The Impact of Mindfulness Based Stress Reduction Therapy for Treating Anxiety

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Abstract

Anxiety is a common emotion that can be experienced at various developmental milestones throughout childhood. Both healthy and unhealthy forms of anxiety exist and although the majority of youth move through anxious episodes with little to no disruption in their lives, 10-20% of youth experience anxiety-related symptoms that significantly affect their emotional, social, and academic development. When anxiety turns into excessive worries, it can prevent individuals from enjoying normal life experiences, and from adapting to the changing demands of life. Early intervention is a necessary step towards preventing the development of an anxiety-related disorder, as children who suffer from high anxiety are more likely to become anxious adults. This paper will explore the research findings on Mindfulness-Based Stress Reduction (MBSR) therapy and the positive impact it has on treating anxiety. The research supports MBSR as an effective method for symptom management in anxiety-related disorders.
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The Impact of Mindfulness Based Stress Reduction Therapy for Treating Anxiety

Healthy and Unhealthy Forms of Anxiety

Anxiety is a common part of life that can occur at different stages of the life cycle. In childhood, some experts say that anxiety is first experienced when an infant cries for food (Rosenberg, 2009). Babies quickly learn that the two main things they need in life are “food, and sleep” (Rosenberg, 2009, p. 220), and when these needs are not met infants will cry and in essence may experience a mild form of anxiety and panic until their needs are met (Emalnie, Laptook, Mayes, & Ratt, 2006).

In the toddler years, anxiety can be beneficial as it can prevent harmful behaviors such as getting too close to dangerous stimuli such as fire, venturing too far from parental vision, and testing unfamiliar boundaries (Ivanovski, & Malhi, 2007). In school-aged years, it is common for a child to experience fears and worries about their first day of school, as a mild form of separation anxiety is experienced, part of a normal developmental process (Rosenberg, 2009).

Most children experience short-lived fears, such as fear of large animals, monsters, or the dark, but quickly grow out of them as they learn that there is no real danger in the imagined fears (Emalnie, et al. 2006). An example of this would be a child who is afraid of the dark. The child would likely become anxious at bedtime and try avoiding being alone or having to enter their bed until he or she learns through experience that no monsters exist, and that he or she are safe in the dark. These experiences are routine parts of development (Rosenberg, 2009).

Self-Preservation

Teasdale (2009) proposed that humans are born with a common inherent self-preservation mechanism called the “fight-or-flight response” (Teasdale, 2009, p. 64). This instinctual trait has kept the human race safe from predators for millions of years (Teasdale,
The fight-or-flight response allows actions to occur without needing to cognitively think about a response prior to acting. It is the body’s natural way of impulsively doing what it takes to get away from danger without allowing the mind to over-think or second-guess the action.

When the human body experiences acute stress, the sympathetic nervous system is activated due to the sudden release of hormones that stimulate the adrenal glands (Davidson, Dunne, & Lutz, 2007). When the adrenal glands are stimulated, an increase in heart rate, blood pressure, and breathing will occur, and once the threat is gone, it generally takes 20-60 minutes for the body to return to homeostasis (Davidson, Dunne, & Lutz, 2007). The flight-or-fight response is an example of a healthy form of anxiety that can prevent potential dangers, but it can become problematic when anxiety triggers this reaction at unnecessary times. This is not to say that the response is wrong, but that the interpretation of the trigger is off.

The amygdala, found in the limbic system controls the fight-or-flight response in the brain. Carmody, Dunlop, & Evans (2010) conducted research studies to evaluate the biological effects of meditation. They refer to the amygdala as the “relaxation response,” (p. 20) as it is responsible for bringing the brain back to calm, homeostasis (Carmody, Dunlop, & Evans, 2010). Their findings conclude that the neurochemical effects of meditation directly oppose the fight-or-flight responses due to changes that occur in the autonomic nervous system following meditation practices. Therefore, meditation can help decrease the triggers that elicit fight-or-flight responses through repetitive practice (Carmody, Dunlop, & Evans 2010).

The Cycle of Anxiety

Alfred Adler often stated that children are wonderful observers but terrible interpreters (Ansbacher, 1991, p. 30). This concept could be applied to a child experiencing anxiety whom triggered a misfiring flight-or-fight response. A clear example of this phenomenon would be
children who fear something bad will happen to their parent while they are away at school, which can then trigger a mild flight-or-fight reaction, and cause the child to become engulfed with racing thoughts, an increased heart rate and sweaty hands (Davidson, Dunne, & Lutz, 2007).

The focus is directed at the physical sensations, which causes greater worry and false evidence that something is seriously wrong. By this point, the child may not even remember what made him worry in the first place as he or she now internally focused on the somatic symptoms, causing the anxiety and panic to intensify (Evans, Ferrando, Findler, Haglin, Smart, & Stonewall, 2008). When this happens a child is likely to react by shutting down and, avoiding or becoming emotionally overwhelmed, which only perpetuates the cycle (Rosenberg, 2009).

In situations like this, the child’s anxiety is tricking him into thinking that the feelings and emotions are dangerous and therefore should be avoided (Grossman, 2008). When anxiety-provoking situations like this perpetuate, a child’s brain can start to develop neural pathways that reinforce their physiological reaction to stress or anxiety (Davidson, Dunne, & Lutz, 2007).

**Development of Neural Pathways**

Neural pathways work to make repetitive tasks easier by allowing the mind to take shortcuts by creating an impulsive, unconscious reaction to certain stimuli without having to stop and cognitively make a decision every time a similar situation is experienced (Davidson, Dunne, & Lutz, 2007). Essentially, neural pathways are formed any time a task or behavior is repeated. The more often one reacts in a similar way, the faster and more ingrained the neural pathway becomes, until the reaction is automatic and occurs without conscious thought (Davidson, Dunne, & Lutz, 2007).
Flight-or-fight reactions, and the creation of neural pathways are beneficial in the right circumstances, but can also become problematic when the anticipated fears prevent participation in certain areas of life (Rosenberg, 2009), which could hinder one’s development (Grossman, 2008). Therefore, an important first step in helping a child overcome his anxiety is to stop the cycle of anxiety from occurring and then change the old limiting pathways of anxiety, worry, and fear, by replacing them with new habits through confidence building, and calming skills such as mindfulness (Goldin, & Gross, 2010).

**Summary**

Anxiety is a natural part of the human experience, starting in infancy. As mentioned above there are healthy and unhealthy forms of anxiety that can prevent harm from occurring. In contrast, anxiety can also become problematic if the trigger is misinterpreted, if somatic symptoms of anxiety become the main focus of one’s worries, and if neural pathways related to negative reactions and behaviors are formed in response to a skewed trigger or response to an overly-anticipated fear. It is important to be aware of such symptoms and to monitor the duration and effects it has on one’s life, so that an appropriate treatment can be implemented to reduce the risk of developing an anxiety-related disorder.

**Anxiety Disorders and Early Interventions**

If a child is unable to outgrow a common developmental phase of anxiety, which is normally short-lived and harmless, the risk of developing an anxiety-related disorder increases (Biegel, Brown, Schubert, & Shapiro, 2009). Anxiety disorders affect one in eight children and are amongst the most common mental disorders experienced in the U.S. (Emslie, et al. 2006). Research supports that children with untreated anxiety disorders tend to have decreased academic achievement, underdeveloped social skills, isolating tendencies, rigid thinking and are
at risk for substance abuse later in life (Rosenberg, 2009). It is common for anxiety disorders to co-occur with other disorders such as depression, post-traumatic stress disorder (PTSD), attention-deficit hyperactivity disorder (ADHD), and eating disorders (Davidson, Dunne, & Lutz, 2007).

**Common Signs of Anxiety Disorders**

Common signs of anxiety disorders include excessive fears, worries, avoidance, nervousness, and or shyness that become problematic in one’s life (West, 2006). Research has shown that there is no one cause for anxiety related disorders. Genetics alone cannot cause anxiety, because within one family there may be a child who seems to have been born anxious, while the other sibling could be fearless (Davidson, 2010). This is the same for every genetic tendency, though, some children inherit the tendency other family members may not.

Exposure to stressful environments can commonly lead to anxiety, but even with exposure to a traumatic event, only about 1/4 of all children develop a post-traumatic stress disorder (West, 2006). It is best to understand the causes of anxiety as resulting from a combination of an increased vulnerability to anxiety through genetics and the physiological makeup and exposure to a specific traumatic experiences or acute stressors (Davidson, Dunne, & Lutz, 2007).

**Types of Childhood Anxiety Disorders**

Childhood anxiety can develop at different developmental stages. For example, Separation Anxiety Disorder, Selective Mutism, and Specific Phobias usually occur in children under the age of nine, whereas Generalized Anxiety Disorder (GAD), Social Phobia, Obsessive-Compulsive Disorder (OCD), and Panic Disorders often emerge in middle to late childhood.
through adolescence (Goldsmith, & Volbrecht, 2010). Acute Stress Disorder and Post-Traumatic Stress Disorder can occur at any age (Rosenberg, 2009).

Youth may also exhibit symptoms of anxiety differently from the way adults do. Therefore, it is important to note that the presence of anxiety does not always indicate that the child has an anxiety disorder (Siegel, 2007). Some of the common characteristics of anxious children can include, a state of excessive fear of the future, ruminating thoughts about past events, being overly preoccupied with internal experiences or somatic complaints and the inability to accept logical reasoning for developed fears and worries (Goldsmith, & Volbrecht, 2010). Rosenberg (2009) explained childhood anxiety in terms of “viewing the world through tunnel vision” (Rosenberg, 2009, p. 219), which restricts the ability to consciously become aware of what is driving the anxious thoughts and behaviors.

**Types of Interventions**

It is important that parents and primary caregivers are aware of the early signs of anxiety so that early intervention can be implemented to prevent future complications (Dietz-Waschkowski, Nord, Schupbach, & Walach, 2007). Anxiety related problems in children can be treated through a combination of interventions, the most common being medications, psychotherapy, family therapy, behavioral therapy, and mindfulness techniques (Emslie, et al. 2006).

Alfred Adler (1959) stressed the importance of using encouragement and empathy as essential tools when working with clients. Despite the chosen intervention, showing empathy while providing consistent encouragement can help any provider establish a therapeutic relationship (Azab, 2001). Encouragement and empathy can provide the client with the support and insight needed for them to utilize their own strengths for overcoming their problems. It can
be especially effective with an anxious client as their anxiety causes them to be extra cautious, and hesitant to trust a stranger/new provider (Davidson, 2010).

**Summary**

Anxiety disorders have high prevalence rates in the U.S. and are one of the most commonly diagnosed childhood mental disorders (Davidson, Dunne, & Lutz, 2007). Early intervention programs are critical for decreasing development of secondary disorders and for decreasing problematic symptoms that start to effect the overall functioning of a child. With early intervention for anxiety management, evidence suggests that the problems associated with anxiety can be curtailed (Gold, Laye-Gindhu, Matinez, Miller, Yu, & Waechtler, 2011). The intervention for treating anxious youth that will be further discussed in the following sections is a mindfulness approach called, Mindfulness Based Stress Reduction Therapy (MBSR).

**Mindfulness Based Stress Reduction Therapy**

Jon Kabat-Zinn, Ph.D. molecular biologist from the University of Massachusetts Medical Center founded the Mindfulness-Based Stress Reduction (MBSR) program in 1979 (Grossman, 2008). He has done extensive research on patients suffering from anxiety and depression and developed this therapeutic intervention in an effort to help reduce the symptoms associated with anxiety disorders. MSBR is believed to alter emotional responding by modifying cognitive processes of emotional reactivity and regulation of negative self-beliefs (Cropley, Kabat-Zinn, Light, Wheeler, 1998).

**The History of Mindfulness**

The term “mindfulness” refers to a state of non-judgmental and “benevolent attention to all contents” (MchIntosh, 1997, p. 40), which arise in the mind. Mindfulness is an attitude that can be adopted with every single mental occurrence and can lead to a partial decoupling between
mental events and voluntary or involuntary actions, including physiological reactions (Breen, Brown, Cozzolino, Kashdan, Levesque, & Niemiec, 2010).

Mindfulness originally derives from the Theravada tradition of Buddhism, which is a 2,500-year-old practice (MchIntosh, 1997) that was developed for means of cultivating greater awareness and insight (Cropley, et al. 1998). Mindfulness works to bring awareness into one’s thoughts, reactions, and overall behaviors, which in turn builds a more serene and balanced emotional and affective state (MchIntosh, 1997).

The concept of mindfulness has generated multifunctional use in multiple domains such as clinical science, cognitive-affective neuroscience, social experiential studies, life coaching and leadership trainings across the U.S. (Goldin, & Gross 2010). MBSR therapy is also amongst the most studied form of mindfulness training in the United States and is adaptable to a wide range of psychological settings and conditions (Biegel, et al. 2009). According to the Center for Mindfulness in Medicine Healthcare at the University of Massachusetts Medical School, more than 240 hospitals, clinics, and other health-related settings worldwide offer clinical interventions based on mindfulness based stress reduction (West, 2006).

**How MBSR Works**

Research has shown that MSBR can diminish the habitual tendency to emotionally react to, and ruminate about, transitory thoughts and physical sensations. It also works to improve behavioral self-regulation, immune functioning, and volitional orienting of attention in both mentally/physically ill and healthy populations (Carmona, Goldin, McQuaid, & Ramel, 2004) and is multi-dimensional in terms of race and age.

MBSR tends to foster a more adaptive processing of thoughts and emotions that underlie the psychological and behavioral problems associated with stress and anxiety (Biegel, et al.
Through its structured focus on clear attention to the present moment, mindfulness training is thought to foster meta-cognitive awareness, acceptance, and relief that helps to disengage from the emotional and cognitive events that fuel psychological problems (Goldin, & Gross, 2010).

The core concept of Mindfulness-Based Stress Reduction therapy is learning how to enhance the capacity to be mindful, and present in the current moment (Bruce, Constantino, Manber, & Shapiro, 2010). Repetitive practice of mindfulness can also help reduce impulsivity, anxiety, and overall stress experienced internally and externally in one’s life. This approach was designed for application to any aged individual and can be flexibly adapted to specific populations across a broad spectrum (Cropley, et al. 1998).

**Mindfulness vs. Meditation**

It is important to note the differences between mindfulness and meditation as they often overlap with one another. Mindfulness is considered a form of insight that brings full attention to the body and mind in the present moment without trying to alter or manipulate the experience (MchIntosh, 1997). The task is simply to observe the mind and body in its current nature to reduce revolving thoughts and impulsive reactions (Grossman, 2010). This is similar to an Adlerian concept of “meeting the clients where they are at” (Adler, 1959, p. 47) in an effort to encourage them to guide the session to areas that are most bothersome or relevant to them in that moment.

Meditation is a form of concentration that focuses on the concepts and imagery in an effort to become one with the object of focus (Biegel, et al. 2011). Meditation is more of a skill that produces short-term benefits, while mindfulness is a way of thinking and living that can lead to long-term balance and inner peace (Goldin, & Gross, 2010). Both techniques take great skill
and practice and are proven to have similar effects. The effects of mindfulness and meditation include, increasing overall awareness of the body, mind, and environment which prevents impulsive reactions and stress-provoking chemicals from developing in the body (Biegel, et al. 2011).

**Informal vs. Formal Practices**

Mindfulness skills are typically practiced in two ways: formally and informally. Formal practices consist of taking time out of each day to intentionally sit, stand, or lie to focus on breath, bodily sensations, thoughts, and emotions (West, 2006). The core modules that are taught in a formal MBSR practice include: breath-focused attention; body scan-based attention to the transient nature of sensory experiences; shifting attention across sensory modalities; monitoring moment-to-moment experiences; walking meditation; and eating meditation (Copley, et al. 1998). Examples of each MBSR module are explained in detail below:

*Breath-Focused Attention*

Breath-focused attention focuses all attention to breathing techniques. The awareness of breathing brings one into the body, the body which lives in the present moment. The living, present energy of the body in the form of breathing is an alternative to the future and past-oriented stories or negative critical comments that surface the mind and thought processes (Biegel, et al. 2009). There are always sensations of some form occurring in the body, which compromise the experiences of the current moment.

Breathing is continuously affected by emotional states of being. Paying attention to breathing on a regular basis provides an early warning sign that alerts the individual when he or she is moving into problematic emotional states (Dietz-Waschkowski, Kersig, Nord, Schupbach, & Walach, 2007). Breath-focused attention teaches individuals the
process of becoming and dissolving (Siegel, 2007). As one inhales, the breath comes into being, as one exhales the breathe dissolves. This metaphor can be used for explaining other life experiences, such as difficult events or emotions that also come and go.

In MBSR therapy it is believed that every moment something comes into being of the present moment, something else dissolves (Siegel, 2007). The cycles of breathes prove that life experiences are not fixed, rather constant change in an avoidable part of life that elicits fleeting emotions that should be viewed as sensations that surface and then dissolve.

*Body Scan Based Attention*

Body scan based attention involves shifting attention to various bodily processes or sensations for prescribed periods of time (Cropley, et al. 1998). This can be done standing, sitting or preferably lying down in a comfortable manner. When a comfortable position is accomplished the instruction is for one to close his eyes and selectively attend to his toes, until full sensory awareness is accomplished (this could include noticing where the toes are, if and how they are moving, what they feel like in their current position, if they are warm or cold and so on). Once this occurs, the focus can move to the ankles, then the calves, knees, thighs, stomach and so forth until the upper-most region of the head is reached for a complete intentional body scan (Cropley, et al. 1998).

People quickly learn that they can move from one sensation to the other without feeling stuck, simply by focusing and refocusing their attention when needed, in the absence of anxiety or other active attempts to force shifting of awareness (Goldin, & Gross, 2010).
**Shifting Attention across Modalities**

Shifting attention across modalities is a process of accepting thoughts and emotions to arise and learning how to observe such thoughts without becoming consumed with the content or related emotions that coincide with such reactions (Cropley, et al. 1998). Systematic practice in shifting attention enhances performance on perceptual tasks. The context and expectation associated with a stimulus shifting across modalities are central to its efficacy in changing the somatosensory cortical mapping in the brain, which in turn can help block the formation of stress-related hormones and the long-term effects that are created from such hormones (Ivanovski, & Malhi, 2007).

**Monitoring Moment-to-Moment Experiences**

Is an alert and open mode of perceiving and monitoring mental content from moment-to-moment perceptions, sensations, cognitions, and affect. Moment-to-moment monitoring involves a non-reactive, dispassionate monitoring of content to ongoing experiences in efforts of becoming fully aware of the nature of emotional and cognitive processes (Kranser, 2004). The act of being consciously aware of the thoughts, feelings, and sensations strengthens the ability to monitor such reactions without trying to solve, judge, or troubleshoot the situation (Kranser, 2004). This is considered to be a mental state of relaxed awareness, marked by an openness and curiosity towards internal reactions in the mind and body. Moment-to-moment monitoring helps to reduce emotional reactivity, while enhancing emotional regulation (Breen, et al. 2010).
Walking Meditation

Is characterized by subject/object duality in which, a subject, or agent observes and reflects on affective, cognitive, or sensory objects of perception that are separate from him or herself (Cropley, et al. 1998). Focusing attention on a specific object of experience or maintaining an orientation to monitor changing objects of experience uses and maintains the subject/object duality by keeping the attention involved with the procedures of the techniques (Cropley, et al. 1998).

Walking meditation is a contemplative practice where close attention is paid to the action of walking. It is not thinking or contemplating while walking, but being mindful of the muscles, placements, and motions of the body and number of strides taken with every step of the foot (Siegel, 2007). The idea is not to walk slowly or to over-analyze the movements, but to move mindfully in the desired direction. As the mind starts to calm, the ability to notice becomes clear as the inter-relationship of the mind and body connection is achieved (Siegel, 2007).

Eating Meditation

Consuming food is a common act that has the greatest degree of unconsciousness, grasping, aversion and indifference in terms of human behavior. The act of eating is quickly learned in infancy. Within days of being a live babies develop a habitual routine of moving their lips, tongue, throat, and hands in the tasks of digesting and receiving their food (Astin, et al. 2005). The acts of sucking and swallowing rapidly becomes unconscious behaviors within days of being alive and will remain unconscious behaviors unless meditation and mindfulness skills are taught (Astin, et al. 2005).
Eating is one of the most important behaviors learned in life as it sustains the physical body, brings pleasurable sensations, and provides emotional joy, satisfaction, and bonding experiences (Astin, et al. 2005). So why relearn such a beneficial behavior? Eating meditation, like other forms of mindfulness can reinforce the core skills of concentration, sensory clarity, and emotional equanimity (Astin, et al. 2005). Eating meditation can increase physical health by preventing obesity, overeating tendencies, and choking hazards. The tendency to eat too fast usually means that too much food is being consumed, which also increases the risk of choking if attention is not paid to what and how much food is being consumed (Astin, et al. 2005).

The feeling of being “full” takes a longer time to uphold a mind-body connection if mindfulness practices are not utilized. Therefore, by eating mindfully one is able to pay closer attention to the physical activity of eating slowly, while contemplating the food itself, which is the main goal of eating meditation (Astin, et al. 2005).

In guided sessions of eating meditation, a piece of citrus fruit is provided to the receiver. He or she is then asked to take one bite of the fruit, close his or her eyes while slowing chewing on the piece of fruit, observing every oral and physical sensation that occurs in the moment. After the fruit is digested, he or she would be asked to verbally describe what was experienced in great detail, and the physical sensations that were present while eating. Most commonly people report the strong, sweet taste of the fruit and report that is tasted “better” than any fruit of that kind that they had ever had before (Astin, et al. 2005, p. 168). Eating mindfully is known to heighten all physical senses, which increases the taste, smell, and overall experience of eating (Biegel, Brown, & Shapiro, 2007).
Informal practices involve bringing mindful awareness to daily activities throughout the day, by volitionally shifting attention to the present moment and observing the transient nature of thoughts, emotions, memories, mental images, and physical sensations (West, 2006). The training of attention works towards improving the capacity to disengage from aversive emotional stimuli, to enable greater emotional flexibility (Grossman, 2008).

An example of an informal mindfulness technique includes exposure to a stimulus that triggers a certain reaction of anxiety to form. The goal would be to acknowledge the specific thoughts and feelings and allowing them to surface to the conscious mind (West, 2006). By analyzing the existence of such thought patterns, the reasons for their presence, and meaning behind the triggers become clearer. Identifying triggers can reduce the physiological effects that occur in the body, as the mind is able to accept the triggers and thought processes as just thoughts, without becoming emotionally deregulated. When one can mindfully observes thoughts as they arise, the tendency or urgency to want to shut down, solve the problem or judge the emotions is lessened, as the thoughts are viewed as observations of acceptance versus consequences that need to be avoided or resolved in the moment (West, 2006).

**Research Findings**

Psychotherapeutic treatments of children with mental health problems can be difficult. Some children can benefit from psychotherapy and play therapy interventions while others have a low response rate (Goldsmith, & Volbrecht, 2010). In a recent review of commonly used approaches of treating anxious children, Gold, Herne, Hopper, Hulland, Smith, & Tansley (2010), found that 55% of treated children showed diagnostic remission through the use of mindfulness-based interventions. This suggests that there is a need to implement more
mindfulness-based programs to enhance emotional well-being, and increase adaptive coping skills in therapeutic settings (Emslie, et al. 2006).

John Kabat-Zinn and colleagues conducted a pilot study during the fall and spring of 1988, using adult subjects with Generalized Anxiety Disorder (GAD) and Panic Disorder (PD) with MBSR as the treatment modality (Cropley, et al. 1998). Results revealed a statistically significant decrease in anxiety in the selected participants by the end of the study. Specifically, participants reported reductions in the amount of panic attacks per week, level of fears experienced, avoidant behaviors, and agoraphobia (Cropley, et al. 1998). The results remained statistically significant at the three-month follow-up as well. The participants reported that they were able to view their anxious thoughts prior to physically experiencing them and that viewing the anxiety as just thoughts was instrumental in itself (Cropley, et al. 1998).

A study of the comparison group that was not involved in this group, but received the same MBSR training, revealed that there was a reduction in anxiety in these participants as well (Cropley, et al. 1998). This led researchers to suggest that the similarities in the results of the study are able to be generalized.

A three-year follow up study used 18 of the participants from the original study and 39 members of the comparison group and found that 14 of the 18 participants continued practicing MBSR techniques and skills on their own over a course of three years. Of those fourteen participants all but one reported lowered levels of anxiety (Cropley, et al. 1998). This suggests that even at the three-year follow-up, positive gains were made through MBSR therapy as the larger majority of participants reported long-term benefits from their treatment (Cropley, et al. 1998).
Another study that researched MBSR in children, took place in a New York City elementary school in Harlem (Miller, Reid, & Semple, 2005). The study explored “the potential usefulness of mindfulness techniques for treatment of childhood anxiety” (Miller, Reid, & Semple, 2005). The modalities practiced in this study included, walking meditation, eating meditation, and mindfulness relaxation modules, which were taught in single sessions on different days. The participants were also asked to practice the learned techniques at home during the 6-week study. The seated meditation was reduced to three minutes in order to accommodate the short attention span of a typical child. The study took place in a school where the children could be excused from class to attend the weekly forty-five minute sessions (Miller, Reid, & Semple, 2005).

The guided sessions maintained the same structure throughout the six-week course of the study. Each session included completion of a pre-session feeling faces scale, writing down a current worry and throwing it in the worry warts waste basket, short guided breath mediation, review and discussion of the previous week’s homework, mindful eating using single raisins, group discussion of mindfulness eating experience, three-minute seated breath mediation, distribution of handouts and homework exercises for the following week, a post-session feeling faces scale and a class satisfaction scale (Miller, Reid, & Semple, 2005).

The results of the study found favorable outcomes that support MBSR as an effective tool for reducing anxiety-related symptoms in children. The children improved in areas of academic functioning, internalizing and externalizing problems, overall concentration skills, and self-efficiency (Miller, Reid, & Semple, 2005). Miller, Reid, & Semple (2005) also reported that the children “enjoyed” (p. 384) the program and “were able to understand the lessons and overall concepts of mindfulness” (p. 385).
Evans, Ferrando, Findler, Haglin, Smart & Stowell (2008) studied 36 elderly women, 83% of whom were widows, in a 20-week study designed to evaluate the effects of mindfulness for use of symptom reduction for anxiety and depression. The subjects were chosen based on chronic symptoms of anxiety, nervousness, tension, fatigue, insomnia, sadness, and somatic complaints. About twelve subjects were randomly assigned to each of the three groups; an experimental meditation group, an experimental meditation group with a 10-week follow-up practice involving mediation tapes, and a relaxation group. The Spielberger Self-Evaluation Questionnaire and the Zung Self-Rating Depression Scale were used before and after the treatments, and in the follow-up period of the 2nd group, to assess the results of the study (Evans, et al. 2008).

After a 20-week period of learning and practicing mindfulness skills for 60 minutes a week, the following findings were reached. When the control group and the two treatment groups were compared, the 2nd group who had the follow-up sessions showed a decrease in the symptoms and overall feeling of the state of anxiety. While the treatment group (who did not have follow-up sessions) returned to baseline levels of anxiety-related symptoms. Similar pre-treatment to post-treatment decreases in depression were also found in both groups when compared to the control group, as they maintained significant decreases when compared to the non-practice group (Evans, et al. 2008).

Gallagher, Thompson, & Waelde (2004) studied 95 outpatients diagnosed as psychoneurotic. All of the 95 patients failed to show improvements as a result of traditional treatments. Half were randomly selected for an experimental group that was instructed in meditation and yoga exercises, while the other half, acting as a control were given pseudo-treatments consisting of breathing and stretching exercises. The treatment involved one hour of
practice per day for 6-weeks. Both groups received the same support, reassurance, and placebo tablets. Following treatment, the experimental group showed significant mean decreases in anxiety, which was measured using the Taylor Manifest Anxiety Scale. The control group exhibited no significant change on this scale, while the other 74% of the experimental group was judged to be clinically improved as a result of meditation and yoga (Gallagher, Thompson, & Wealde, 2004)

Criticisms

Although there is extensive literature supporting MBSR therapy, some major criticisms also exist. Research on MBSR is still in its infancy, meaning there is a lack of longitudinal studies, in which long-term changes in the studied populations can be tracked (Davidson, 2010). Another area of concern is that the majority of experiential studies available are based on self-reports, which leave room for potential errors such as under- or over-reporting of changes. MBSR therapy can be an individualized intervention that can be used in combination with other therapies; therefore some critics have questioned whether the effects of MBSR therapy are isolated findings (Davidson, 2010).

Other theorists argue that the emotion regulation module in MBSR therapy is not a tangible entity. Rather, emotion regulation refers to a variety of strategies that can be implemented at different points during the emotion-generative process to influence which emotions arise, when and how long they occur, and how these emotions are experienced and expressed (Kranser, 2004). Therefore, it is hard to gauge whether outside factors, such as, time and placement affect these results, as mindfulness incorporates different modules and practices that vary depending on the participant and setting. Experiential studies that evaluate MBSR could have room for errors in the findings and should be accessed with caution.
Summary

Through MBSR therapy, participants of the studied populations were able gain awareness of, and relate differently to, their thoughts, feelings, and bodily sensations, while cultivating a non-judgmental observation of all the stimuli present in their field of awareness (Dietz-Waschkowski, et al. 2007). Participants were taught to let go of ruminations about the past and fears regarding the future through the experience of an awakened state that is similar to meditation practices. This allowed participants to begin seeing perceptual distortions of unexamined thoughts, sensations, and feelings.

Through the MBSR therapy process, participants recognized how their distorted thoughts often drove their behaviors and how this resulted in movement toward greater states of suffering. A concept Alfred Adler commonly used was moving a client from a “felt minus to a perceived plus” (Adler, 1959, p. 86). This concept is similar to MBSR as it helps clients achieve positive movement towards an improved lifestyle.

Through informal and formal practices of mindfulness, one can learn to recognize habitual thinking patterns and other ingrained behaviors and start to assess whether such patterns are effective or problematic. Through continued practice, many acquire a deeper state of acceptance, peace, and adaptability by learning how to acknowledge difficult feelings and thoughts. There are however, some minor criticisms of MBSR due to lack of longitudinal studies available. Nonetheless, the majority of recent findings support this therapy as an effective tool for treating populations of all kinds and ages with MBSR, which supports that it could also benefit children who suffer from anxiety.
Physiology of Mindfulness Meditation

Buddhist meditation dates back to 2500 years of practice, and was originally designed to deal with problems associated with human suffering (Davidson, 2010). The object of meditation is to become aware of thoughts, feelings, and bodily sensations by simply observing such thoughts and sensations while refraining from the urge to act on them. The observation process can help disengage from self-perpetuating patterns and ruminative thoughts. Developing self-regulation is thought to help anxious and depressed individuals become less reactive to transient mood fluctuations (Davidson, 2010).

The physiological effects of meditation have been studied using various methods of electronic devices such as, photon emission computed tomography (PET), functional magnetic imaging (FMRI), diffusion tensor imaging (DTI), magnetoencephalography (MEG), and electroencephalography (EEG) devices (Davidson, Dunne, & Lutz, 2007). These devices have helped shape the most current knowledge of the effects of meditation on neural behavior to date, and continue to strengthen the medical advances in the field of mental health.

Research Findings

Advanced yogis in India who practiced concentrative absorption could intentionally stop their heartbeats and remain buried underground for extended periods of time, which intrigued researchers to take a closer look at the components in the brain that allow such events to occur (Hirai, & Kasamatsu, 1960). The yogis first began studying the physiological controls of meditation during the 1920’s and 1930’s, as did Zen Buddhist monks in Japan during the 1960’s (Hirai, & Kasamatsu, 1960).

These studies took a closer look at this phenomenon by measuring the brain waves, heart rate, oxygen consumption, skin resistance, and blood pressure of those who practiced meditation.
practices. Hirai & Kasamatsu (1960) found that advanced practices of Zen practitioners in Japan maintained exceptional degrees of moment-to-moment awareness on both internal and external stimuli. These studies were deemed to be groundbreaking at the time as they disclosed feats of autonomic, respiratory, and perceptual control to be possible through self-regulatory strategies.

**Heart Rate Changes and Meditation**

   Mindfulness mediation has shown to decrease the number of heart beats to as low as three to five (Patil, & Telles, 2006). Other studies have found that meditation also decreases blood pressure because of the relaxation of large muscle groups pressing on the circulatory system in various parts of the body (Nagendra, Reddy, & Telles, 2000). Meditation can also help relax smaller muscles that control blood vessels. The resulting elasticity of blood vessel walls helps prevent the pressure inside of them (Patil, & Telles, 2006).

**Hypertension and Meditation**

   Benson and Wallace (1972) studied 22 patients suffering from hypertension. The participant’s mean blood pressure was 150/94 mmHg before meditating and after four weeks of daily meditation practice, their mean blood pressure reduced to 141/87 mmHg.

   Anderson, Liu, & Kryscio (2008) also conducted a study on meditation and hypertension. They studied the difference in blood pressure in hypertensive patients with a control group of 14 who received mindfulness mediation training and 5 patients who did not practice any mindfulness skills. The treatment group recorded average blood pressure reductions of 9 mmHg systolic/8 mmHg diastolic, while the control group’s mean blood pressure decrease was only 1 mmHg systolic/2 mmHg diastolic (Anderson, Liu, & Kryscio, 2008).

   Goleman and Schwarts (1976) exposed 30 experienced individuals who meditate regularly and a control group of non-meditation practicing individuals to high-suspense stressor
films. Skin conductance, heart rate, blood pressure, self-reports, and personality scales were used to measure the effects between the two groups of participants. The results showed that the heart rates and blood pressures of those who meditated tended to recover more quickly from stressful impacts. Goleman and Schwarts (1976) concluded that meditation can play an important role in preventative and rehabilitative medicine.

A recent experiment involving meditation skills, supported findings of reduction in muscle tension and oxygen consumption for those suffering from chronic pain. Gauntlett-Gilbert, McCracken, & Vowles (2007) suggested that in mindfulness practice, the relaxation response lowers the need for defensive mechanisms to react, as the conditioned expectations of threats are consciously recognized as irrational. When the muscular systems lower the body’s need for energy, a slowing and or deactivation of stress-related hormones occur (Gauntlett-Gilbert, McCracken, & Vowles, 2007). Gauntlett-Gilbert, McCracken, & Vowles (2007) have conducted 5 other related studies on mindfulness, and chronic pain and conclude that mediation can directly reduce muscle tension through continued practice.

The Role of Serotonin

Serotonin is a neurotransmitter that controls emotional states, mood regulation and impulsivity (Simon, & Young, 2011). When serotonin levels in the brain change, so will the behaviors associated to the emotional state of mind. When serotonin levels in the brain are low, the risk of developing depression, anxiety, phobias, and obsessive thought patterns can increase. Studies have shown that meditation can increase serotonin production in the brain through continued practice, as meditation creates an overall calming effect that stabilizes emotional states of being while decreasing dysfunctional attitudes (Simon, & Young, 2011).
Effects of Mediation in the Brain

Clark, Luders, Narr, & Toga (2011) studied the brain morphology of experienced individuals who meditate using diffusion tensor imaging (DTI), to study the high angular and spatial resolution of the brain. DTI scans were taken of meditation practitioners who had been practicing daily to weekly meditation for a minimum of 5 years. The results showed an increase in cortical thickness in all meditation practitioners in comparison to the control group of non-meditation practitioners (Clark, Luders, Narr, & Toga, 2011). To support these findings, an 8-week meditation program was held at brain morphology before and after the meditation program. The results showed an increase in gray matter in the left hippocampus, the posterior cingulated cortex, the temporal-parietal junction, and the cerebellum, in those who engaged in long-term meditation practices (Clark, Luders, Narr, & Toga, 2011).

The second study looked at adults who underwent 6 weeks of MBSR therapy. The results showed a decrease in the right basolateral amygdala gray matter density in the studied population. Reduced stress could decrease glucocorticoid levels and modulate the immune system, both of which could feed back to alter the physiological effects in the brain (Clark, Luders, Narr, & Toga, 2011). Clark, Luders, Narr, & Toga (2011) concluded that both long-term and short-term meditation practices have altering physiological effects that can activate certain regions in the brain.

Davidson & Lutz (2008) independently studied the effects of mediation on the brain. Studying Buddhist monks, they found that meditation can lead to lasting reorganization of brain activity. Using an EEG machine, it was concluded that individuals who meditate gained greater control over the thought generating processes in the brain (Davidson, & Lutz, 2008). Iversen & Newberg (2003) also studied biological changes related to meditation and found that meditation
can help the body return to a non-aroused state by reducing elevated blood levels when stressful events are experienced. When participants were in a relaxed state after practicing meditation, their blood pressure was reduced, due to a lower level of the hormone norepinephrine in the blood stream (Iversen & Newberg, 2003). Both studies found positive changes in brain activity as a result of meditation practices.

Researchers have documented that those who meditate for 30 minutes a day for eight weeks have measurable changes in the gray-matter density in parts of the brain associated with memory, sense of self, empathy, and stress (Ray, & Reginald, 2004). MRI scans have also shown increased gray matter in the hippocampus, the brain region responsible for memory and learning in those who practiced meditation both long and short-term (Ivanovski & Malhi, 2007).

**Summary**

To date, studies determining the physiological effects of mediation far outweigh all other areas of inquiry in medical literature. This is due primarily to the fact that in most cases, physical measurements are accessible, easily recorded, and consistent with reductionist assumptions about the body. Research supports that mindfulness practices could be used as an adjunct treatment in behavioral medicine, as its practice has been proven effective in lowering symptoms related to certain diseases and disorders. The success of mindfulness meditation can be attributed to the physiological changes that counteract stress, as well as the perceptual retraining of emotional disturbances such as depression and anxiety.

**Adlerian Influences on Mindfulness**

Although Alfred Adler did not elaborate on meditation in his studies or research on Individual Psychology, he did discuss spirituality, which could closely align to mindfulness practices today. Meditation, when practiced regularly can guide one towards a deeper
relationship with the Divine (Cropley, Kabat-Zinn, Light, & Wheeler, 1998). Adler developed the 5-life tasks scale to help his clients evaluate which tasks were being over-or undercompensated in terms of finding more insight into what may be causing problems in their lives (Ansbacher, 1991). One of Adler’s 5-life tasks is spirituality, therefore meditation and mindfulness practices could fit into his theory of finding balance in the 5 life tasks scale.

Marwa Azab (2001) studied patients suffering from bulimia and treated the patients using Adlerian techniques. Azab (2001) used Adler’s theory of discouragement as the focus of study to reasons that client’s were engaging in binging and purging. According to Azab (2001), encouragement is integral to Adlerian therapy as the person “does not have the courage to abandon useless maladaptive behavior for two reasons: one change, is threatening, and two, they are unaware of what to exchange it for (p. 57).” The Adlerian therapist in this scenario would then facilitate the exchange transaction while fueling the person with encouragement (Azab, 2001).

A major component and driving force behind binge eating is loss of control, which perpetuates the purging behaviors. Binge eating then becomes a part of the lifestyle, but an Adlerian therapist would be less concerned with the behavior and more focused on the loss of control and the mistaken beliefs that guided such patterns to form. A lifestyle assessment would likely be conducted by an Adlerian therapist at this point to access the mistaken beliefs and to help the client evaluate if the beliefs are still functional or whether they are habitual patterns that need to be re-assessed (Azab, 2001).

Azab states that the family constellation is “particularly crucial in understanding disturbed eating behavior” (Azab, 2001, p. 53). Some clients may have started restricting food when they were young or may have developed an illness that made them sensitive to food, both
important factors to assess when working with this population. Mindfulness-based practices could be used as a tool for guiding patients with bulimia through instruction, practice, and showing how thoughts are transitory and will pass over time. When thoughts of purging, binging, or restricting occur, Mindfulness-based practices can also be used to help give the client control through observing their urges and fighting against them by choosing another course of action that is less impulsive in nature (Azab, 2001).

Azab (2001) commented that her clients learn greater impulse control through the realization that the urge to binge or not binge can pass. Staying in the moment, observing all present emotions, and letting go of them, can help the client learn to treat all emotions and sensations equally without magnifying some and avoiding others and thus, avoiding black and white thinking patterns (Azab, 2001).

Azab (2001) elaborated on teaching her clients about non-judgmental attitudes towards thought, urges, and events. This would align with the Adlerian motif of using a “non-judgmental stance and separating the deed from the doer” (Adler, 1959, p. 106). This concept is beneficial not only for the client but for the provider to keep an open mind towards the clients they meet and the problems they face. When a therapist is able to hold a non-judgmental stance the client will be more secure with himself and more open to exposure in therapy settings, which in turn strengthens the therapeutic relationship (Bruce, et al. 2010)

**Adlerian Perspective on Buddhism**

Buddhism views obstacles and life struggles as non-problematic aspects of life that everyone experiences (Davidson, 2010). Buddhist beliefs teach that all sentient beings experience suffering, and that every sentient being is pure and fully imbued with basic goodness,
which is often not experienced as accessible because of thought patterns or habitual ways of thinking that obscure it (Davidson, 2010).

This is similar to Adlerian therapy, which refrains from viewing people as being *broken* and or in need of being *fixed*, but instead views the challenges people face as opportunities for growth (Ansbacher, 1991). Adler opposed the medical model of psychology and engaged in the growth model to avoid viewing patients in terms that could devalue their growth. Adler’s purpose of therapy was to support people in ways that would increase the likelihood that they would face life challenges successfully. Adler views challenges as part of one’s life path and lifestyle, as Buddhist’s view suffering as part of what it means to be human. Suffering is a way that people can relate, and learn effective coping skills from one another (Azab, 2001).

Shunsaku Noda (1990) compared Adlerian Individual Psychology with Buddhism, as an adjunct to meditation in therapy. Noda defined Buddhism as a “system of practical knowledge to help people by releasing them from suffering” (Noda, 1990, p.28). He viewed Individual Psychology as a similar practice that held similar goals of rescuing people from suffering. Noda (1990) also compared Buddhism and Individual Psychology by saying that both practices focus on a “teleological interpretation of human life” (p.29) based on striving towards a goal, but which have different approaches to interpretation. Goal striving in Individual Psychology helps a person in becoming a member of a community and helps him find happiness through social interest (Ansbacher, 1991).

Goal striving in Buddhism is viewed as the cause of suffering, in which the person needs to lose the sense of self and, to cease striving, as happiness is gained through dissolving into the universe (Noda, 1990). Once this is achieved, many refer to this state as, “Buddha- hood” (Noda, 1990, p. 332). By dissolving into the universe one is able to focus inward and become attuned to
their senses, becoming aware of everything around them. Noda (1990) compared *Buddha-hood* to the Adlerian concept of *gemeinschaft*, stating that the degree of *gemeinschaft* is relative to goal striving, thus the greater the goal striving the greater the feelings of inferiority. When goal striving is reduced, so are feelings of inferiority, which could lead to an increase in social interest and *gemeinschaft* (Noda, 1990).

Noda (1990) states that, “Buddhists and Adler regard personality as a system of behavior patterns. Both assert that personality is created through coping actions to tasks from the environment, and both insist that personality can be changed through conscious action (Noda, 1990, P. 39).” Buddhist’s however do not believe in a changing lifestyle. Rather they believe that a person will meet liberation when set free from all fixed patterns of behavior (Noda, 1990). Adler also believed that in life style, there are patterns of behavior that also lead to goal striving (Ansbacher, 1991).

Noda (1990) stated that he uses mediation as a means to loosen up the processes of the life style to make the system more adaptive to change. He reports that his client’s were much more open to his interpretations and advice following a meditation session. Mediation practices helped change the fixed behavioral patterns with less hesitation or opposition (Noda, 1990). This suggests that it is possible to change behaviors through inducing a relaxed conscious state of awareness.

Individual psychology views the person as being challenged by the world when meeting life tasks, whereas in Buddhism the individual and the universe are unified, and any opposition between them is an illusion. Noda (2001) wrote that the world is a “unified harmonious cosmos” (p.290) of which individuals are elements. Noda (2001) names this “absolute holism” (p.291). Mediation has similar goals for a person to feel unity with the universe, and to understand that
their conflicts, whether they are intra-psychic or interpersonal, are nothing more than illusions. Noda (2001) concludes her article by explaining how Buddhism further challenges the Individual Psychologist to understand the concept of social interest as the result of all people realizing they are a part of the greater whole, as opposed to being in conflict with it.

Individual psychology seeks to understand a person through mistaken beliefs, private logic, teleology, and social interest (Adler, 1992). Many Adlerians believe that the basic goal in life is to belong, feel significant, and safe/secure in the environment. When one of these areas becomes unfulfilled, it could lead a person to feel discouraged. This constitutes a major area of focus in Individual Psychology. Adler (1992) used encouragement as the main driving force behind all therapeutic techniques when working with discouraged/struggling patients. Adler believed that encouragement could generate change and influence growth and healing for all.

A way in which Adler evaluated or monitored his patient’s state of discouragement was by inquiring about their social interest (social feelings, belonging, and community) and their spirituality (harmony, peace, and sacredness). He believed that when social interest and spirituality are balanced, a person could achieve equilibrium in mind, body, and soul (Adler, 1992).

Melvin, Sweeney, Thomas, & Witmer (1991) found a congruent link between social interest and spirituality by studying the relationship between social interest and various forms of spirituality. Melvin, et al. (1991) defined social interest as “an individual’s relationship with others and a transcendence of self-interest that results in a sincere concern for striving for human welfare and community” (p. 529). He proposed two different hypotheses; one that qualities of social interest would have a positive correlation to spiritual qualities (specifically universality
and connectedness with others, goal striving, and genuine spirituality beliefs), and two; that low social interest would negatively correlate with spiritual qualities (Melvin, et al. 1991).

Through interview questions and surveys provided to 52 participants. Melvin, et al. (1991) found their hypothesis to be consistent with Adler’s ideal of striving for social interest and the importance of community. The participants defined themselves as “more unified” and “whole” in all aspects of their lives when spirituality and/or social interest was incorporated in their lives, while those who did not value spirituality and/or social interest defined themselves as “struggling” or “unsatisfied” with certain areas of their lives (Melvin, 1991, p. 530-531).

Adler would say that those who lack social interest, also lack confidence to face problems originating from their life style (Adler, 1992). The problems then persist and become personal and private conscious thoughts, from which no one else benefits as their private logic becomes focused on superiority. Those who do not recognize that their own significance lies in their contributions to the lives of others, tend to suffer in many areas in their lives (Melvin, 1991, p. 540) as they become socially uninterested people.

**Conclusion**

Research shows that there is a growing acceptance and incorporation of meditation into the practice of psychotherapy, along with an increased interest in researching the impact of meditation on anxiety related disorders. Scientific opinions have not formed a unified vision regarding the impact of meditation on mental health, yet many practitioners are moving forward with incorporating it into various forms of treatment.

Alfred Adler practiced similar components of mindfulness mediation in his developments in the field of Individual Psychology. Adler used the term *spirituality* to describe the deeper relationships people have with the mind, body, and divine and believed that these 3 components
must be balanced in order to achieve equilibrium in life (Adler, 1992). Some of Adler’s concepts were also used in a study for treating eating disorder patients. The core Adlerian concepts mentioned in this study included: the use of encouragement, control, mistaken beliefs, lifestyle assessments, family constellations, non-judgmental stances, and separating the deed from the doer (Azab, 2001). Incorporating mindfulness skills with these Adlerian concepts, Azab (2001) found positive correlations of improvements in the studied populations. Specifically, the participants in the study gained more control over impulsive behaviors, such as binging and purging and were able to fight against the urges through use of mindfulness skill training.

Individual Psychology and Buddhism were also compared finding shared beliefs and core concepts that overlap between the two areas of study. The findings concluded that Buddhism and Individual Psychology hold similar ideals relating to the role of communal ties, social interest, goal-striving, the role of inferiority, development of personality and fixed patterns of behaviors (Melvin, 1991). These similarities may differ in how they are practiced and the terminology used to define such skills, however findings support that both areas of study work towards helping people find unity in their lives through identifying conflict patterns that may prevent absolute holism from being achieved.

**Final Summary**

Evolutionally, the development of anxiety and fears has helped cultivate the human race, by promoting withdrawal from harmful situations (Gold, et al., 2010). Today, it is known that anxiety is a normal part of development that many people are able to outgrow or overcome without complications. The other 30-40% of the population, who struggle to cope with anxiety provoking experiences, could likely develop anxiety-related disorders (Grossman, 2008). These
disorders often become problematic and prevent those affected from enjoying normal life experiences and overall growth in life.

It is of great importance that early detection is used to prevent development of anxiety-related disorders. When an anxiety related disorder is diagnosed, it is important that treatment is obtained to minimize and control symptoms sooner than later. The most common treatments utilized on children diagnosed with anxiety disorders include: medications, psychotherapy, family therapy, behavioral treatments, and mindfulness techniques (Rosenberg, 2009).

As one of the most studied mindfulness practices, findings support Mindfulness Based Stress Reduction (MBSR) therapy to be an effective modality for treating a wide range of mental health disorders. Research findings, as well as this literature review, support MBSR therapy for treating anxious children, as the practice teaches children how to acknowledge and work through their fears and anxiety-related symptoms. MBSR allows anxious clients to recognize habitual thinking patterns that prevent them from achieving a stable life by teaching them to replace negative reactions with more adaptive behaviors. Therefore, Mindfulness Based Stress Reduction therapy is an effective intervention that could be used for treating anxious youth.

Meditation is a proven method for short-term and long-term calming effects for anxiety related disorders. Starting in the 1970’s extensive research studies have shown that meditation practices such as Mindfulness Based Stress Reduction therapy significantly reduce both acute and chronic anxiety in individuals of all ages (Cropley, et al., 1998). This is in agreement with traditional teachings that use contemplation and self-calming methods to reduce fears. Buddhist meditation practices have been proven to reduce both cognitive and physical anxiety as those who practice mediation regularly show significant decreases in anxiety overall in their lives.
While meditation is primarily an intentional discipline designed to establish control over automatic thought patterns and negative affective responses, the physiological dimensions of the practice have received the most attention by health and medical researchers. To date, studies determining the physiological effects of medication far outweigh all other areas of inquiry due to the fact, that in most cases physical measurements are accessible, easily recorded, and consistent with reductionist assumptions about the body (Cropley, et al., 1998).

Mediation has been proven to be an effective treatment for depression, eating disorders, varied medical conditions, pain management, and anxiety related disorders. The practice of mindfulness meditation creates feelings of control, relief of symptoms, and stability between the mind-body connection, which create equilibrium and wholeness in life (Cropley, et al., 1998). The mindfulness skill sets allow people to respond in a more relaxed, calm manner to difficult situations, rather than reacting impulsively through states of panic or fear. This increased awareness and flexibility is associated with a greater sense of control over thoughts, feelings, and overall behavioral patterns that become unconscious over time.

The research findings to date suggest that further studies would be beneficial and valuable in determining the extent to which mindfulness training can be applied as a common treatment modality for treating anxious youth. MBSR therapy has been shown to enhance self-efficacy, which could improve the probability of maintaining therapeutic gains across varied modalities of care.
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