically was looking to see if information concerning adverse effects of medication, clinical efficacy of psychosocial treatments, non-biologically-based etiological theories, and possibilities for recovery without lifelong medication was presented without prejudice or distortion.

Overall, the textbooks appeared to vary in the level of overt bias and omissions of data. However, all textbooks had significant errors, and showed an extreme proclivity toward promoting the biomedical paradigm to the point of misinformation and partiality. Authors additionally tended to overstate and misrepresent multiple research findings, minimize or omit adverse effects of medications, and omit a great deal of the current research on psychosocial treatments and their efficacy for each of the disorders. Table 1 represents some of these general error types and examples from the textbooks. Many of these errors are so commonly accepted that many will question where the mistake is. Yet, psychology is a science, not popular rhetoric, and it is important that our tools of learning reflect accurate science and not pedagogical folklore. The content analysis of the textbooks was evaluated separately for each disorder.

Depression

All five textbooks contained lengthy discussions about the apparent abnormalities in neurotransmitters, or the chemical imbalances, that are thought to cause depression, specifically problems in levels of serotonin and norepinephrine. Not one textbook author mentioned that this theory had been essentially refuted, that there is no actual evidence of any chemical abnormalities, or that there is no standard for what "balanced" neurochemistry is supposed to be. One textbook actually did mention the fact that it cannot be assumed that the mechanism by which psychotropic medications work is through the

TABLE 1. Examples of Errors and Distortions

Error Type	Example
Misrepresenting the scientific literature	Stating that a main goal of CBT-p is to provide psychoeducation on the biological nature of symptoms The use of an article that argues for the traumatic etiology of schizophrenia to support the assertion of the certainty of biological etiology
Presenting discredited information	Assertions that medications work by correcting chemical imbalances Multiple comments proclaiming that it is common knowledge that mental disorders are because of chemical imbalances Claims that stimulants cause an increase in academic performance
Stating theory as fact	Multiple statements that it is “known” and “certain” that schizophrenia is genetically based Assertions that the biological basis for ADHD is well-established and certain
Introducing bias or undue influence when introducing a concept	In several textbooks, presentations of psychological findings are immediately followed by dismissive statements belittling the evidence, yet the lack of support for biological findings is followed with statements about “promising” leads and the “fruitful” future biology has in research and treatment advances. Acknowledgement that psychosocial factors have empirical evidence for etiology followed immediately by claims that there is no support for any causal role; rather, asserting that findings only point to inherent neuroticism and other genetic deficits that cause these environmental factors to exist (including pregnancy complications)

lack of or overabundance of neurotransmitters; specifically, the authors state that this line of reasoning would lead one to conclude that aspirin works because of a lack of aspirin in the brain. Yet, they, like all of the authors, nonetheless assert that evidence shows abnormalities in the chemical makeup of the brain in those diagnosed with depression. This trend was evident in all of the content areas analyzed for each disorder.

Three of the five textbooks claimed that depression was definitely genetically based, with there being no doubt based on results of twin studies. Although it may be claimed that results of twin and adoption studies make it difficult to assert that causality can exist independent from genetic predisposition, there have been several critical reviews that have pointed out the vast methodological flaws in these studies and the inherent biases that leave these results questionable, at best (see Joseph, 2012; Ross & Pam, 1995). Interestingly, in all of the discussions dedicated to findings from twin studies for every disorder, each author points out the higher concordance rates between monozygotic twins

compared to dizygotic twins and siblings, but not one author discusses the oddity of the higher concordance rates of dizygotic twins compared to siblings even though they share the same number of genes. It was mentioned in one textbook that it is possible that the twin studies overestimate genetic contribution because of an unaccounted for greater shared environment and other methodological flaws, but the statement is immediately dismissed by focusing on the widespread acceptance of the findings of these studies and their overwhelming support.

Each textbook contained information regarding theories pertaining to early childhood loss, lack of positive reinforcements and social rewards, negative schemas and cognitions, and learned helplessness as etiological factors in the development of depression. Yet, only two mentioned chronic stress and trauma as causal factors, in spite of all of the books containing descriptions of problems in the hypothalamic-pituitary-adrenal (HPA) axis, an area of the brain specifically noted for becoming damaged as a direct result of chronic stress and trauma (e.g., van der Kolk, 2003). One of the books whose authors did mention trauma as possibly causal stated that it is associated more with the severe type of depression, which the authors also state is more heritable. No attempt was made to explain this paradox. Further, all of the textbooks had mention of the increased levels of cortisol found in individuals diagnosed with depression, but none contain explanations of how cortisol is related to stress and/or abnormalities in the HPA axis. And, although there was mention of psychosocial factors, the emphasis in each textbook was on biological and genetic vulnerabilities that leave individuals susceptible to creating the adverse environments that trigger and perpetuate their purported innate depressive nature. For instance, one textbook author explicitly stated that current explanations of depression are biopsychosocial but that depression must be inherited first and then be triggered by stressful events. In fact, the findings showing women as having greater rates of depression were specifically explained in three textbooks as resulting from the fact that women have a greater genetic vulnerability and more hormonal fluctuations than do men.

With this focus on biology, it is not surprising, then, that medical interventions were highly extolled as necessary treatments for depression, usually in conjunction with some kind of psychotherapeutic component. The psychosocial interventions were described as adjunctive to medications in all but one textbook. In each of the textbooks, the evidence for psychodynamic therapy and cognitive behavioral therapy (CBT) were noted as effective, and in all but two authors additionally gave credit to behavioral activation and interpersonal psychotherapy (IPT) as evidence-based treatments. Exercise has been shown to have superior benefits over antidepressant use (Blumenthal et al., 1999), yet in only one textbook was the effectiveness of exercise in reducing symptoms of depression mentioned. In three textbooks, the evidence for the superior or comparable efficacy of CBT compared to medication and that CBT is shown to be more effective than medication at relapse prevention, was noted, yet every textbook author suggested that maintenance medications were necessary to treat depressive episodes and prevent relapse.

Antidepressants are purported in every textbook to fix abnormal levels of neurotransmitters and other chemicals. Conversely, research has shown little to no effect above placebo for antidepressants, even for severe depression (Fournier et al., 2010; Huedo-Medina, Johnson, & Kirsch, 2012; Kirsch, 2010; Kirsch et al., 2008). In every textbook, it was claimed that antidepressants are effective in 50%–70% of all cases but only two had reference to the placebo effect. There is also great risk of substantial harm associated with antidepressants (Antonuccio, 2008; Belaise, Gatti, Chouinard, & Chouinard, 2012). However, the adverse

effects of SSRIs were greatly minimized in each textbook, if they were mentioned at all; each textbook had mention of sexual dysfunction as a possible side effect, two contained evidence of weight gain, agitation, and gastrointestinal problems, but not one textbook contained descriptions of the possible increase in symptoms of anxiety and depression, the onset of mania, the increase in violent tendencies, and the severe and prolonged withdrawal symptoms and iatrogenic disorders associated with this class of medication.

Not only are there significant side effects; when patients wish to taper off or withdraw from antidepressants the severity of the withdrawal symptoms may be so critical that continued medication just to prevent these iatrogenic symptoms may be necessary (Belaise et al., 2012). Some of these symptoms include electrical sensations, or “electrical zaps” (Zajacka, Tracy, & Mithell, 1997); headaches, nausea, disorientation, inability to concentrate, tinnitus, dizziness, anxiety, mood swings, insomnia, poor stress tolerance, impaired concentration and memory (Belaise et al., 2012); and postwithdrawal disorders, such as anxiety disorders, panic attacks, tardive insomnia, major depression, and bipolar disorder (Belaise et al., 2012). Yet, not a single textbook contains discussion of any of this. It was suggested by several authors that any side effects that are experienced can be reduced by adding additional medications to the treatment plan. Two textbooks had discussions about the concern regarding an increased risk of suicidal ideation, but this idea was immediately dismissed by citation of a study that found no increase in completed suicide for those taking Prozac compared to those taking other SSRIs. This finding was used to completely refute the idea of any possibility in SSRIs, in general, being associated with increased suicidal ideation in comparison to those taking no drugs at all.

Attention-Deficit/Hyperactivity Disorder

Most of the textbook authors made an overt attempt to present multiple perspectives on the etiology and treatment of ADHD. Three textbooks specifically contained statements that there is a great deal of controversy surrounding the diagnosis itself as well as how it is best treated. Nevertheless, in four of the five textbooks, it was stated that evidence had definitely shown that children diagnosed with ADHD have a strong genetic predisposition; in three of those books, it was stated that clear biological brain abnormalities have been found as indicators of ADHD. In two of the textbooks, it was reported that these abnormalities were related to a chemical imbalance.

Only two textbooks had discussion about the possibility that environmental factors and/or chronic stress could be related to the development of symptoms of ADHD, and these were presented as only triggering biological vulnerabilities or resulting from the behaviors of the child with ADHD. It is not surprising, then, that all five textbooks strongly emphasized the necessity for psychotropic medications as part of the treatment. Medications are widely accepted as the first-line, and, in some cases, the only treatment for ADHD. Yet, research shows that these medications do not actually fix any identified underlying biological abnormality (LeFever, Arcona, & Antonnucio, 2003), do not result in better academic outcomes (Currie, Stabile, & Jones, 2013; LeFever et al., 2003; MTA Cooperative Group, 2004; Wang, 2013), have many adverse effects (Currie et al., 2013; Gibb, 2013; LeFever, Villers, Morrow, & Vaughn, 2002; Schachter, Pham, King, Langford, & Moher, 2001), and prevent the child from learning autonomous behavioral control (see Breggin, 2003 for a discussion). In fact, although stimulants are often thought to be without severe risk, they have been shown to lead to psychosis, heart problems, and

stroke (Gibb, 2013). In addition, any benefit that is obtained in the short term for these drugs has been found to dissipate from as soon as 6 months to 2 years after beginning treatment (Mitchell, 2012). Not only do the benefits apparently cease to exist beyond the short-term, but long-term usage is paradoxically associated with increased emotional problems, deterioration in parental and social relationships, and, for some, worsening academic performance (Currie et al., 2013; LeFever et al., 2002). On the other hand, psychosocial approaches, such as brief attention training for parents and contingency management, have been shown to improve symptoms, functionality (Pelham & Fabiano, 2008), and brain activity (Underwood, 2013) without the potential for harm. Parental involvement has been found to be detrimental to increased functioning and recovery from the symptoms of ADHD (Pelham & Fabiano, 2008).

Only two textbooks contained reports that medications for ADHD do not lead to an increase in academic performance, and in one textbook, it was specifically stated that they do, in fact, lead to greater academic outcomes. This assertion was not followed by any citation to support the claim. Adverse effects of these medications were minimized in every book with descriptions of “minor side effects” and statements proclaiming the safety of stimulants for most children. In addition, only three textbooks had mention of stunted growth, two had mention of the possibility for the onset of psychosis and drug dependence, one had mention of possible cardiovascular problems, and none contained reports about the potential for an increase in violent behaviors. Psychosocial approaches were mentioned only as adjunct treatments to be introduced in conjunction with medication.

In all five textbooks, behavioral treatments were discussed, four of which focused specifically on contingency management protocols. Only one textbook contained discussion about parent training as an effective treatment, and none of the textbooks mentioned the importance of parental involvement as necessary for symptom improvement. None of the authors mentioned that behavioral treatment and parental training have longer lasting effects and superior outcomes in the long-term when compared with medications (e.g., Pelham & Fabiano, 2008), and none mentioned that medications appear to cease having an effect after 2 years.

Schizophrenia

Perhaps unsurprisingly, the sections dedicated to schizophrenia spectrum disorders were the most highly prejudicial and rife with misinformation and omissions. Schizophrenia has a long history of being considered a chronic, deteriorating, biological brain disease for which there is little treatment beyond medications and a low-stress, simple life (Bleuler, 1950; Kraepelin, 1919). Yet, evidence continues to emerge that completely refutes this paradigm. A vast amount of research continues to accumulate showing a dose–response, causal relationship between childhood trauma and psychosis (e.g., Janssen et al., 2004; Read et al., 2004). Individuals diagnosed with schizophrenia can and do frequently recover (e.g., Dillon, 2012) and they do not necessarily require neuroleptics to do so (Morrison, Hutton, Wardle, et al., 2012). In fact, antipsychotics may actually hinder long-term functional recovery (Wunderink et al., 2013). Morrison, Hutton, Shiers, et al. (2012) suggest that there is little evidence that all individuals who are diagnosed with schizophrenia require medication to recover.

In addition, antipsychotics have been found to be of questionable clinical relevance for most patients, with most trials failing to detect a decrease in symptoms that reaches

a threshold for minimal clinical improvement (Lepping, Sambhi, Whittington, Lane, & Poole, 2011; Leucht et al., 2006). At the same time, ample evidence exists of the adverse effects for these toxic drugs, including the development of negative symptoms (Artaloytia et al., 2006), loss of brain matter (Andreasen, Liu, Ziebell, Vora, & Ho, 2013), and early death (Joukmaa et al., 2006). The best long-term outcomes in the developed world for schizophrenia are found in Finland, using the Open Dialogue approach, where there is an 80% recovery rate while approximately 70% of patients are never exposed to neuroleptics, and only 20% are regularly given medications of any sort (Seikkula, Alakare, & Aaltonen, 2011). Nonetheless, in all five textbooks, it was stated that there is no doubt that schizophrenia is a biological brain disease that requires medical intervention to decrease symptoms. In four of the textbooks, there were lengthy discussions about the chemical imbalances, mostly an overabundance of dopamine or dopamine receptors, and brain abnormalities found to be indicative of schizophrenia. In fact, the dopamine hypothesis was described as foundational to the current understanding of schizophrenia.

Discussion within the textbooks of brain abnormalities, and the authors' presentation of evidence showing that it is impossible for these to be related to neuroleptics, was confusing, at best. Studies showing enlarged ventricles in a small number of individuals diagnosed with schizophrenia were cited in all of the textbooks as evidence of the biological nature of schizophrenia. All but one of the textbooks then went on to discuss how these same brain abnormalities are found in nonaffected siblings or in people with other disorders, proving that these are genetic abnormalities and not effects of treatment. There is no reference to the previously discussed twin studies showing that siblings do not have high concordance rates, nor is there any mention of the fact that if these brain abnormalities are thought to cause psychosis then the siblings should also present some sort of symptom profile. In addition, there is no mention of studies that have found these same enlarged ventricles in "normal" individuals who have no pathology, or that the siblings who have these abnormalities show normal brains upon later examination (Gogtay & Rapoport, 2008). This same confusing explanation was given in one book regarding decreased brain matter; the authors state that progressive brain deterioration continues for many years but that monozygotic twins who are not symptomatic also have the same deterioration, so it cannot be because of neuroleptics. No explanation is attempted for what this brain change has to do with schizophrenia if nonsymptomatic twins have the same changes but no symptoms of pathology.

In four of the textbooks, it was stated that it is rare for an individual to recover from schizophrenia, in only two was it stated that it was possible for a person diagnosed with schizophrenia to recover without the need for lifelong neuroleptic medications, and in one textbook, it was specifically stated that it was not possible to ever recover from what the authors consider a progressive, chronic brain disease. Even in those that mentioned the possibility for recovery, schizophrenia was described as being characterized by progressive deterioration and loss of brain matter. The word "recovery" also appeared to be used interchangeably with "remission"; when discussing how patients can be considered recovered, the textbook authors tended to describe an ability to function in the community if the patient adheres to medication requirements.

The discussion of the dangerous adverse effects of neuroleptics was extensive and relatively accurate in each textbook. They all contained discussion about the possibility for extrapyramidal and parkinsonian symptoms to emerge. In three of the textbooks, there was mention of the association of early death with neuroleptics, and in two, the

metabolic effects and possible weight gain associated with the atypical antipsychotics was described. In none of the books was the evidence for increased vulnerability to psychosis, withdrawal symptoms, or negative symptoms developing in direct relation to the effects of neuroleptics in some people mentioned. Nor did any of the textbook authors describe the findings that show that neuroleptics are directly associated with brain loss and several of the brain abnormalities found in many people diagnosed with schizophrenia. In only one textbook was it stated that these medications are shown to have little clinical value for most people who take them. Rather, neuroleptics were purported to be effective for the majority who take them because they block the excess production of dopamine.

All of the textbook authors described different stressors found to be associated as triggering the assumed underlying genetic predisposition. This may be the area of this entire content analysis that showed the greatest amount of outright distortion and misrepresentation of the scientific literature. In one textbook, it was reported that 89% of individuals diagnosed with schizophrenia have no first- or second-degree relatives with schizophrenia, but the authors then went on to claim that schizophrenia is definitely genetically based. In all five textbooks, studies were cited showing the increased rates of schizophrenia in those who have experienced pervasive discrimination, poverty, and/or immigration. Only one of the textbooks contained statements accurately reflecting the conclusions from the cited studies that the stress of poverty and discrimination can directly cause symptoms of psychosis. But, the author then negates this finding by stating that the theory of downward drift explains the high levels of poverty in addition to the idea that the symptoms of schizophrenia prevent one from functioning adequately enough to get out of poverty. More disturbingly, several textbook authors explained ethnic differences in rates of schizophrenia in an impartial manner that may lead the reader to draw dangerous conclusions; there were direct, unequivocal statements to the effect that particular ethnicities are more prone to develop the disorder, genetically predisposed people are more likely to emigrate from their country, and genetic variants between racial groups explain why some races have different prognoses and rates of occurrence. These ideas were presented as fact, rather than theories that were directly refuted by the authors of the studies cited in the textbooks.

In three textbooks, the role that bullying may play in the onset of psychotic symptoms was described, and only two contained mention of child abuse or other childhood trauma as being associated with psychosis. In fact, the possibility for family dysfunction as playing any etiological role in the development of schizophrenia was explicitly repudiated in every book. Authors made direct statements that family stress does not cause psychosis, and that assertions that the family does play a role cause parents to feel guilty and create unnecessary destruction in families. Although it can be destructive to blame parents and accuse them of causing the suffering of their child, this does not negate the possibility that trauma, in its various forms, may be a direct etiological factor or that some parents and families do in fact play a role in the development of extreme emotional states.

It almost appeared as though each of the authors actively went out of their way to avoid any statement that gave credence to trauma as a possible causal factor in the etiology of schizophrenia. As in the sections on depression, the HPA axis is described as being abnormal in most individuals diagnosed with schizophrenia, but no discussion is made regarding the association with trauma and chronic stress. In three of the textbooks, the Genain quadruplets, all of whom developed symptoms of schizophrenia, were described as clear evidence for the certainty of the role of genetics, yet only one had any mention

of the fact that all of the girls were sexually abused and were emotionally neglected by their mother. Growing up in a healthy family was described in all but one textbook as a “protective factor” against the genetic vulnerability to disease, and retrospective reports of trauma were dismissed as possibly biased and misleading. The omission of research related to trauma cannot be explained by lack of awareness; in one textbook, a major study conducted by Janssen et al. (2004) was cited to introduce the idea that higher rates of psychosis appear in people who perceive being discriminated against. Yet, the authors never mention the major finding of this prospective, longitudinal study that child abuse had an odds ratio in relation to developing psychosis of 11.5, and that there was a dose–response relationship. This finding, specifically supporting the idea that childhood trauma may directly lead to vulnerability to psychosis, is the main finding of this study and yet was specifically omitted.

Although cognitive behavioral therapy for psychosis (CBT-p) was mentioned in four of the five textbooks as an adjunctive treatment, the goal of this approach and its efficacy were misrepresented to varying degrees. This treatment, as it was originally conceptualized in the United Kingdom, is based on a normalizing approach that considers psychotic symptoms understandable reactions to overwhelming life events, most often childhood trauma (Bentall, 2003; Morrison, 2009). None of the textbook authors described the normalizing framework that CBT-p is derived from, the goal of making meaning of voices and other anomalous experiences, or the premise that symptoms are a reaction to overwhelming stress and/or trauma. Several of the textbook authors asserted that CBT-p was focused instead on psychoeducation about the biological nature of schizophrenia or learning how to cope with a lifelong illness. One of the textbooks contained claims that one of the goals of CBT-p is to improve cooperation for taking medications. There is robust evidence for the effectiveness of CBT-p in helping to alleviate the distress associated with psychosis (Dickerson, 2000; Kingdon & Turkington, 1994; Morrison et al., 2013; Rathod, Phiri, & Kingdon, 2010; Wykes, Steel, Everitt, & Tarrier, 2008), in some cases even when patients choose to not take neuroleptics (Morrison, Hutton, Wardle, et al., 2012). In all but one textbook CBT-p was described as effective but only in conjunction with medication compliance.

Non-Western based approaches and other alternatives to standard mental health care were rarely mentioned. In three of the textbooks, the World Health Organization (Jablensky et al, 1992) findings that individuals with schizophrenia have far worse outcomes in Western, industrialized countries than in those considered as developing was directly or indirectly discussed. These findings were explained away in multiple ways that were likely representative of the authors’ opinion, since none of them backed up their explanatory statements with citations, yet they were presented as fact. Some of these explanations were individuals in less developed countries are less likely to require antipsychotic drugs because of genetic differences; those in less industrialized countries have lower levels of expressed emotion; and that individuals from developing countries somehow have more resources to help individuals suffering from psychosis. One textbook had reference to the Hearing Voices Network and none mentioned the Open Dialogue approach. Amazingly, in two textbooks, the moral treatment of the 19th century was described, but no references were provided about just how successful this approach was (see Whitaker, 2002 for an in-depth review). In fact, this approach was specifically dismissed in one textbook as not being helpful at all. The author then went on to describe the evidence for the lack of efficacy of token economies, which did not even exist when moral treatments were used.

IMPLICATIONS FOR EDUCATION AND PRACTICE

The purpose of this study was to analyze popular textbooks in the area of abnormal psychology to evaluate their representation of the scientific literature regarding psychopathology. Misrepresentations of the literature were pervasive in areas associated with biological findings. In addition, there were multiple omissions or biased statements related to psychosocial findings, distortions regarding the efficacy of and adverse effects of various treatments, and a lack of reports of the existence of effective alternative approaches to standard mental health care. Every textbook greatly emphasized biologically based etiological factors and treatments at the expense of psychosocial theories. The effectiveness of medications was consistently overstated while the dangerous adverse effects were minimized or not reported at all. Sections specific to each disorder discussed at great length the precise genes that have been found to be associated with each respective disorder. These discussions were usually premised with the fact that none of these studies has ever been replicated and that over a dozen separate genes have been implicated for these disorders at some point or another. But, the authors nonetheless state that such findings are “promising” and “exciting,” although the robust and replicated evidence for psychosocial factors is said to be “weak” or “unsupported.” Twin studies were used to give credence to the certainty that these disorders were definitely genetically based, with only one textbook containing any mention of the methodological flaws that leave results of these studies debatable. Any discussion of psychosocial factors in the etiology of these disorders was presented in the context of triggering an underlying biological vulnerability, and at times, the scientific literature was distorted and misleading conclusions were given to support this perspective.

The implications of prejudiced and misleading textbook presentations of mental illnesses assumed to be biologically based are many. An important consequence is that which involves the relationship between education based on textbooks and the shaping of a student’s career. Students of psychology who are not exposed to the findings showing the direct and profound effects that early trauma and chronic stress can have in the development of psychopathology may be unable to conceptualize a patient’s difficulties within the context of his or her life when a serious mental illness diagnosis is given. Viewing mental illness as a biological disease is associated with increased stigma and social distance (Pescosolido et al., 2010; Read et al., 2006), suggesting that students may also have difficulty creating a successful, empathic therapeutic bond with some patients.

Another concern is that regarding institutional and government decision making. Public policy may be shaped by individuals who have been educated by professors who assign these textbooks, even if the student does not go on to pursue a career in the mental health field. In addition, the pervasive biased representations and prejudicial omissions of alternative data appear to be reflective of the psychology field in general, rather than an implication of the fault of any particular author or publisher. Therein lies the more important problem; if, indeed, the errors presented in these textbooks is reflective of the political influence of the mainstream psychiatric field in the education of students, then how is it possible for most early career professionals and trainees to provide true informed consent to patients? And, if this misinformation is representative of that which is presented to the public, then how can patients make informed choices based on an honest evaluation of risks and benefits in their quest for effective treatment?

Current research findings regarding depression, ADHD, and schizophrenia have consistently contradicted the pedagogical rhetoric that describes these disorders as lifelong,

biological diseases of the brain represented by chemical imbalances that are fixed by targeted medications. Yet, opposing findings and the complementary discoveries of the efficacy of psychosocial treatment approaches remain poorly appreciated by clinicians. Medications have their place in helping some people during crises or extreme emotional states, but they should be portrayed accurately as to their actual effectiveness and the dangers associated with them. Psychosocial etiological factors and treatments continue to gain greater empirical support while there has yet to be any biomarker found for any DSM-defined disorder (e.g., Kupfer, 2013). Yet, the disorders analyzed in this study are nonetheless described by textbooks as the result of chemical imbalances, having multiple genetic markers, and as clearly and definitely biological in nature, requiring long-term medications for symptom relief. Although this may adhere to the prevailing ideology, it is, nonetheless, a theoretical stance, rather than fact, and should be construed as such to students. The lack of accurate and unbiased presentations of psychopathology is disappointing and leaves vulnerable individuals (i.e., patients) poorly represented. Further, the persistent dissemination of “folklore” in favor of particular belief systems that minimize the harms associated with medications and other biological interventions while inflating the benefits creates an educational system that prevents students and early career professionals from providing true informed consent.

There is a wealth of information in the scientific literature and through professional conferences that can be accessed as professionals continue on their career path that may offer alternative perspectives and treatment options. Students must rely on their educational experience and the information provided by professors and textbooks. Although the textbooks reviewed for this study reflect the dominant paradigm in the mental health field, it behooves educational programs to seek out more enriched and encompassing instructional materials that will allow students to make an informed decision about their own approach toward their patients, rather than guiding students down one homogeneous path that is not necessarily based on impartial facts.

This study is limited by the author's own bias toward a psychosocial and contextual view of emotional distress. The materials reviewed for this exploratory, qualitative analysis may have been interpreted with partiality and may not accurately reflect the intentions of the authors. No coding system was used, and the entirety of the analysis was conducted by one individual; thus, results are subjectively based. However, it is unlikely that the textbook representations of the scientific data or the general themes extracted that reflect the prevailing model of mental illness are entirely distorted. In addition, multiple errors and distortions of the literature were found, which is common for most textbooks dedicated to a broad range of information (Steuer & Ham, 2008).

Many of the errors mentioned may have been because of a common reliance of textbook authors on deductive referencing, wherein the authors seek references after the fact to defend statements that have already been made, resulting in referencing articles that are, at best, only loosely related (Steuer & Ham, 2008). This study did not have the goal of criticizing any particular author or publisher, as it appears clear that the writing of these textbooks was guided by the authors' predetermined ideological stance that conforms to the dominant paradigm. Nevertheless, textbooks are vitally important in the education of early career professionals (Steuer & Ham, 2008). Although efforts to alter textbook presentations may not lead to widespread changes, it is important to attempt to make some improvements. Efforts must be made to correct the negative consequences of the widespread dissemination of misinformation to both students and the public.

It is not the intention of this author to decry the use of all medications for all individuals in a stance often described as being “antipsychiatry”; as stated multiple times, psychotropic medications do help to temporarily alleviate some symptoms in some people, especially during crisis situations. Rather, it is this author’s intention to appeal for mental health professionals to understand the ramifications of continuing to promote false information to the public and to patients, for educating students in a fashion that discourages questioning of the status quo, and for inadvertently not adhering to the ethical standards of the profession by not providing true informed consent when recommending treatment options. Of course, not all programs or facilities promote adherence to the status quo in the same dogmatic fashion, but the popularity of the textbooks analyzed for this study suggest that most do. These concerns have been raised by many researchers, journalists, and clinicians elsewhere (e.g., Breggin, 2008; Jackson, 2005; Moncrieff, 2008; Whitaker, 2010), and it is hoped that educators, clinicians, and the public start to take greater notice.

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