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Eight Essays on Stress and Anxiety

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1. Medical conditions that can contribute to or mimic an anxiety or panic disorder.

Bourne defines the relation of medical conditions and anxiety in two ways: (1) medical conditions that can cause anxiety (chapter 2); and (2) medical conditions that can exacerbate pre-existing anxiety (chapter 16). In this latter group are conditions that may contribute to anxiety, aggravate it or tax one's physical systems to make one more vulnerable to anxiety's effects. The inclusion in both lists of some of the disorders (e.g., PMS, thyroid imbalances, body toxicity) indicates that the line between medical conditions that cause anxiety and those that exacerbate it can be quite fuzzy.

Six medical conditions most frequently cause anxiety. First, Hyperventilation Syndrome involves rapid, shallow chest-breathing that decreases the level of carbon dioxide in the blood resulting in symptoms that mimic a panic attack (e.g., light-headedness, dizziness, feelings of unreality, shortness of breath, trembling or tingling in hands and feet). These symptoms, perceived as threatening, may produce a bona fide panic attack. Second, Hypoglycemia, or low blood sugar levels, can produce anxiety symptoms such as shakiness, dizziness, weakness and disorientation. It can cause panic attacks and aggravate panic reactions caused by other factors. Third, Hyperthyroidism involves excessive secretion of thyroid hormone and can lead to heart palpitations, sweating and generalized anxiety. Fourth, Mitral Valve Prolapse, a slight defect in the valve separating the upper and lower chambers of the left side of the heart, creates rhythm disturbances (palpitations) significant enough to cause some people to panic. MVP occurs more frequently in people with panic disorders than in the general population. Fifth, Premenstrual Syndrome (PMS) involves an imbalance in estrogen and progesterone in a woman's body in the time immediately preceding menstruation. During this time some women experience a worsening of symptoms of anxiety or panic reactions. Sixth, for a small portion of the population, inner ear disturbances, caused by a swelling of the inner ear due to infection, allergy or other problems, create dizziness, light-headedness, unsteadiness, anxiety and panic. Less frequently, several other medical conditions cause anxiety. These include acute reactions to

drugs and medications, withdrawal from alcohol, sedatives or tranquilizers, thyrotoxicosis, Cushing's Syndrome, adrenal tumor, parathyroid disease, temporal lobe epilepsy, post-concussion syndrome, deficiencies in certain vitamins and minerals, emphysema, pulmonary embolism, cardiac arrhythmias, congestive heart failure, hypertension, and environmental toxins.

Among the medical conditions that contribute to anxiety, aggravate anxiety or make one more vulnerable to its effects are adrenal exhaustion, thyroid imbalances, candidiasis, body toxicity, PMS, menopause, Seasonal Affective Disorder, and sleeplessness or insomnia.

Anxiety disorders and adrenal exhaustion frequently occur together. Adrenal exhaustion develops when exposure to prolonged stress results in a disruption of adrenal hormones (cortisol, epinephrine and norepinephrine) that are physiologically involved in the body's response to stress. This disruption causes a state of chronic underfunctioning and exhaustion, which makes it more likely that a person will develop an anxiety disorder in the face of additional stress. A number of the symptoms of adrenal exhaustion are included in other parts of Bourne's discussion as either causes or exacerbators of anxiety (e.g., insomnia, hyperglycemia, PMS).

Two thyroid hormones (thyroxin and triiodothyronine) regulate body temperature and metabolism. Thyroid dysfunction can create an imbalance in which not enough of these hormones is produced (hypothyroidism) or too much is produced (hyperthyroidism). This latter condition is associated with anxiety, hyperactivity, restlessness, and difficulty sleeping. As a result, hyperthyroidism is often mistaken for generalized anxiety.

Candidiasis, or "yeast syndrome," is caused by an overgrowth of the yeast *candida albicans* in the intestinal tract or genitourinary tract, or both. Among the symptoms are depression and mood swings, chronic anxiety and tension, and severe PMS symptoms.

Excessive body toxicity results from the consumption of chemicals, additives or pesticides in food, exposure to environmental pollutants in water or the air, exposure to substances used indoors such as household cleaners, deodorants, hairsprays, cosmetics, carpeting, use of prescription or recreational drugs or buildup of one's own metabolic waste, produced in abundance when under stress. Symptoms of anxiety may be exacerbated by a high level of cumulative toxicity.

As described above, PMS correlates to an imbalance of estrogen (too high) and progesterone (too low) in a woman's body, particularly during the second half of the menstrual cycle. Low levels of progesterone promote water retention; reduce levels of the pain inhibitor serotonin in the brain, and lower endorphin levels, resulting in depression, irritability, mood swings, anxiety and tension. About half of all women experience a premenstrual increase in depression, anxiety and other symptoms of PMS.

Menopause begins with the cessation of menstrual periods for at least six months; on average, when a woman reaches the age of 50-51. Common symptoms include anxiety and/or depression. Again the symptoms are related to the productions of the two female hormones estrogen and progesterone, combined with cultural attitudes about the value of aging women.

Seasonal Affective Disorder is a circadian rhythm disorder usually associated with the lack of light in northern countries during the late fall and winter months. Normally, SAD is associated with depression, a mood disorder, but many with pre-existing anxiety disorders experience an aggravation of symptoms during these months. In addition, recent research by the Mayo Clinic has identified a new type of Seasonal Affective Disorder, which starts in late spring, rather than late fall, and has as its primary symptom not depression, but anxiety.

According to Bourne, insomnia affects 30% of adults and is the most common condition that can aggravate anxiety disorders. Anxiety problems of all kinds are worse after a poor night's sleep. The literature review I conducted for my term paper indicated that sleep disorders, including insomnia, but also others based on circadian rhythm disruptions, interact in a bidirectional manner with anxiety, causing anxiety, exacerbating anxiety and being caused by anxiety. Recent research on this bidirectional relationship has resulted in a revision of the 2013 edition of the DSM-V, which will include a new section on Circadian Rhythm Disorders and Anxiety.

In its discussion of Anxiety Disorder due to Medical Conditions, the DSM-IV organizes the various medical condition that may cause anxiety (described above) in several categories: (1) endocrine conditions (e.g., hyper- and hypothyroidism, pheochromocytoma, hypoglycemia, hyperadrenocorticism); (2) cardiovascular conditions (e.g., congestive heart failure, pulmonary embolism, arrhythmia); (3) respiratory conditions (e.g., chronic obstructive pulmonary disease, pneumonia, hyperventilation); (4) metabolic conditions (e.g., vitamin B12 deficiency, porphyria); and (5) neurological conditions (e.g., neoplasms, vestibular dysfunction, encephalitis).

The diagnostic criteria for anxiety Disorder Due to a Medical Condition requires prominent anxiety, panic attacks or obsession or compulsions in the clinical picture, evidence from history or physical examination that the anxiety is the direct psychological consequence of a general medical condition, an inability to better account for the disturbance by another mental disorder, the observation that the disturbance does not occur exclusively during delirium and that the disturbance causes significant distress or impairment in important areas of functioning.

2. Anxiety versus phobia.

Quoting the *Encyclopedia of Psychology*, the American Psychological Association defines anxiety as “an emotion characterized by feelings of tension, and worried thoughts and physical changes, like increased blood pressure” (www.apa.org/topics/anxiety/index.aspx). It involves a general feeling of tension and apprehension toward the future. It is not specifically directed toward a concrete external object or situation, but is experienced internally and generally as a response to a vague, distant or unrecognized threat. Anxiety is experienced holistically, at once as a physiological, behavioral and psychological reaction. On a physiological level, anxiety is experienced bodily with symptoms such as a rapid heartbeat, muscle tension, feeling of nausea, dry mouth or sweating. Behaviorally, an anxious person may find herself/himself unable to act, speak, write, or take action to deal with the functions of everyday life. Psychologically, an anxious person feels apprehensive or uneasy, or in extreme cases, disoriented and terrorized. This tripartite feature of anxiety means that programs focused on recovery from anxiety must intervene to reduce physiological reactivity, to eliminate avoidance behavior, and to change subjective interpretations, which perpetuate states of apprehension and worry about the future.

Anxiety appears in several forms. It can be spontaneous or “free-floating,” as when a person feels anxious “out of the blue.” In elevated forms, spontaneous panic attacks are possible. Spontaneous anxiety quickly peaks to a high level (within 5 minutes); then, within a few hours, it gradually subsides. Anticipatory anxiety occurs when a person begins to think about what might happen in the future or when a person thinks about facing a phobic or fearful situation. A mild form anticipatory is indistinguishable from worry. In a severe form, anticipatory anxiety can lead to *anticipatory panic*. Situational anxiety only arises in response to a specific situation, when the anxiety experienced is out of proportion to the situation that triggers it. An example of situational anxiety might be confronting your spouse about something you don’t like, driving in the city, or seeing the dentist. When situational anxiety reaches a level that an individual actually starts to avoid the specific situation, it becomes a phobic anxiety. Examples would be not talking to your spouse because you are anxious about raising your concern, not driving in the city, or cancelling your appointment with the dentist.

Anxiety may also be experienced at different levels of intensity. At low levels it may be experienced as an appropriate and reasonable reaction to the challenges of everyday life. Those with high levels of anxiety may experience panic attacks. Panic attacks involve a discrete period of acute apprehension, intense fear or discomfort that develops abruptly and reaches a peak within 10 minutes. According to the DSM-IV, of the following 13 symptoms, a limited-symptom attack would show two or three symptoms, while a full-blown panic attack would show four or more: (1) palpitations, pounding heart, or accelerated heart rate; (2) sweating; (3) trembling or shaking; (4) sensation of shortness of breath or smothering; (5) feeling of choking; (6) chest pain or discomfort; (7) nausea or abdominal distress; (8) feeling dizzy, unsteady, lightheaded or faint; (9) derealization (feelings of unreality) or depersonalization (being detached from oneself); (10) fear of losing control or going crazy; (11) fear of dying; (12) paresthesias (numbness or tingling sensations); (13) chills or hot flashes. To be diagnosed as having a panic disorder, a person would have had to have two or more panic attacks **and** at least one of these attacks would have had to be followed by one month or more of persistent concern about having another panic attack, or worry about the possible implications of having another panic attack. Panic disorder alone does not involve phobia, since the panic does not occur because one is thinking about or entering a phobic situation; rather it occurs spontaneously and unexpectedly for no apparent reason (this distinction between anxiety and phobia is discussed below). This is in contrast with agoraphobia, where fear of having a panic attack is associated with specific situations in which it might be difficult to escape or in which help might be unavailable.

Anxiety disorders are distinguished from normal anxiety or worry in that anxiety disorders are (1) more intense (for example, involving panic attacks); (2) persist over a longer period of time (several months); and (3) lead to phobias that interfere with everyday functioning. In the following paragraphs, two anxiety disorders are discussed: Generalized Anxiety Disorder and Obsessive-Compulsive Disorder. Panic disorder was described above and PTSD, Acute Stress Disorder, Anxiety Disorder Due to a Medical Condition, and Substance-Induced Anxiety Disorder are discussed in responses to other questions in this final exam.

General Anxiety Disorder is characterized by chronic anxiety that persists for at least six months but is not accompanied by panic attacks, phobias or obsessions. It has six diagnostic criteria.

First, the person has excessive anxiety and apprehensive expectation, occurring more days than not for a period of at least six months, about a number of events or activities (more than one), such as school or work performance. Second, the person finds it difficult to control the worry. Third, the anxiety is associated with at least three of the following symptoms (only one item is required in children): restlessness or feeling keyed up or on edge; being easily fatigued; difficulty concentrating or mind going blank; irritability; muscle tension; sleep disturbance. Fourth, the anxiety is not better explained by a different disorder. Fifth, the anxiety or its physical symptoms cause clinically significant distress or impairment in social, occupational or other important areas of functioning. Sixth, the anxiety is not due to the direct physiological effects of a substance.

The essential features of Obsessive-Compulsive Disorder are recurrent obsessions or compulsions that are severe enough to be time consuming or cause marked distress or significant impairment. Obsessions are ideas, thoughts, images or impulses that seem senseless (more than excessive worries about real life problems) but continue to intrude into one's mind (e.g., repeated thought about contamination, repeated doubts, need to have things in a particular order, aggressive or horrific impulses such as images of violence or thoughts of doing violence to someone else, and sexual imagery). Compulsions are behaviors or rituals that one continues to perform in order to neutralize the anxiety created by the obsessions (e.g., excessive hand washing to dispel the fear of being contaminated by germs, checking the stove again and again to ensure that it is turned off, or cleaning). Compulsions may also be mental acts, such as praying, counting or repeating words silently. Adults with OCD recognize that their obsessions or compulsions are excessive or unreasonable (this does not apply to children), yet they remain irresistible, resulting in frustration about lack of control over them. The obsessions and compulsions also cause marked distress, are time consuming (taking more than one hour per day) and interfere with the individual's normal functioning.

Whereas anxiety is experienced internally and generally as a response to a vague, distant or unrecognized threat, *phobias are directed toward a concrete, specific, external situation or object, that is within the realm of possibility*. We have mentioned agoraphobia above; in the discussion below we illustrate this distinction of phobia from anxiety with reference to special phobias and social phobia

Special phobia involves a strong fear and avoidance of *one particular type* of object or situation. There are no spontaneous panic attacks or no fear of panic attacks in situations with no escape as in agoraphobia; rather, direct exposure to the feared object or situation can elicit a panic attack. The DSM-IV lists five sub-types: (1) Animal Type is the fear cued by animals or insects, and generally has a childhood onset; (2) Natural Environment Type is fear triggered by objects in the natural environment such as storms, heights or water (childhood onset); (3) Blood-Injection-Injury Type involves fear cued by seeing blood, receiving an injection, an injury or facing an invasive medical procedure; (4) Situational Type is cued by a specific situation including public transportation, tunnels, bridges, elevators, flying, driving or enclosed spaces; (5) Other Type is used when fear is triggered by stimuli not identified above. The diagnostic criteria clearly distinguish special phobia from the more general, non-specific, vague feelings of apprehension that characterize anxiety disorders. They include: marked or excessive fear that is excessive or unreasonable, cued by the presence of or anticipation of a specific object or situation; exposure

to the phobic stimulus invariably provokes an immediate anxiety response, which may take the form of a panic attack; the person recognizes that the fear is excessive and unreasonable; the phobic situation is avoided or endured with intense anxiety or distress; the avoidance associated with the phobia interferes with the person's normal routine and functioning; and in individuals under 18 the duration is at least 6 months.

Social phobia involves fear of embarrassment or humiliation in situations where one is exposed to the scrutiny of others or in situations in which one must perform. The fear is stronger than the normal anxiety one would expect to experience in such a situation and is also strong enough for the person with the social phobia to avoid such situations. Social phobias include specific situations such as fear of public speaking, fear of blushing in public, of choking or spilling food while eating in public places, of being watched at work, of using public toilets, of writing or signing documents in the presence of others, of crowds, and of taking examinations.

3. Substance-Induced Anxiety Disorder

Substance-Induced Anxiety Disorder is diagnosed when anxiety symptoms are the direct result of the physiological effects of the presence of or withdrawal from a substance (e.g., a drug of abuse, a medication or a toxin exposure). There are five essential features of Substance-Induced Anxiety Disorder. First, anxiety, panic attacks, or obsessions or compulsions dominate the clinical picture. Second, evidence from history, physical examination or laboratory findings demonstrate that either these symptoms developed during or within one month of the substance intoxication or withdrawal, or that the medication used was etiologically related to the disturbance. Third, the disturbance is not better accounted for by an anxiety disorder that is not substance induced (e.g., that the symptoms persisted prior to the onset of the substance use, or that they persisted for at least a month after the cessation of withdrawal from the substance). Fourth, the disturbance does not occur exclusively during the course of a delirium. Fifth, the disturbance causes significant distress or impairment in social occupational or other important areas of functioning. This diagnosis is made instead of the diagnosis of Substance Intoxication or Substance Withdrawal only when the symptoms of anxiety are greater than what would normally be associated with intoxication or withdrawal and when the symptoms are significant and persistent enough to warrant clinical attention. Specifiers may include the specific substances (see below), the specific type of anxiety experienced (generalized anxiety, panic attacks, obsessive-compulsive symptoms, or phobic symptoms) and whether the disturbance developed during intoxication or withdrawal or is associated with either.

Substances that can potentially induce and anxiety disorder are divided into three categories: (1) substances related to intoxication or withdrawal (listed below with their DSM-IV code); (2) medications that evoke anxiety symptoms; and (3) metals and toxins that cause anxiety symptoms.

Substances related to intoxication that can cause anxiety include the following classes: alcohol (291.89); amphetamines and related substances (292.89); caffeine (292.89); cannabis (292.89); cocaine (292.89); hallucinogens (292.89); inhalants (292.89); phencyclidine and related substances (292.89); and other or unknown substances. Substances related to withdrawal are

identified in the following classes: alcohol; cocaine; sedatives; hypnotics, and anxiolytics; and other or unknown substances.

Some medications that evoke anxiety symptoms include: anesthetics and analgesics; sympathomimetics or other bronchodilators; anticholinergics; insulin; thyroid preparations; oral contraceptives; antihistamines; antiparkinsonian medications; corticosteroids; antihypertensive and cardiovascular medications; anticonvulsants; lithium carbonate; antipsychotic medications and antidepressant medications.

Heavy metals and toxins may also cause anxiety symptoms. These include: volatile substances such as gasoline and paint; organophosphate insecticides; nerve gas; carbon monoxide; and carbon dioxide.

4. Post Traumatic Stress Disorder vs. Acute Stress Disorder.

A person experiencing Posttraumatic Stress Disorder (PTSD) develops the characteristic symptoms of anxiety following exposure to a traumatic stressor that involves direct personal experience of actual or threatened death or injury, or threat to one's physical integrity, or witnessing such events or threats to another person, or learning about such events experienced by a family member or close associate. To be diagnosed with PTSD the person's response to the threat must also involve intense fear, helplessness or horror. In children this may be experienced as disorganized or agitated behavior.

The characteristic symptoms of PTSD are organized in three categories: (1) persistent re-experience of the traumatic event; (2) persistent avoidance of stimuli associated with the trauma and a numbing of general responsiveness; and (3) persistent symptoms of increased arousal. When evaluating for the persistent re-experiencing of the traumatic event, at least one of the following should be present: recurring thoughts, recollections or perceptions of the traumatic event, recurrent distressing dreams about the event, illusions, hallucinations and recurrent flashbacks that make the person feel as if the event were recurring, or distress related to cues that symbolize an aspect of the traumatic event. When evaluating for the persistent avoidance of stimuli associated with the event and a numbing of general responsiveness, there must be evidence of at least three of the following symptoms: efforts to avoid thoughts, feelings and conversations about the trauma, efforts to avoid places or people that arouse recollections of it, the inability to recall the event itself or aspects of it, diminished interest in participating in important activities, a feeling of detachment or estrangement from others, restricted range of affects, such as an inability to have loving feelings, or a sense of a limited future (no career, short life, no marriage, etc.). When evaluating symptoms related to increase arousal, at least two symptoms of persistent anxiety not experienced before the trauma must be evidenced; these include difficulty falling or staying asleep, irritability or outbursts of anger, difficulty concentrating, hypervigilance, or exaggerated startle response.

The duration of the symptoms of the disturbance must be for more than one month and the disturbance must cause significant distress or impairment in social, occupational or other important areas of life. PTSD is specified as acute if the duration of symptoms is less than three

months, or chronic if symptoms persist for three months or more. If symptoms appear at least six months after the stressor, PTSD is specified “with delayed onset.”

The primary difference between PTSD and Acute Stress Disorder (ASD) involves the duration of the symptoms. Whereas in PTSD, the symptoms must persist for more than one month, in ASD, the symptoms last for a minimum of two days and a maximum of four weeks. As in PTSD, in ASD, symptoms of persistent re-experiencing the trauma, avoidance and numbing and hyperarousal occur. Similarly, the disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning, including an impairment of the individual’s ability to obtain necessary assistance or mobilize personal resources by telling family members about the traumatic experience. In addition, as in PTSD, the symptoms must be specifically related to the trauma and not due to direct psychological effects of a substance, general medical conditions, or a personality disorder.

5. Anxiety Treatments. The use of psychotropic medications for the treatment of an anxiety disorder.

The most significant reason (pro) for taking a psychotropic medication is that these drugs are a *proven effect treatment* for those with anxiety disorders. Five major classes of medications are often prescribed.

SSRI Antidepressants (selective serotonin reuptake inhibitor), such as Prozac (fluoxetine), Zoloft (sertraline), Paxil (paroxetine), Luvox (Fluvoxamine), Celexa (citalopram) and Lexapro (escitalopram), work by maximizing the amount of the pain-inhibiting transmitter serotonin in the synaptic cleft. Increased serotonin at the synapse, reduces the number of serotonin receptors, making the brain less sensitive to chemical changes, particularly those caused by stress, which results in less vulnerability to anxiety. SSRI’s have been used effectively to treat people with depression and panic, panic with agoraphobia, social phobia and OCD. This class of drugs is not addictive and is tolerated and safe for elderly and mentally ill patients.

High-Potency Benzodiazepines (BZs) are the tranquilizers Xanax (alprazolam), Ativan (lorazepam), and Klonopin (clonazepam). When these are ineffective or produce negative side effects, older BZs such as Valium, Librium or Tranxene are sometimes prescribed. BZs are often used with SSRIs to treat severe cases of panic disorder. BZs work by slowing down activity at the synapse in the limbic system (amygdala) (responsible for emotion) and in the reticular activating system (locus coeruleus) (responsible for arousal), which has a direct and immediate impact on the reduction of anxiety. Of the BZs, the most commonly used is Xanax, which has an anti-depressant effect as well as relieving anxiety and has a less sedating effect than other tranquilizers.

Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs), such as Effexor (venlafaxine), Effexor XR, and Cymbalta (duloxetine) are used when SSRIs have been used unsuccessfully to treat anxiety. They work similarly to the SSRIs, but block the reuptake of both serotonin and norepinephrine at the synaptic cleft, reducing HT5 and NE receptors, reducing the sensitivity of

the brain to chemical changes in areas that affect anxiety. This class of drugs is most commonly used to treat GAD, and is less often used as a treatment for panic disorders and OCD.

Tricyclic Antidepressants include Tofranil (imipramine), Pamelor (nortriptyline), Norpramin (desipramine), Anafranil (clomipramine), Elavil (amitriptyline) and Sinequan (doxepin). These drugs are frequently used to treat panic attacks, whether they occur alone or with agoraphobia. They are also effective in relieving depression. Like the SSRIs, these medications are not addictive. They are also relatively inexpensive.

MAO-Inhibitor Antidepressants are the oldest class of antidepressant medications and include Nardil (phenelzine) and Parnate (tranylcypromine). Because of their severe side effects (see below), these medication are used as a last resort when others have failed. MAOs “devour” reuptaken neurotransmitters in the pre-synaptic cell, reducing the amount of transmitter that can be released in subsequent transmission, which, as described above, reduces both depression and anxiety. MAO-inhibitors have a potent panic-blocking effect and are also used to treat social phobia.

Significant reasons not to take these medications (cons) or to take them judiciously include *negative side effects, the length of time it takes to produce a therapeutic effect, difficulties in withdrawing from the medication (including addiction), the possibility of relapse and their high cost.* The side effects of the SSRIs are agitation, restlessness, dizziness, drowsiness, headaches, nausea, gastrointestinal distress and sexual dysfunction. These are not as severe as those in older antidepressants and tend to go away after about two weeks (with the exception of sexual dysfunction, which can be impeded for up to three months). SSRIs may also take 4-12 weeks to produce a full therapeutic benefit, so some doctors also prescribe a BZ (tranquilizer) for their patients to take while waiting for the SSRIs to take effect. Withdrawing from taking SSRIs can be difficult for some patients; they experience symptoms such as severe panic attacks, dramatic mood swings, sweating and “electric shock” symptoms. For some patients SSRIs can aggravate manic states. SSRIs are also very expensive, making this a difficult alternative for those without insurance. The BZs tend to be addictive. Abrupt withdrawal from these medications produces severe panic attacks, anxiety, confusion, irritability, insomnia and seizures. Rebound anxiety can also occur, in which the anxiety experienced after taking the medication is worse than before one started. BZs are also only effective while one takes them; there is almost a 100% chance that anxiety will return when one stops taking the medicine. BZs can also carry a blunting effect on feelings in general. Most people tolerate SNRIs well, but there can be serious and even fatal side effects for a few. These include the side effects indicated above for SSRI, and high blood pressure, vision changes, abnormal dreams, hostility or aggression, and suicidal thoughts and behavior. For most patients the side effects of Tricyclic Antidepressants tend to disappear after two weeks; they include dry mouth, blurred vision, dizziness and disorientation, weight gain and sexual dysfunction. For 25-30% of patients on this medication the side effects persist. Like SSRIs, these drugs take 3-4 weeks to reach their full effect. In addition, 30-50% of patients relapse after discontinuing this medication. The side effects of MAO inhibitors make this class of drugs the choice of last resort among anti-anxiety medications. Side effects include weight gain, hypotension leading to dizziness, sexual dysfunction, headache, fatigue and insomnia. These are pronounced during the third and fourth weeks before beginning to diminish. Most

serious is that this class of drugs taken with certain foods or medications can lead to a fatal rise in blood pressure.

Apart from side effects, another reason to go slow with medications when treating anxiety disorders is that behavioral interventions are just as effective as medications and they hold up better over time. T. DeAngelis' (APA Monitor, 2008) review of pertinent literature on the efficacy of therapeutic approach vs. medications reveals that "large scale studies on anxiety disorders find that people do equally well with medication or CBT." Unlike depression, however, where the combination of therapy and medication is more effective than either one alone, when treating anxiety disorders, fewer people relapse with CBT than with medication and combined treatments do not seem to confer extra benefits. With social phobias, one gets a bigger short-term burst with medication, but in the long term therapy is just as effective and is associated with better protection against relapse. As for OCD, the "best practice" for dealing with this disorder is a cognitive behavior treatment that combines exposure and ritual prevention (EX/RP). In one experiment researchers compared EX/RP therapy with tricyclic antidepressants and found that EX/RP reduced symptoms more than clomipramine, that EX/RP improved the effects of clomipramine, but that the reverse was not true.

Given that medications for anxiety disorders may have severe side effects, take time to reach full effect, expose patients to problems associated with withdrawal, and can be expensive, and given that therapeutic approaches are equally effective and produce more lasting effects, in most cases it may be prudent to take a staged approach to treatment, in which medications are introduced when therapy has been ineffective or in severe cases when the therapist concludes that medications are necessary to support the therapeutic process. In consultation with a physician, two considerations are appropriate when making this determination. The first consideration involves the client's *personal values* about taking medication. Some prefer to adhere to natural methods alone. With clients who have this value, therapist should explain all options but seek to help them in ways that are consistent with their values, particularly since natural treatments are as efficacious as medications. Second, an assessment of the *severity of the anxiety disorder* is an important consideration when determining the appropriateness of medication as a part of treatment. If the anxiety disorder is severe enough to significantly interfere with one's ability to function in ordinary life, or if the problem causes the individual sufficient distress that they feel very uncomfortable for more than two hours per day, or if a person has had this disorder for a long time (more than a year) and therapy has not worked to reduce it, then approaches that include medications could be considered.

6. Components of a comprehensive wellness program for the treatment of anxiety.

Whenever I see the word "comprehensive" I think "this is going to have to be a long answer." Fortunately you've asked us to discuss wellness programs within the context of treating anxiety, which shortens it a little.

Wellness begins with the recognition that there is a range of intrapersonal, interpersonal, and environmental contexts for each person that contributes to her/his health and well-being. A comprehensive approach to treating anxiety requires not only the recognition and understanding

of these contexts of a person's life, but also and primarily the recognition and understanding that these contexts work together systemically and holistically to create the health or dysfunction of the person. Metaphorically, when God made Adam, God created an intrapersonal system; when God made Eve and put her into relationship with Adam, God created an interpersonal system; and when God put them in the Garden, God created an environmental system. Disruption in any one system results in disruption for them all. Likewise, healing in any one system can contribute to healing within them all. When we talk about the components of a wellness program, we do so with the understanding that what happens physiologically or physically has an impact not only on one's physical system, but also on one's intellect, emotions, spirituality, relationships, community and environment and that this is true for each dimension of life. All components therefore are points of entry into the healing process.

There are several different contexts in which a wellness program could be applicable for a person experiencing anxiety. One context might be self-treatment for a person who is experiencing stress or low-level anxiety and wants to learn and practice more healthy life-skills to deal with it. Another context is therapy, where the therapist might take the role of a coordinator of resources for the client, introducing her/him to the components of a wellness program that are specifically applicable to the type and level of anxiety experienced, and to subject matter experts who can assist in the various components of the program. What follows is a description of components of a wellness program organized within intrapersonal, interpersonal, and environmental contexts of human experience.

Intrapersonal components of a comprehensive wellness program

Most wellness programs focus on the intrapersonal perspective, including approaches to controlling anxiety that are physical (physiological), emotional, intellectual, behavioral and spiritual. The symptoms of anxiety are physiologically produced through the impact of biological and chemical processes originating in the brain on the central and peripheral nervous systems. Such physiological processes not only produce physical symptoms of anxiety and panic, but also influence thoughts and emotions, which lead to plans and actions (behaviors) that may be expressions of anxiety. Components of a wellness program that control anxiety at an intrapersonal level could include positive changes in nutrition, regular exercise, addressing sleep problems, such as insomnia or delayed sleep disorder, and regular check-ups at the doctor to identify and eliminate any medical causes of anxiety; meditation, mindfulness, relaxation exercises, self-hypnosis to control emotional reactivity; training, rational thinking and positive self-affirmations, and cognitive-behavioral therapy, which aims to solve problems concerning dysfunctional emotions, behaviors and cognitions through a goal-oriented, systematic procedures, including graduated exposure to panic-inducing objects and situations; and spiritual practices such as prayer, meditation, chanting, and singing, which help one find meaning and purpose in life. At high levels of anxiety a comprehensive wellness program could include medication in consultation with a physician. In addition, social support for intrapersonal issues is important. This might include a group, a therapist, a member of the clergy, or trusted friends.

Without going into detail into all the intrapersonal components listed above, particularly those described in other parts of this exam, here we focus briefly on nutrition, exercise, sleep, meditation, mindfulness, progressive muscle relaxation and positive self-affirmations.

Developing a nutritional plan is an essential part of a comprehensive wellness plan. Certain foods and substances tend to aggravate stress and anxiety. These include caffeine, nicotine, stimulant drugs, salt, preservatives, hormones in meat, and sugar. In addition certain eating habits exacerbate anxiety, including eating too fast, eating too much, a failure to chew food thoroughly, and drinking too much fluid with a meal. Controlling how and what we eat is an essential component of a comprehensive wellness plan to treat anxiety. Bourne recommends a nutritional plan that includes more fruits and vegetables, high fiber, increased protein relative to carbohydrates, reduced refined or processed foods, the elimination of caffeine, nicotine, refined sugars, and drinking at least 6 glasses of bottled spring or purified water per day.

An effective way to decrease generalized anxiety and to overcome a predisposition to panic attacks is exercise. Regular, vigorous exercise has also been shown to diminish anticipatory anxiety toward phobic situations and expedite recovery from all phobias. Exercise reduces anxiety physiologically by releasing endorphins into the bloodstream, which creates a sense of well-being or “runner’s high,” by increasing alpha-wave activity in the brain, which helps with focus and concentration, by increasing the metabolism of excess anxiety hormones, adrenaline and thyroxin, by reducing skeletal muscle tension and improving flexibility and posture, especially from stress-induced pain. Exercise also strengthens the heart and lungs, lessens fatigue, decreases blood pressure and cholesterol levels, and controls weight. It can also provide intellectual and psychological benefits such as increased feelings of well-being, reduced insomnia, improved concentration and memory, increased self-esteem and a greater sense of control over anxiety. An effective exercise program should involve three types of exercise: First, aerobic exercise (increasing the heart rate to $(220 - \text{your age}) \times .75$ for at least 10 minutes), practiced 4 to 5 times per week, and last between 20-30 minutes per session. Aerobic exercise can include running or jogging, brisk walking, swimming or cycling. Aerobic focuses on the cardiovascular system and stamina. Second, stretching exercises (yoga) are effective for increasing flexibility. Third, strengthening and toning exercises (weight lifting, progressive resistance exercises) are effective for building muscle mass and increasing strength. Exercise plans should be developed in consultation with a physician or physical trainer, based on one’s current physical and medical condition and stress or anxiety reduction goals.

While many who suffer anxiety experience insomnia as a symptom of anxiety, research now shows that insufficient or disrupted sleep can be a cause of anxiety. In fact the genes that control the sleep/wake cycle are the same genes that are implicated in pre-disposing one toward anxiety. Most adults need 7-8 hours of sleep per night to maintain optimal functioning. As we age, this requirement is reduced to about 6 hours per night in retirement. Sleep apnea, insomnia, and circadian rhythm disorders can all be causes and aggravators of anxiety. A comprehensive wellness program should have as a component an assessment of sleep habits. Beyond personal and anecdotal reporting from relatives, a full assessment, usually covered by insurance, can be made at a sleep clinic. Then in consultation with a physician, sleep issues can be addressed as a significant part of one’s wellness plan.

Meditation has been found to reduce chronic anxiety and worry and to increase energy/productivity, sharpen alertness, increase objectivity, increase accessibility of emotions and heighten self-esteem/sense of identity. Physiologically, those who practice meditation

experience a decrease in heart rate, blood pressure, alpha brain wave activity and oxygen consumption, and a decrease in metabolic rate and concentration of lactic acid in the blood. While there are many different forms of meditation, most forms involve attention, awareness, understanding, and compassion. Meditation requires an attitude of acceptance, letting go and non-judgment; correct technique that involves a quiet place, deep breathing, muscle relaxation and regular practice; concentration; and mindfulness. Meditation focused on mindfulness is an easily learned self-regulatory practice for reducing stress and anxiety. It can be done simply, whenever and wherever one can find a calm space. Research has shown that the ability to concentrate attention can promote deep relaxation in the body, and that the ability to be more mindful in each situation can help break the destructive habitual reactions to anxiety. In a technique known as “Mindfulness-Based Stress Reduction (MBSR),” individuals are taught to practice mindfulness meditation and mindful movement (gentle stretching and yoga) as ways to become more aware, more present, and more relaxed as they face the stresses of their own lives. Mindfulness involves two components: (1) intentional regulation of attention to and awareness of the present moment; and (2) nonjudgmental acceptance of the ongoing flow of one’s sensations, thoughts and emotions. In numerous studies, mindfulness has been negatively (inversely) associated with anxiety, depressive symptoms and personality disorder symptoms and positively associated with greater emotional regulation. This has led to its increasing use to treat anxiety disorders. Empirical literature suggests that it helps alleviate anxiety symptoms in four ways: (1) it creates a willingness to approach, rather than avoid, distressing thoughts and feelings; (2) it increases one’s ability to effectively engage in treatment; (3) it decreases physiological arousal and stress reactivity; and (4) it can foster psychological flexibility, which helps individuals learn when it is appropriate and beneficial for them to sit with distressing internal experience and when it might be beneficial to shift attention away from such thought to prevent disassociation.

Among the practices included in a comprehensive wellness program is Progressive Muscle Relaxation (PMR). This technique can be practiced in any quiet place at home, at work, on one’s lunch break or on a park bench. One recent study elucidated the stress-reducing impact of PMR practiced during the lunch break at work (J. Krajewski, R. Weiland & M. Sauerland, Regulating strain states by using the recovery potential of lunch breaks, *Journal of Occupational Health Psychology*, 2010). In this study 14 call center employees were assigned to either 20-minute Progressive Muscle Relaxation (PMR) or small talk (SM) groups. The researchers studied the employees for a period of six months, measuring their emotional, mental, motivational and physical strain. Measurements were taken every two months at 12 noon, 1, 4, and 8 pm, using independent observers and self-reporting ratings. The results indicated that only the PMR group reduced post-lunchtime and afternoon stress.

Rational Thinking and Positive Self-Affirmations. Those who suffer from phobias, panic attacks, and general anxiety are especially prone to engage in negative self-talk. The words “What if . . .” are the key signals of apprehension and anticipatory anxiety. Self-talk is often automatic, triggered by a single word or image. It’s irrationality that sounds like truth. It’s also a perpetuator of avoidance. It can also aggravate a panic attack. ”). There is a range of irrational ways of construing reality, all capable of generating anxiety. Albert Ellis, the author of rational-emotive therapy, has identified 10 irrational thoughts that can induce anxiety (countered here by a corrective, rational thought): (1) it’s absolutely necessary for me to have the approval and love of my friends (Pleasing everyone is impossible); (2) I must always be competent and perfect (I

can strive to do my best); (3) Why can't people be and act the way they're supposed to be and act? (I can't control other people or shape every event); (4) Some people are evil and should be punished (Some people demonstrate antisocial behavior and may need to change); (5) External events cause most human misery or events trigger emotions (I have control over my thoughts and actions, not over events and other people); (6) We must fear the unknown and uncertainty (Save fear for the actual event instead of worrying and triggering anxiety over nothing); (7) It's easier to avoid than face life difficulties (That doesn't make the difficulties disappear); (8) You most definitely need a stronger being or person to rely upon (This might undermine your independent judgment and your awareness of your particular needs); (9) The past has a lot to do with determining the present (We can learn from past experiences, we can identify some wrong decisions and start changing now); (10) Happiness can be achieved by endless leisure (This is called Elysian Fields Syndrome, there is more to happiness than just that). Countering negative Self-talk by making positive, rational counterstatements is an easily learned technique used to control anxious thoughts (e.g., in the face of a fear of flying, one can assert, "I am confident and calm about boarding the plane"; instead of demanding perfection, one can say or think, "It's okay to make mistakes"). Ellis suggests a process for learning to substitute rational thinking for anxious irrational thinking: write down the facts about an event, write down your negative self-thoughts about the event; write down the emotions that the negative self talk expresses, dispute and challenge the negative self talk (What evidence exists for the truth or falsity of this self talk? What's the worst that could happen to me? What's the best that could happen if I looked at this differently?), and substitute a positive or rational counterstatement for the negative self-talk and practice saying it. Learning to counter one's negative and irrational thought patterns with rational counterstatements can be an effective component of a comprehensive anxiety reduction program.

Interpersonal components of a comprehensive wellness program

The second part of a comprehensive wellness program for the treatment of anxiety takes into account the fact that anxiety can be caused or aggravated by dysfunction in one's interpersonal systems. Realities such as marital discord, difficulties with children, conflicts with neighbors or friends, communication breakdowns at work, or conflicts with one's boss can all be causes of, contributors to, or aggravators of one's anxiety. In fact, from a system's perspective, within any system of relationships, any member of the system can be the symptom bearer for breakdowns of relationship between other members of the group. For example, a child may exhibit anxiety symptoms as a result of conflict or distancing between her or his parents. Comprehensive wellness programs for anxiety reduction or control include components that help people effectively manage their interpersonal interactions. Such components could include ways to better manage interpersonal interactions such as assertiveness training, communication training, conflict resolution training (mediation, negotiations skills training), marriage and family therapy, workplace conflict resolution systems, human resources safety valves, coaching and mentoring programs.

"Freedom is the ability pause between the stimulus and the response and in the pause to choose" (Rollo May). Assertiveness is a way to use one's personal power to accomplish one's objectives. It involves the ability to perceive and evaluate a situation or circumstance and, from a range of possible responses along the passive-aggressive continuum, choose the one that most effectively and efficiently accomplish one's objective. In this sense assertiveness could involve an

aggressive behavior, as when assertively stops an intruder into one's home from harming one's family. Conversely assertiveness could involve a purely passive response, as when one refuses to answer a phone call during dinner so that one's full attention is directed to a family conversation. Assertiveness involves expressing your feelings, asking for what you want in a simple, direct, honest fashion, saying "no" to something you don't want; setting priorities and commitments and acting on them, maintaining dignity and respect for others; letting others know where you stand without manipulation or attack, and taking responsibility for getting your own needs met. Nonverbal assertive behaviors involve facing the other person in a non-threatening, open posture, looking directly at them (not staring), maintaining your ground while communicating, and staying calm. Being assertive requires that you understand your feelings, needs, wants and rights, so that if the situation calls for it, you can make them known without equivocation. A pattern for delivering an assertive response includes evaluating your rights, designating a time for a conversation, stating the problem and its consequences, expressing your feelings (if appropriate) and making a clear request. Requests should be made with "I" statements (I think, I want, I feel, I believe, etc.). Assertiveness is an effective tool for anxiety sufferer because it encourages the recognition, experience and expression of one's personal power in the presence of people or circumstances that tend to engender powerlessness and anxiety.

Environmental components of a comprehensive wellness program

The third part of a comprehensive wellness program for the treatment of anxiety considers the fact that environmental realities (defined broadly) can cause or contribute to one's anxiety. These factors include economic realities related to finances and work; political realities related to systems of governance that are oppressive, autocratic, or exclusive; war and international conflict; cultural narratives that create prejudice and contribute to negative self-image; and acts of nature that destroy property and take life. While many of these contributors to anxiety are beyond the scope of most wellness programs, there are clear actions that individuals or groups can take to relieve anxiety in the face of such environmental threats to well-being. These include financial planning; family scenario planning in the event of natural disasters (hurricane preparedness); wills, trusts and estates that address the needs of children in the event of the early death of parents; decisions to simplify one's life and live within one's means; participation in the political process, participation in the improvement of justice through church or community service projects; volunteer work; support groups and maintaining work-life balance. Activities such as these are empowering and help overcome the feeling that one is victimized by the realities of life beyond one's control.

7. Summaries of four journal articles regarding PTSD.

Vujanovic, A. A., Niles, B., Pietrefesa, A., Schmertz, S. K., & Potter, C. M. (2011). Mindfulness in the treatment of posttraumatic stress disorder among military veterans. *Professional Psychology, Research and Practice*, 42(1), 24-31.

Approximately 25% of veterans returning from Operation Enduring Freedom and Operation Iraqi Freedom presenting to the Veterans Health Administration meet the diagnostic criteria for PTST. Currently the VHA employs empirically supported treatments for PTST such as Cognitive Processing Therapy (CPT) and Prolonged Exposure (PE). Although these treatments are decreasing symptoms for many veterans experiencing PTST, a large portion of trauma-exposed veterans with PTSD do not seek help, drop out of treatment, refuse treatment, or are not helped by treatment. In many cases, these veterans are referred to skill-based treatment programs, which often include a mindfulness-based component. This article discusses how this practice relates to trauma-related suffering of military veterans.

Mindfulness involves two components: (1) intentional regulation of attention to and awareness of the present moment; and (2) nonjudgmental acceptance of the ongoing flow of one's sensations, thoughts and emotions. In numerous studies, mindfulness has been negatively (inversely) associated with anxiety, depressive symptoms and personality disorder symptoms and positively associated with greater emotional regulation. This has led to its increasing use to treat PTSD. Empirical literature suggests that it helps alleviate PTSD symptoms in four ways: (1) it creates a willingness to approach, rather than avoid, distressing thoughts and feelings; (2) it increases one's ability to effectively engage in treatment; (3) it decreases physiological arousal and stress reactivity; and (4) it can foster psychological flexibility, which helps individuals learn when it is appropriate and beneficial for them to sit with distressing internal experience and when it might be beneficial to shift attention away from such thought to prevent disassociation.

The authors identify five psychotherapeutic interventions in which mindfulness has been used with relevance for PTSD: (1) the goal of Acceptance and Commitment Therapy is to increase psychological flexibility so that clients become more committed to identified goals and values. Mindfulness is one of several techniques that had been used successfully to facilitate psychological flexibility; (2) Dialectical Behavior Therapy is used primarily to treat borderline personality disorder and related problems comorbid with PTSD. DBT includes Mindfulness as one of its four areas of skill-building; (3) in Mindfulness-Based Stress Reduction, mindfulness is used to cultivate decentered and nonjudgmental perspectives in relation to cognitions, emotions and physical sensations; (4) in Mindfulness-Based Cognitive therapy, mindfulness and cognitive approaches are applied to prevent a recurrence of major depressive episodes; and (5) in Mindfulness-Based Prevention, mindfulness techniques are used to help clients cope with urges to use substances following treatment for substance use disorders.

Research currently supports the clinical utility of using mindfulness to lower posttraumatic stress, however there is currently a dearth of research supporting the implementation of mindfulness training as an adjunct to the empirically support treatments for PTSD. The authors suggest that it is imperative that future research focus on elucidating if, how and which mindfulness approaches might be clinically meaningful in the treatment of PTSD.

Engdahl, R. M., Elhai, J. D., Richardson, J. D., & Frueh, B. C. (2011). Comparing posttraumatic stress disorder's symptom structure between deployed and nondeployed veterans. *Psychological Assessment* 23(1), 1-6.

The DSM-IV diagnostic criteria for PTSD include a three factor symptom model: re-experiencing the trauma; effortful avoidance of the trauma-related stimuli and the numbing of general emotional responsiveness, and hyperarousal. A number of empirical studies fail to support this model. Consequently, the DSM-V is reorganizing the criteria for PTSD into four-symptom clusters: reexperiencing, avoidance, negative alterations of mood and cognition, and hyperarousal. This article identifies variables that may help determine which of two four-factor models may provide a better fit for evaluating PTSD symptoms in deployed and nondeployed veterans.

The first four-factor model, developed by King et al. (1998) (the emotional numbing model), divides the C cluster symptoms into two separate factors: effortful avoidance and emotional numbing. The four factors of the King model are therefore: reexperiencing, avoidance, numbing and hyperarousal. The second developed by Simms et al. (2002) retains reexperiencing and avoidance, and combines three hyperarousal symptoms (sleep difficulty, irritability, and concentration problems) with the symptoms of the numbing factor to form a dysphoria factor. The four factors of the Simms model are therefore reexperiencing, avoidance, dysphoria and hyperarousal.

Using a multigroup confirmatory factor analysis, Engdahl et al. evaluated which model was a better fit for two groups of veterans: peacekeepers previously deployed to a war zone (deployed), and those trained for peacekeeping operations who were not deployed (non-deployed).

In general, the study found empirical support for the four factor model over the current three-factor model. Moreover, it found that for the non-deployed group, there was not a significant difference in fit between the King model and the Simms model. For the deployed group, however, the Simms model was found to be a better fit. In addition, except for observable variable intercepts, all other factor structure parameters were significantly different between deployed and non-deployed groups for both PTSD models. Engdahl et al. conclude that the complexity of posttraumatic reactions may vary as a function of trauma exposure severity and therefore, the factor structure may be quite different between groups with or without exposure to major traumatic events.

Moore, B. A., & Krakaw, B. (2010). Imagery rehearsal therapy: An emerging treatment for posttraumatic nightmares in veterans. *Psychological Trauma: Theory, Research, Practice and Policy*, 2(3), 232-238.

Nightmares are prevalent in those exposed to PTSD, particularly those in the military who are exposed to trauma multiple times. Traditional treatments presume that nightmares are secondary phenomenon requiring treatment of the primary condition that caused the nightmare; more recent models consider nightmares to be directly treatable. Nevertheless in practice, the idea that direct nightmare treatment is possible is not dismissed, but is rarely embraced.

An emerging model views nightmares as a sleep disorder. Poor sleep quality is routinely found in those who suffer nightmares; nightmare sufferers also have a high prevalence of sleep-disordered breathing problems. This has led to the view that nightmares should be viewed as a specific problem requiring treatment distinct from other issues. The question arises as to which

treatment options would produce the best results for nightmare sufferers: one that treats it as a secondary symptom of a deeper problem or one which treats it directly (for example, through Imagery Rehearsal Therapy)?

The treatment of nightmares as a primary condition in cases of PTSD has shown not only a decrease in nightmares but also a decrease in PTSD symptoms. Improvements were similar across all three clusters of PTSD symptoms. The authors recommend that IRT is an effective direct treatment for those working with military personnel who present with nightmares. The article then provides details on the use of IRT with military personnel.

The recommended IRT model is a two factor CBT usually applied in group format. The first factor views nightmares as a behavioral disorder; the second factor suggests that nightmares will persist among those with damaged, disabled or malfunctioning imagery capacity. The treatment draws patients into a discussion of nightmares as a learned behavior, like insomnia. It then educates patients on the nature of the human imagery system with respect to dreams and waking images, and finally provides a 3-step instruction to (1) select a nightmare; (2) change it any way you wish and (3) rehearse the new dream. Long-term follow-ups, although uncontrolled, have shown dramatic long-term effects.

The authors consider IRT to be particularly useful in military contexts for several reasons. First, as a short-term evidence based treatment, IRT is consistent with the current focus in the military on brief and tested psychological interventions. Second, most military personnel take a proactive approach to solving difficult problems. IRT aligns with this in that it places a significant degree of personal responsibility on the patient. Third, since there is a stigma among military personnel for treatment related to mental health (e.g., PTSD), service member may be more apt to consider direct treatment for nightmares rather than PTSD. As stated above, the treatment of nightmares along has been found to improve PTSD symptoms as well. Finally IRT seems to be particularly effective in settings with veterans. Since data are just emerging on the use of IRT with service members, further examination is warranted. Such a study might compare the effectiveness of IRT with other cognitive-behavior based therapies.

Andrews, B., Brewin, C. R., Stewart, L., Philpott, R., & Hejdenberg, J. (2009). Comparison of immediate-onset and delayed-onset posttraumatic stress disorder in military veterans. *Journal of Abnormal Psychology*, 118(4), 767-777.

This study had two objectives. The first was to compare the clinical presentation of delayed onset versus immediate onset PTSD in terms of the way symptoms are acquired, the type of PTSD symptoms that are reported, overall symptom levels, the existence of conditions co-morbid with PTSD and current functioning. The second objective was to address critical gaps in knowledge of etiological mechanisms by investigating the overall amount of military trauma exposure in veterans with immediate onset, delayed onset and no PTSD, as well as differences between these groups in dissociative and emotional reactions at the time of military trauma.

Interviews were conducted with 142 British veterans, who were receiving a war pensions for PTSD or physical disability. Through these assessments, 40 veterans were distinguished with immediate onset PTSD, 63 with delayed-onset PTSD and 39 with no lifetime or current PTSD. Of the 63 service members with delayed-onset, the mean delay was 61.56 months. In with PTSD the average onset was 14.06 months after veterans left the service, with a median onset time of 1 month postdischarge. Both the immediate and the post-onset groups were similar in the number and type of symptoms reported at the onset of their PTSD. The delayed onset group differed in that they reported a gradual accumulation of symptoms that began early and continued throughout their career. They also reported depression and alcohol use prior to the onset of PTSD. Both groups reported a similar amount of trauma, but the post-onset group initially experienced with less disassociation, anger and shame. Also veterans with delayed-onset PTSD were more likely to report the occurrence of a significant life stressor in the year prior to the onset of their PTSD.

One practical implication of the study is to draw attention to a particular group of veterans who may be at risk for delayed-onset PTSD. They can be identified by episodes of major depression and alcohol abuse; and by a pattern of gradual acquisition of subclinical posttraumatic symptoms.

8. Anxiety and stress management strategies of meditation, physical exercise, refuting irrational ideas, and asserting yourself.

Meditation

Meditation has been found to reduce chronic anxiety and worry and to increase energy/productivity, sharpen alertness, increase objectivity, increase accessibility of emotions and heighten self-esteem/sense of identity. Physiologically, those who practice meditation experience a decrease in heart rate, blood pressure, alpha brain wave activity and oxygen consumption, and a decrease in metabolic rate and concentration of lactic acid in the blood. While there are many different forms of meditation, most forms involve attention, awareness, understanding, and compassion. Meditation requires an attitude of acceptance, letting go and non-judgment; correct technique that involves a quiet place, deep breathing, muscle relaxation and regular practice; concentration; and mindfulness. Meditation focused on mindfulness is an easily learned self-regulatory practice for reducing stress and anxiety. It can be done simply, whenever and wherever one can find a calm space. Research has shown that the ability to concentrate attention can promote deep relaxation in the body, and that the ability to be more mindful in each situation can help break the destructive habitual reactions to anxiety. In a technique known as “Mindfulness-Based Stress Reduction (MBSR),” individuals are taught to practice mindfulness meditation and mindful movement (gentle stretching and yoga) as ways to become more aware, more present, and more relaxed as they face the stresses of their own lives. Mindfulness involves two components: (1) intentional regulation of attention to and awareness of the present moment; and (2) nonjudgmental acceptance of the ongoing flow of one’s sensations, thoughts and emotions. In numerous studies, mindfulness has been negatively (inversely) associated with anxiety, depressive symptoms and personality disorder symptoms and positively associated with greater emotional regulation. This has led to its increasing use to treat anxiety

disorders. Empirical literature suggests that it helps alleviate anxiety symptoms in four ways: (1) it creates a willingness to approach, rather than avoid, distressing thoughts and feelings; (2) it increases one's ability to effectively engage in treatment; (3) it decreases physiological arousal and stress reactivity; and (4) it can foster psychological flexibility, which helps individuals learn when it is appropriate and beneficial for them to sit with distressing internal experience and when it might be beneficial to shift attention away from such thought to prevent disassociation.

Physical Exercise

An effective way to decrease generalized anxiety and to overcome a predisposition to panic attacks is exercise. Regular, vigorous exercise has also been shown to diminish anticipatory anxiety toward phobic situations and expedite recovery from all phobias. Exercise reduces anxiety physiologically by releasing endorphins into the bloodstream, which creates a sense of well-being or "runner's high," by increasing alpha-wave activity in the brain, which helps with focus and concentration, by increasing the metabolism of excess anxiety hormones, adrenaline and thyroxin, by reducing skeletal muscle tension and improving flexibility and posture, especially from stress-induced pain. Exercise also strengthens the heart and lungs, lessens fatigue, decreases blood pressure and cholesterol levels, and controls weight. It can also provide intellectual and psychological benefits such as increased feelings of well-being, reduced insomnia, improved concentration and memory, increased self-esteem and a greater sense of control over anxiety. An effective exercise program should involve three types of exercise: First, aerobic exercise (increasing the heart rate to $(220 - \text{your age}) \times .75$ for at least 10 minutes), practiced 4 to 5 times per week, and last between 20-30 minutes per session. Aerobic exercise can include running or jogging, brisk walking, swimming or cycling. Aerobic focuses on the cardiovascular system and stamina. Second, stretching exercises (yoga) are effective for increasing flexibility. Third, strengthening and toning exercises (weight lifting, progressive resistance exercises) are effective for building muscle mass and increasing strength. Exercise plans should be developed in consultation with a physician or physical trainer, based on one's current physical and medical condition and stress or anxiety reduction goals.

Rational Thinking

Those who suffer from phobias, panic attacks, and general anxiety are especially prone to engage in negative self-talk. The words "What if . . ." are the key signals of apprehension and anticipatory anxiety. Self-talk is often automatic, triggered by a single word or image. It's irrationality that sounds like truth. It's also a perpetuator of avoidance. It can also aggravate a panic attack. "). There is a range of irrational ways of construing reality, all capable of generating anxiety. Albert Ellis, the author of rational-emotive therapy, has identified 10 irrational thoughts that can induce anxiety (countered here by a corrective, rational thought): (1) it's absolutely necessary for me to have the approval and love of my friends (Pleasing everyone is impossible); (2) I must always be competent and perfect (I can strive to do my best); (3) Why can't people be and act the way they're supposed to be and act? (I can't control other people or shape every event); (4) Some people are evil and should be punished (Some people demonstrate antisocial behavior and may need to change); (5) External events cause most human misery or events trigger emotions (I have control over my thoughts and actions, not over events and other people); (6) We must fear the unknown and uncertainty (Save fear for the actual event instead of

worrying and triggering anxiety over nothing); (7) It's easier to avoid than face life difficulties (That doesn't make the difficulties disappear); (8) You most definitely need a stronger being or person to rely upon (This might undermine your independent judgment and your awareness of your particular needs); (9) The past has a lot to do with determining the present (We can learn from past experiences, we can identify some wrong decisions and start changing now); (10) Happiness can be achieved by endless leisure (This is called Elysian Fields Syndrome, there is more to happiness than just that). Countering negative Self-talk by making positive, rational counterstatements is an easily learned technique used to control anxious thoughts (e.g., in the face of a fear of flying, one can assert, "I am confident and calm about boarding the plane"; instead of demanding perfection, one can say or think, "It's okay to make mistakes"). Ellis suggests a process for learning to substitute rational thinking for anxious irrational thinking: write down the facts about an event, write down your negative self-thoughts about the event; write down the emotions that the negative self talk expresses, dispute and challenge the negative self talk (What evidence exists for the truth or falsity of this self talk? What's the worst that could happen to me? What's the best that could happen if I looked at this differently?), and substitute a positive or rational counterstatement for the negative self-talk and practice saying it. Learning to counter one's negative and irrational thought patterns with rational counterstatements can be an effective component of a comprehensive anxiety reduction program.

Assertiveness

"Freedom is the ability pause between the stimulus and the response and in the pause to choose" (Rollo May). Assertiveness is a way to use one's personal power to accomplish one's objectives. It involves the ability to perceive and evaluate a situation or circumstance and, from a range of possible responses along the passive-aggressive continuum, choose the one that most effectively and efficiently accomplish one's objective. In this sense assertiveness could involve an aggressive behavior, as when assertively stops an intruder into one's home from harming one's family. Conversely assertiveness could involve a purely passive response, as when one refuses to answer a phone call during dinner so that one's full attention is directed to a family conversation. Assertiveness involves expressing your feelings, asking for what you want in a simple, direct, honest fashion, saying "no" to something you don't want; setting priorities and commitments and acting on them, maintaining dignity and respect for others; letting others know where you stand without manipulation or attack, and taking responsibility for getting your own needs met. Nonverbal assertive behaviors involve facing the other person in a non-threatening, open posture, looking directly at them (not staring), maintaining your ground while communicating, and staying calm. Being assertive requires that you understand your feelings, needs, wants and rights, so that if the situation calls for it, you can make them known without equivocation. A pattern for delivering an assertive response includes evaluating your rights, designating a time for a conversation, stating the problem and its consequences, expressing your feelings (if appropriate) and making a clear request. Requests should be made with "I" statements (I think, I want, I feel, I believe, etc.). Assertiveness is an effective tool for anxiety sufferer because it encourages the recognition, experience and expression of one's personal power in the presence of people or circumstances that tend to engender powerlessness and anxiety.