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A Treatment Protocol Utilizing Sensory Integrative Techniques for Treating Self-Mutilation

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A Treatment Protocol Utilizing Sensory Integrative Techniques
for Treating Self-Mutilation

By

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A Scholarly Project

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The Scholarly Project Paper, submitted by Nikki Stevens in partial fulfillment of the requirement for the Degree of Master's of Occupational Therapy from the University of North Dakota, has been read by the Faculty Advisor under whom the work has been done and is hereby approved.

Faculty Advisor

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ABSTRACT

“It is estimated that one to two million people in the United States intentionally and repeatedly bruise, cut, burn, mark, scratch and mutilate different parts of their own bodies. This estimate represents only the adolescents and adults who actually seek help for the behavior” (Ferentz, 2002). The reasons for self-mutilation behaviors span across a considerable range from post-traumatic stress disorder to hypersensitivity. The research indicates parallels between children who have been sexually, physically, or emotionally abused and self-mutilation. Basically, it is an unhealthy coping strategy to deal with overwhelming and intense feelings. The current treatment regime varies and includes: medication, dialectical behavioral therapy, interpersonal group and talk therapies with the goal focusing on learning healthy coping strategies.

There is another approach for consideration: the use of sensory integrative techniques. The research was extremely limited but the fundamental assumptions of sensory integrative therapy lent itself to the challenges of self-regulation and modulation of the sensory system in the individual with self-mutilative behaviors. The purpose of this scholarly project was to review the literature regarding common diagnoses that included self-injurious behaviors and differentiated the purpose and relief the populations were receiving from self-injuring. Based upon the information elicited, a treatment protocol for sensory integrative techniques was developed that could be implemented in a facility for accommodating and recognizing the differences amongst those whose exhibit self-mutilative behaviors.

The results include a Sensory Integration Protocol for individuals who engage in self-mutilation. The Protocol includes treatment sessions using sensory integration techniques to reduce the amount of self-injury in clientele focusing on self-regulation and modulation and offer a different approach for consideration in coping strategies.

CHAPTER I

INTRODUCTION

It is estimated that 2 million people in the United States intentionally and repeatedly bruise, cut, burn, mark, scratch and mutilate different parts of their own bodies. This estimate represents only the adolescents and adults who actually seek help for the behavior (Strong, 1998). Haines, Williams, Brian, & Wilson (1995) state that self-mutilation is a conscious decision to repeatedly cause harm to oneself in an attempt to reduce/relieve mental pain, anguish, or extreme anxiety or tension. Research has been done on the reasons people harm themselves and what medical professionals can do to help. A consistent theme was the need for more education and resources to effectively treat adolescents and adults who self-mutilate (Turner, 2002).

The reasons for self-mutilation span across a considerable range from post-traumatic stress disorder to hypersensitivity. The current treatment regimen varies and can include: medication, dialectical behavioral therapy, interpersonal group and talk therapies with the goal focusing on learning healthy coping strategies.

Health professionals are seeing a dramatic increase of this behavior, with little research to treat individuals who self-mutilate. Occupational therapists, who work with mental illness, and other mental health professionals should be knowledgeable on successful treatments available to treat self-mutilation. An approach to consider is the use of sensory integrative techniques. Sensory integration is considered both: A process of neurological organization of sensory information for behavioral responses and a clinical frame of reference used to guide occupational therapists in the evaluation and treatment of persons who have sensory processing deficits (Brachtesende, 2003). The research is extremely limited especially in mental health, but the

fundamental assumptions of sensory integrative therapy lend itself to the challenges of self-regulation and modulation of the sensory system in the individual who self-mutilates. The literature identifies several terms that are used interchangeably to describe self-injurious behavior. These terms include: self-mutilation, self-harm, self-abuse, self-injury, self-injurious behavior, auto aggression, parasuicidal behavior, deliberate self-harm, and cutting (Conterio & Lader, 1998; Hersh, 2004; Levenkron, 1998; Strong, 1998, Sullivan, 2000; <http://www.selfinjury.com/index.html>). The author will consistently use the term self-mutilation, but it is important to remember that through the presentation of the literature, the terms will vary with integration of researchers' quotes and related information.

The purpose of this scholarly project was to review the literature and determine what common diagnoses typically include patients who self-mutilate and differentiate the purpose and relief the populations are receiving from self-mutilation. Based upon the information elicited, a treatment protocol using sensory integrative techniques was developed that could be implemented in a facility for accommodating and recognizing the differences amongst those whose exhibit self-mutilation. The treatment protocol includes ideas for sessions using sensory integration techniques to reduce the amount of self-mutilation in clientele. These treatment sessions include descriptions of the different type of self-mutilation and the most effective treatment based on their individualized needs.

CHAPTER II

REVIEW OF LITERATURE

*“I hurt myself today to see if I still feel. I focus on the pain: the only thing that’s real.
–Nine Inch Nails, “Hurt”*

Introduction

Self-mutilation is described as “a deliberate self-harm without the intent to die” (Stanley, Gameroff, Michalsen, & Mann, 2001). Haines, Williams, Brian, & Wilson (1995) state that self-mutilation is a conscious decision to repeatedly cause harm to oneself in an attempt to reduce/relieve mental pain, anguish, or extreme anxiety or tension or as a means to feel or not to feel. It is one of society’s fastest growing negative coping skills among today’s adolescents that crosses racial, socioeconomic status, religious, gender, and cultural lines (Conterio & Lader, 1998; Derouin & Bravender, 2004; House, Owens, & Patchett, 1999; Jacobs, 2000; Kennedy, 2004; Kluger, 2005; Warner, 2002).

Teens are learning about self-mutilation through television, movie, Internet, music, and from their peers. On the Internet, information can be found on movie stars who have used or experimented with self-mutilation such as: Christina Ricci, Drew Barrymore, Colin Farrell, Angelina Jolie, Roseanne Barr Arnold and Johnny Depp. The issue of self-mutilation has also been portrayed in several movies such as: *Thirteen; Girl Interrupted, 15; In My Skin; Kinsey; 28 Days; Secretary; and True Blue*. Television shows like: *7th Heaven; Intervention; Beverly Hills 90210; Jackass; CSI; and ER*; have also portrayed the issue of self-mutilation. Music artists create songs about self-mutilation or album cover art reflecting self-mutilation. Singers like Pink, Fiona Apple, Amy Studt, Sid Vicious (Sex Pistols), Shirley Manson (Garbage) Courtney Love,

Richey Edwards (The Manic Street Preachers) Marilyn Manson, The Indigo Girls, and Tori Amos have written songs about self-mutilation or expressed their own links to it. Princess Diana, an international icon, shocked the world by revealing her own struggle with self-mutilation. (Conterio & Lader, 1998; Jacobs, 2000; Strong, 1998; Sullivan, 2000).

With the presence of self-mutilation growing in the media, the way it manifests itself and why, is a growing controversy in the research. Some researchers believe that tattooing and piercing can be or could become a type of self-mutilation (Conterio & Lader, 1998; Hicks, 2005; Strong, 1998). Hicks believes that behaviors such as tanning, athletic body sculpting, nail-biting, hair dyeing, male circumcision, scarification, and depilation also match the criteria of self-mutilation (2005). Multiple plastic surgeries are also being noted as possible self-mutilation by some researchers. Levenkron (1998) argues that someone who decides to get a tattoo or a piercing, experiences unwanted pain, which is unlike self-mutilators. Levenkron believes that self-mutilators are not concerned with the change in the tissue, whereas tattoo & piercing are done with the intent to alter the skin (1998). Hicks (2005) disagrees with Levenkron (1998) by stating that although tattooing and piercing, of any kind, are a form of self-mutilation, it does not involve a psychopathology in an individual. Self-mutilation, involving a psychopathology, should not be confused with current fads however, it is difficult to distinguish between an interest in these fads and the first indication of a disorder.

Self-mutilation, in the context of a psychopathology, is not usually revealed readily due to secrecy, shame, guilt, and embarrassment. This leads researchers to believe it is more widespread than statistics can project (Czarnopys, 2002; Warner, 2002). Armando Favazza, a renowned researcher on the topic of self-mutilation, suggests that as many as two million Americans deliberately cut or burn themselves every year (in Strong, 1998). Favazza's research

indicates that 12 percent, or one in eight individuals had, at least once in their lives, deliberately cut, burned, or similarly harmed themselves (Conterio & Lader, 1998, Strong, 1998). In a 1989 survey of 500 American college students, 14 percent admitted to at least one episode of self-mutilation (Favazza, DeRosear, & Conterio, 1989). Researchers found similar results in a subsequent survey of 245 college students, where twelve percent admitted to harming themselves deliberately (Conterio & Lader, 1998). The researchers suggest that approximately 1,400 out of every 100,000 people in the general population have tried some form of self-mutilation (Conterio & Lader, 1998).

It seems the United States of America is not the only country seeing an increase in this behavior. In a British study of nearly 6,000 students, Researchers (2002) concluded that 13 percent of 15 and 16-year olds have carried out an act of deliberate self-mutilation. The study also found that out of those 6,000 students, only 50 were hospitalized for self-mutilation (Hawton, Rodham, Evans, & Weatherall, 2002). In the United Kingdom, self-mutilation is one of the top five reasons for admission into acute hospitals (House, Owens, & Patchett, 1999).

Due to the relatively recent label of self-mutilation, research is extremely limited and controversial. There are no current diagnostic criteria to guide psychiatrists or other health professionals when diagnosing individuals with self-mutilation, although it is starting to emerge into the psychiatric realm as a diagnosis. Levonkron, whom has been treating self-mutilators since 1976, suggests that diagnostic criteria is emerging based on other mental health problems, the frequency and severity of the self-mutilation, stress factors, patients' state of mind when they self-mutilate, and personality disorders (1998).

The limited research also results in limited theoretical supported treatment modules for therapists and other mental health professionals to base their treatment upon. This results in self-

mutilation frequently being misrepresented in mental health with professionals often labeling the act of self-mutilation as suicide attempts when that is not the case the majority of the time.

Many of those who cut themselves are not trying to end their lives, but trying desperately to feel, feel alive, or live normally (Conterio & Lader, 1998; Van Der Kolk, 1996). Based upon a lack of effective treatment options, self-mutilation is plaguing America's young and middle aged adults. The dramatic rise in individuals who display self-mutilative behaviors is causing mental health professionals to scramble for effective treatment interventions to deal with self-mutilation. In the attempt to identify the most effective treatment options, the first step is to define what self-mutilation is.

Self-Mutilation

According to a compilation of sources the most accepted definition of self-mutilation is that it is a deliberate alteration of the body tissues, without the intent of suicide (Conterio & Lader, 1998; Hersh, 2004; Hicks, 2005; Levenkron, 1998; Stanley, Gameroff, Michalsen, & Mann, 2001; Strong, 1998; Turner, 2002). There are a group of researchers who describe self-mutilation as the deliberate mutilation of the body or a body part, without the intent of dying, but as a way of managing emotions that seem too painful for words to express (Conterio & Lader, 1998; Hersh, 2001, Hicks, 2005).

Not all self-mutilators cut their wrists, arms, and legs, there are many forms of self-mutilation. It can include cutting skin, hitting, head banging, trichotillomania (extracting hair to excess), scratching to excess, biting, burning, interference with wound healing, deliberate bone breaking, chewing lips, tongue, or fingers, eye enucleation (removal of the eye), limb amputation, facial skinning, causing infection, ingesting sharp or toxic objects. Some self-mutilators use lighters, box cutters, razor blades, kitchen knives, shards of glass, needles,

paperclips, safety pins, or any material that could break the skin (Conterio & Lader, 1998; Strong, 1998; Whalen, n.d.). The individuals tend to hide their scars underneath long sleeves and baggy clothes (Conterio & Lader, 1998; Hersh, 2004; Levenkron, 1998).

Self-mutilation is neither a public nor group practice; rather it commonly occurs privately in a ritualistic manner (Conterio & Lader, 1998). Self-mutilating for some, is not an occasional lapse in focus, but a daily struggle. It can happen on a weekly, monthly, daily, or yearly basis. The self-mutilative behavior is the same no matter how frequent the offense.

Categories of Self-Mutilation

Based upon the definition presented, as well as the descriptors, Favazza classified the manifested behaviors into three categories (in Czarnopys, 2002; Derouin & Bravender, 2004; Hicks, 2005; Strong, 1998):

1. The first category, **major self-mutilation** includes less frequent but drastic acts of self-injury, such as self-castration, self-amputation, enucleation (removal of the eye). These acts are usually the result of psychosis, and often have religious or sexual undertones. Major self-mutilators may believe that God is telling them to do this or that their body is sinful. It is most common among individuals diagnosed with schizophrenia.
2. The second type of self-mutilation is called **stereotypic-self injury**, which includes head banging, biting, and skin scratching. These are characteristically associated with rhythmic and repetitive motions that are commonly seen in individuals diagnosed with mental retardation, autism, and/or Tourette's syndrome.
3. The last category is the most common type of self mutilation: **moderate/superficial self-mutilation**. This refers to acts such as hair-pulling, skin scratches, nail biting, burning, needle sticking, bone breaking, and interference with wound healing. This type of self-mutilation provides temporary relief from anxiety, depersonalization, racing thoughts, and fluctuating emotions.

The category that will be focused upon for this scholarly project is self-mutilation moderate/superficial. A general profile of the individual, who tends to fall within this category, has been constructed via the literature.

Profile

Women comprise the vast majority of individuals who self-mutilate (Conterio & Lader, 1998; Machaian, 2001; Olfson, Gameroff, Marcus, Greenberg, & Shaffer, 2005; Reed, 2001; Strong, 1998). In fact, Reed claims the ratio is 3 females, to every male self-mutilator (2001). This may be due to the higher percentage of women that are sexually abused, and its link to self-mutilation (Conterio & Lader, 1998; Strong, 1998). Men are more likely to display their emotions physically (i.e., violence, hostility, drugs, and alcohol), whereas women turn theirs inward and inflict themselves with more pain (Conterio & Lader, 1998). Women are more likely to seek psychiatric treatment or private counseling, than their male peers. (Conterio & Lader, 1998, Strong, 1998).

Levenkron (1998, p. 47) believes that the self-mutilator is “a likeable, sometimes high achieving person with a myriad of problems.” The suggested profile of a self-mutilator is a white, middle-class female in mid-twenties to early thirties, who has been self-mutilating since her early teens. She has above-average intelligence, creative, talented, with a low self-esteem, and perfectionist tendencies. She is a people-pleaser, often with relationship troubles, who has an extreme need for love and affection and a difficult time expressing emotions. Most of these women had suffered painful childhoods, cold and distant mothers, and hypercritical fathers (Conterio & Lader, 1998; Czarnopys, 2002; Graff & Mallin, 1967; Hawton, Rodham, Evans, & Weatherall, 2002; Strong, 1998; Whalen, n.d.). Levenkron believes that the self-mutilator’s fears are driven by actual childhood events or early adolescent experiences (1998). The research presents a strong correlation between self-mutilation and childhood sexual abuse (Conterio & Lader, 1998; Evren & Evren, 2005; Levonkron, 1998; Stanley, Gameroff, Michalsen, & Mann, 2001; Strong, 1998, Turner, 2002; Whalen, n.d.; Van Der Kolk, 1996).

Underlying Factors

The parallels between children who have been sexually, physically, or emotionally abused and self-mutilate is growing in consistency and strength (Conterio & Lader, 1998; Hersh, 2004, Strong, 1998, Sullivan, 2000, Turner, 2002). Strong states that self-mutilation may be “a form of ‘body stimulation’ for children who had become inured to pain as a result of physical and sexual trauma, and a way of feeling something other than despair” (1998, p.52). Researcher, Van Der Kolk describes the response to a trauma as:

... likely to have more profound effects than impersonal ones. For example, a survivor of a hurricane may develop conditioned emotional responses to certain noises and weather conditions; by contrast, people who have been physically and sexually molested as children may develop a host of distrustful, fearful and dissociative responses to a range of stimuli associated with intimacy, aggression, and the negotiation of trust (1996).

In a study at a California hospital, 83% of adolescents who reported being victimized by sexual abuse also engaged in cutting (Strong, 1998). In 1998, Favazza & Conterio were co-authors of the largest study ever conducted on self-mutilation. They had a sample of 240 chronic self-mutilators, and found that 62 percent of the subjects reported being victims of childhood sexual abuse (Strong, 1998).

Researchers agree that sexual or physical abuse can create a sense of shame in victims and make them view their bodies as damaged, defective, dirty, disgusting, and uncontrollable. The loss of self-worth and belonging is so hurtful that it may encourage self-mutilation, to allow abuse victims to hurt themselves more than others can hurt them (Hersh 2004; Strong, 1998; Levenkron, 1998). In fact, people who have a history of childhood abuse show more aggressive behavior, and have an increase in borderline characteristics such as: interpersonal relationship difficulties and affective instability (Stanley et al., 2001).

According to some researchers, many childhood experiences or other factors that attribute

to the likelihood of an adolescent to turn to self-mutilation (Conterio & Lader, 1998; Czarnopys, 2002; Strong, 1998; Ystgaard, Hestetun, Loeb, & Mehlum, 2003).

These childhood experiences or related factors could include:

1. Witnessing physical aggression/ violence or been physically abused themselves
2. Being sexually abused or raped
3. Witnessing the sexual abuse of a loved one
4. Losing a family member or significant other
5. Being verbally abused or bullied by parents/peers
6. Experiencing physical or emotional neglect
7. Living with parents who are alcoholics
8. Experiencing the divorce of their parents or witnessing their relationship problems
9. A history of childhood illness or parent with a severe illness or disability
10. Becoming the primary caretaker of an ill parent or sibling
11. Having overprotective parenting forcing loss of freedoms

The S.A.F.E. (Self-Abuse Finally Ends) Alternatives Program was founded by Karen Conterio and Wendy Lader in 1985. The program is the first outpatient treatment offered for repetitive self-mutilation, as well as the first structured inpatient program dealing with self-mutilation specifically. According to the S.A.F.E. web page, as many as 90 percent of patients claim to be discouraged from expressing emotions. The emotions most commonly mentioned are anger and sadness (Conterio & Lader, 2005). In 1988, Conterio & Fazazza, found that people who self-mutilate claim that it gives them temporary relief from such symptoms as anxiety, depersonalization, and racing thoughts. They often consider themselves as feeling empty inside, unable to express emotions, untrusting, lonely, and trying to sort out their emotional pain (Strong, 1998). Throughout the literature, it is repeatedly stated that self-mutilation is considered to be used as an escape from the feeling of numbness (Conterio & Lader, 1998; Czarnopys, 2002; Strong, 1998, p.44).

Self-mutilation may also be a way to turn the emotional pain into physical pain which is tangible and easier to comprehend (Levenkron. 1998, Strong, 1998). Hersh emphasizes that self-

mutilation is a way to use external marks to represent internal feelings or an unhealthy form of self-expression, due to rigidity and fearfulness of expression (2004, p. 146-147, 157). While Strong indicates that it is “a form of self-punishment but also a form of control, a survival strategy to keep her emotions in check and prevent herself from falling apart” (1998, p. 14). In his practice, Levenkron (p. 44), consistently encountered two characteristic reasons for self-mutilative behaviors:

1. Expressing the inability to think, or
2. Having unexpressed rage, usually toward parents.

The physical pain or the sight of their own blood may overpower these feelings (Strong, 1998, p. 44).

There are several researchers who feel that self-mutilation may also be used as a way to keep people away, give proof of being alive, or a way to show love to themselves (Conterio & Lader, 1998, Strong 1998). Strong (1998) believes that,

Whatever the source [of self-mutilation], the child is left feeling emotionally abandoned and her unmet needs and unsoothed fears create an overwhelming level of anxiety. Later in life, cutting or burning becomes her primary strategy for regulating her emotions and avoiding further mental deterioration. It is a means of self-soothing and in a sense can be viewed as a flawed attempt at self-mothering (p.48).

Another important area to consider is that when the body is injured, endorphins are released to fight the symptoms of anxiety, agitation, and depression. By cutting, the self-mutilator may be producing the chemical interplay to control their own moods (Levenkron, 1998).

Diagnoses Associated With Self-Mutilation

Self-mutilation is typically presented in the literature as being in conjunction with a previous existing medical condition such as: post-traumatic stress disorder, anxiety or panic disorders, schizophrenia, autism, mental retardation, depression, dissociative disorders, stress or

adjustment disorder, antisocial personality disorders, obsessive-compulsive disorders, bipolar disorders, eating disorders, and personality disorders (Conterio & Lader, 2005; Conterio & Lader, 1998; Czarnopys, 2002; Hicks, 2005; Strong, 1998). Hicks claims that “psychiatrists have observed that people who are sexually abused as children are more vulnerable to disassociation, borderline personality disorder, and self-mutilation than those who did not experience this form of abuse” (2005, p. 297).

The motivations and emotional states are characteristic of borderline personality disorder and self-mutilation caused by low self-esteem, impulsivity, anxiety, and chronic anger. Impulsive behaviors such as sexual promiscuity and drug and alcohol intoxication may also be the gateway to self-destructive behaviors that inspire the idea of self-mutilation or suicide attempts (Hicks, 2005).

There is such an expansive range of traumatic experiences, and emotional and behavioral states within the individuals who engage in self-mutilation. As stated prior this has been one of the primary contributing factors to the reason there is no current diagnostic criteria to guide psychiatrists or other health professionals when diagnosing individuals with self-mutilation. Limited research, lack of diagnostic criteria, expansive underlying factors and symptomology results in limited theoretical supported treatment modules for therapists and other mental health professionals to base their treatment upon. The only thing that is easy to see is that the assessment and intervention will be complicated.

Current Treatment

There are no proven medication treatments for self-mutilation. Some psychiatrists consider using a selective serotonin reuptake inhibitor (SSRI) antidepressant or mood-stabilizer because of the tendency for those medications to reduce impulsivity and moodiness (Czarnopys,

2002; Derouin & Bravender, 2004; Hicks, 2005). Medications are used to treat the mood symptoms of self-mutilation. Severe depression and debilitating anxiety are commonly treated symptoms of self-mutilation (Turner, 2002).

There are several therapeutic approaches that are used in treating self-mutilation such as: self-help approaches, interpersonal group and talk therapies, individual or family counseling, rational-emotive therapy, individual skill building therapy, hypnosis, visualization and relaxation therapy, dialectical behavioral therapy, pharmacological therapy, psychoanalytical perspective, music therapy, and psychodynamic approach (Czarnopys, 2002, Derouin & Bravender, 2004). The most popular of these are dialectical behavioral therapy, pharmacological therapy, and individual skill building therapy.

Hicks indicates that dialectical-behavioral therapy (DBT) has been proven to reduce acts of self-mutilation among individual suffering with borderline personality disorders (2005). DBT was developed by Marsha Linehan to treat mainly borderline personality disorder, suicidal behavior, and/or self-mutilation. DBT targets emotion recognition, response control, and inhibition. It creates a new solution for these problematic behaviors (Hicks, 2005, Strong, 1998). It also addresses four psychosocial skill-training modules that aid the patients in building and developing relationships, such as: core mindfulness skills, interpersonal effectiveness skills, emotion regulation skills, and distress tolerance skills (Czarnopys, 2002). DBT differs from other types of therapeutic programs by addressing the behavioral issues, as well as building interpersonal skills (Strong, 1998).

It is reported that personal & family counseling sessions to combat low self-esteem, underlying traumas, and codependency may be used to prevent relapse (Levenkron, 1998).

Turner suggests that therapists work to change relationships between the family members, so that

self-mutilation behaviors subside (2002).

Karen Conterio and Wendy Lader co-founded the S.A.F.E. Alternatives (Self Abuse Finally Ends) for treating self-mutilators. The program is located in the Chicago suburb of Berwyn. For many self-mutilators it is the last resort, when all other treatments have failed to work (Conterio & Lader, 1998; Strong, 1998). Conterio and Lader do not have a consistent method of treatment that works for self-mutilators as a group. They believe that the best treatment is a combination of increasing self-awareness, improving social skills and job performance, and to improve their quality of life. It may be a long process that requires solving the underlying issues, as well as the self-mutilation (Conterio & Lader, 1998).

Treatment for self-mutilation often results in a low success rate with a high incidence of relapse. Levonkron suggests that “self-mutilation is the last in a chain of symptoms to develop” and that it is merely a mask of hidden problems (1998, p. 211-212). Some speculations as to why treatment seems to fail are (Levonkron, 1998; Turner, 2002):

1. Medical professionals who do not fully comprehend the dynamics of self-mutilation.
2. Medical professionals who fear treating self-mutilators, due to liability issues.
3. There is no clear-cut theoretical framework to base treatment on.
4. An unstructured/unstable environment with many changes that presses individuals to feel that their lives are out of control.
5. Patients lose trust in their therapists.
6. Professionals’ inability to see the whole person when treating self-mutilation.
7. The complex emotions surrounding and justifying self-mutilation for coping are not resolved during treatment

Several sources (Czarnopys, 2002; House, Owens, & Patchett, 1999; Hurry & Storey, 2000; Turner, 2002, Van Der Kolk, 1996; Ystgaard, Hestetun, Loeb, & Mehlum, 2004) agree that there is limited research available on understanding the issues behind self-mutilation, which makes effective treatment difficult. Turner, a clinical psychologist who suffered from self-mutilation, states that “much work still needs to be done in terms of advancing the understanding

of self-injury as well as in developing treatment strategies that work” (2002, p. 131). Research also indicates that there is a need for development, evaluation, and teacher education for school based programs to promote mental wellness, with emphasis on anxiety, depression, self-esteem, and impulsivity (Warner, 2002; Hawton et al., 2002).

As stated prior, there are many treatment approaches to choose from with varying levels of success. Each approach addresses one or more of the underlying factors with the exception of taking into consideration the sensory events of the individual’s life.

Proposed Treatment Protocol

“The experience of being human is embedded in the sensory events of everyday life” (Dunn, 2001). Sensory processing is the way a body responds to everyday sensations and it is the ability to effectively organize sensory information to functionally participate in activities of daily living (Kranowitz, 1998).

Winnie Dunn developed the Model of Sensory Processing, which consists of four separate sensory processing tendencies: sensory seeking, sensory avoidant, low registration, and sensory sensitivity (Brown et al., 2001). The primary features of this model are reactivity to sensory stimulation, self-regulation strategies, and responding strategies (Dunn, 2001). Dunn’s Model has been primarily associated with pediatrics although “applying the model to adults is inherently reasonable” (Brown et. al, 2001, p.76). The proposed treatment protocol is fundamentally based on the Model of Sensory Processing developed by Winnie Dunn based upon A. Jean Ayres Sensory Integration Theory. The premise of the protocol is that sensory integrative and processing techniques can effectively help to replace unhealthy coping, such as self-mutilation with a healthy form of sensory input and stimulation. The protocol is not

designed to replace other forms of intervention but to occur simultaneously with other forms of intervention prescribed by the individuals' psychiatrist/psychologist.

Sensory Integration

“In the literature, sensory processing is often used interchangeably with sensory integration and is a broad term used to describe the way a person takes in, organizes, and interprets sensory information for functional use” (Garanek, 1998, p. 1). Sensory integration is considered both: a process of neurological organization of sensory information for behavioral responses and a clinical frame of reference used to guide occupational therapists in the evaluation and treatment of persons who have sensory processing deficits (Brachtesende, 2003). “Sensory integration processing also affects children’s ability to mentally and physically organize themselves for making orderly transitions from one activity to another” (AOTA, p. 1).

Sensory Integration is a variety of techniques used to facilitate input (sensory stimulation) from the nervous systems to be organized successfully and accurately by the brain (Yack, 2002). These same techniques used to treat children may be applied to teaching adults healthy coping skills in mental health disorders such as anxiety, self-mutilation, depression, and impulsivity. Appropriate integration of sensory stimulation can affect the way a person moves, responds emotionally, attends, and handles interpersonal relationships or adaptive responses (Kranowitz, 1998). The central nervous system is responsible for receiving, detecting, integrating, and modulating the sensory information; the brain then prepares the body for the response (Kranowitz, 1998). The central nervous system has seven different types of input to effectively organize: visual, auditory, vestibular, olfactory, gustatory, tactile, and proprioceptive (Biel & Peske, 2005).

Although sensory integration lacks empirical based research proving its effectiveness

with pediatrics and in mental health, due to lack of a replicable intervention protocol and difficulty in standardization of treatment, the lack of research should not discount its effectiveness in treatment. The concept of sensory integration has been subject for criticism and controversy. Although has been found to be as effective as other alternative treatment methods (Cermak & Henderson, 1990; Vargus & Camilli, 1999).

Kimball lists the following as characteristics of sensory integrative treatment:

1. engaging in active occupations,
2. client-centered,
3. using occupation based activities,
4. evaluating the need for adaptive responses,
5. adapting treatment based on client's individual response,
6. choosing activities that utilize proprioceptive, vestibular, and tactile input,
7. improving processing and organization of sensation should be the goal of therapy.
8. administration should be by a trained therapist (Occupational therapist or physical therapist) (1988).

Sensory Components of Self-Mutilation

As stated prior, the way stimulation is processed within the CNS influences the individual's ability to gauge an accurate perception of the stimuli resulting in an appropriate response. The ability to do this effectively or successfully requires the integration of sensory processing and modulation. Sensory Processing Disorder is "difficulty in the way the brain takes in information, causing a person to have problems interacting effectively in the everyday environment" (Kranowitz, 1998, p. 319). Sensory modulation helps to regulate the brain's activity level. (Kranowitz, 1998). Flooding of sensory information causes the brain to tune out meaningless information/sensations. Normally, this is an automatic process, but in persons with sensory modulation dysfunction tuning out unnecessary information can be overwhelming or uncomfortable. Those feelings may cause fear and anxiety.

Sensory modulation dysfunction (SMD) is defined as "a problem in the capacity to

regulate and organize the degree, intensity, and nature of response to input in a graded and adaptive manner [that] disrupts an optimal range of perceptions necessary to adapt to challenges in life” (Miller & Summers, p. 247). Sorting out which sensory information is important (such as pain or hunger) and which can be disregarded (background noise or environmental sounds) proves to be a difficult task for people with sensory modulation dysfunction. Poor self-modulation can also be under-responsive. This happens when an individual does not perceive any of their sensory stimulation. Sensory modulation dysfunction or SMD is when a person is over-responsive or under-responsive to their surrounding environment. Under-responsiveness describes a low registration for normal sensory input. Over-responsiveness can be observed as avoidance of sensory stimulation or adverse reactions to sensory input (Foss et al. 2003). “Fight or flight responses to stimuli are thought to be the result of over activation of protective responses” (Wilbarger & Wilbarger, 1991). If dysfunction is not resolved it can cause poor body awareness, poor motor planning, difficulty in recognizing objects without seeing them (Yack, 2002).

Self-mutilators often report feeling over-stimulated physically and emotionally. Over-stimulation can cause intense emotions, and trigger self-mutilation (Conterio & Lader, 1998). Self-mutilation can be a way to calm the body’s response to emotional traumas or to stimulate numbness. Self-mutilation can intensify and become a more frequent unhealthy coping mechanism over time (Strong, 1998). “The more a person uses self-mutilation as a coping mechanism, the more desensitized to the pain they become” (Levenkron, 1998, p. 112). Sachsse, Von Der Heyde, & Huether (2002), claim that self-mutilation is an “unusual but effective coping strategy for the self-regulation of hyperarousal and/or dissociative states and for regaining control over an otherwise uncontrollable stress response”

Aron defines highly sensitive (oversensitivity) individuals as “born with a tendency to notice more in their environment and deeply reflect on everything before acting” (2002, p. 7). Aron has researched highly sensitive children and adults since 1991 and developed a profile of the highly sensitive individual. Sensitive people tend to be “empathetic, smart, intuitive, creative, careful, and conscientious (they are aware of the effects of a misdeed, and so are less likely to commit one)...Mainly, their brains process information more thoroughly.” (Aron, 2002, p. 7). Highly sensitive people also feel emotions more intensely than the average person such as: love, joy, stress, awe, anxiety, anger, fear, and sadness (Aron, 2002). These qualities mimic the profile of self-mutilators suggested by the research. (Conterio & Lader, 1998; Czarnopys, 2002; Graff & Mallin, 1967; Strong, 1998).

Self-mutilation is a way to manage an individual’s boundaries. “Stimulation of the skin through self-mutilation helps reintegrate the splintered sense of self by reactivating the body ego—perhaps by re-creating a tactile experience that, at least to cutters, is pleasurable and soothing” (Strong, 1998, p.47). Self-mutilation may be a way to externally represent the emotional pain felt internally (Stanley, Gameroff, Michalsen, & Mann, 2001).

Role of OT in Protocol

The purpose of this Scholarly Project was to design a treatment protocol for occupational therapists to use as a guide to working with adolescences and adults who exhibit self-mutilative behavior, applying sensory integrative techniques based upon the Model of Sensory Processing by Winnie Dunn. The protocol is not designed to replace other forms of intervention but to occur simultaneously with other forms of intervention prescribed by the individuals’ psychiatrist/psychologist. It is more than just using inhibition, facilitation and relaxation. Occupational therapists provide sensory integration treatment by using techniques of inhibition

and relaxation. Treatment consists of slow, repetitive activity that sends inhibitory impulses to the bulbar section of the brain, which results in total body inhibition. In an article by Pfeiffer, Kinnealey, Reed & Herzberg (2005) it was discussed how “researchers have identified relationships between sensory defensiveness and anxiety in adults diagnosed with no medical or mental health issues” (p. 341).

Another important aspect for OT's is to effectively utilize therapeutic use of self in regard to working with individuals who may have sensory integration dysfunction, or sensory modulation dysfunction. It is important to know the individual reaction of the therapist to sensory stimuli. In this protocol it is strongly recommended that the occupational therapist working with the clients, take the Adult Sensory Profile. Due to the importance of rapport building with clients exhibiting self-mutilation, the way the therapist presents sensory stimuli is extremely important. The therapist will unconsciously present sensory integration therapy sessions that reflect his or her own sensory processing. For example, a therapist who is sensory defensive may not provide enough sensory input during a treatment session to an individual who is sensory seeking. Although for a therapist who is sensory seeking and working with a sensory defensive client, it could overwhelm the patient and lose gains made in rapport.

Researchers conducted a study to determine if there was a significant relationship between dysfunction in sensory modulation, symptoms of affective disorders, and adaptive behaviors in children and adolescents with Asperger's disorder between 6 and 7 years of age. (Pfeiffer et.al, 2005)

1. “As the level of anxiety increased, the adults reported an increased sensitivity to environmental stimuli” (Pfeiffer et al, 2005, p. 341-342)
2. “Researchers (Clark & Watson,1991; Johnson, 1975; and Neal et al., 2002) have suggested that individuals with anxiety tend to overrespond to environmental stimuli (sensory hypersensitivity) whereas those with depression tend to under-respond to environmental stimuli (sensory hyposensitivity)” (Pfeiffer et al., 2005, p. 342)

3. There was a significant inverse relationship between symptoms of depression and functional academics, leisure and social skills, which was consistent with prior research (Pfeiffer et al., 2005).

Although the information from the study focused on individuals diagnosed with Aspergers, the information presented above, in regard to sensory processing is significant. The fundamental assumptions of sensory integrative therapy lend itself to the challenges of self-regulation and modulation of the sensory system in the individual who self-mutilates. The techniques presented in this proposed protocol will not cure self-mutilation alone, but when used simultaneously with other forms of intervention, it may prove to be an effective treatment for self-mutilators.

Protocol Outline

The protocol is organized to create a user-friendly tool for treating adolescents and adults who exhibit self-mutilative behaviors using sensory integrative techniques. The protocol begins with a review of the literature including information regarding self-mutilation and sensory processing. A hypothesis, population, inclusion and exclusion criteria, and discharge criteria is identified. The Adult Sensory Profile is addressed as a recommended assessment.

The Adult Sensory Profile utilizes four quadrants for classifying patient sensory tendencies and intervention recommendations: Low Registration, Sensation Seeking, Sensory Defensiveness, and Sensation Avoidant. A combination of the tendencies is also addressed and explained. Each of the quadrants are color-coded to create user-friendly reading. Areas addressed in the protocol include: review of the literature, information regarding self-mutilation, treatment approaches, information on sensory processing assessment recommendations, inclusion/exclusion recommendations, and examples of interventions based on assessment outcomes.

- Low Registration information and intervention ideas are coded in green,
- Sensation Seeking information and intervention ideas are coded in pink,
- Sensory Defensiveness information and intervention ideas are coded in navy blue,
- Sensation Avoidant information and intervention ideas are coded in purple, and an explanation and information regarding combinations of the quadrants is coded in orange.

Skilled Occupational therapists with knowledge of sensory integration should implement the protocol to individuals who match the criteria suggested by Adult Sensory Profile and whose reasons for self-mutilation may include the sensory stimulation it provides. Again, it is important to remember that the protocol is not to be used as the sole treatment for individuals who self-mutilate, but in correlation with psychiatric treatment, social skills and relationship skills training, and possible pharmaceutical treatment to combat the underlying issues of self-mutilation.

CHAPTER III

METHODS

The process for developing a treatment protocol utilizing sensory integration techniques for treating self-mutilation began with an extensive review of the current literature on sensory integration, sensory processing, and self-mutilation with a concentration on occupational therapy. Topics of importance to this treatment protocol included, but is not limited to, sensory integration, sensory processing, borderline personality disorder, efficacy/effectiveness of sensory integration, sensory integrative techniques, Adolescent/Adult Sensory Profile, S.A.F.E. Alternatives Program, sensory modulation, Asperger's/Autism, self-mutilation/self-injury/self-harm/self-injurious behaviors, neurology/nervous system, media portrayal of self-mutilation, body-image, eating disorders, suicide, adolescent/teen issues, stress/post traumatic stress, relationship difficulties, and sexual abuse/physical abuse.

The process of developing the literature review involved numerous search engines such as PubMed, OT Search, AJOT Online, PsychInfo, and WebMD. Library resources were used to obtain articles, books, scholarly projects/theses, and textbooks. A Level II fieldwork affiliation utilizing a "sensory room" in mental health was also used to gather information and treatment ideas/practicality.

Upon completion of the literature review and information learned from the Level II experience, the treatment protocol was developed. After reviewing the literature, it is believed that the treatment protocol developed will attract continuing research on the relationship between sensory modulation and self-mutilation, and will provide a guideline for currently practicing occupational therapists to implement sensory regulating activities into their current treatment

regimen.

CHAPTER IV

PRODUCT

The purpose of this Scholarly Project was to design a treatment protocol for occupational therapists to use as a guide to working with adolescences and adults who exhibit self-mutilative behavior, applying sensory integrative techniques based upon the Model of Sensory Processing by Winnie Dunn. The product is in the appendix/

The premise of the protocol is that sensory integrative and processing techniques can effectively help to replace unhealthy coping, such as self-mutilation with a healthy form of sensory input and stimulation. The protocol is not designed to replace other forms of intervention but to occur simultaneously with other forms of intervention prescribed by the individuals' psychiatrist/psychologist.

Areas addressed in the protocol include: review of the literature, information regarding self-mutilation, treatment approaches, information on sensory processing assessment recommendations, inclusion/exclusion recommendations, and examples of interventions based on assessment outcomes.

CHAPTER V

SUMMARY

Professionals treating people who self-mutilate have found themselves struggling with society's cultural influences, family dynamics, varied experiences, lack of research, and comorbidity of diagnosis. There is not a single treatment that is the ultimate cure for self-mutilation, which makes treating those who self-mutilate a disheartening and challenging endeavor for not only the professionals, but for the client and their family/friends.

The current treatment regimen includes hospitalization, banning sharp materials, counseling, and medications. The purpose of this Scholarly Project was to design a treatment protocol using sensory integrative techniques when treating individuals who self-mutilate. The goal is to give professionals an alternative way in treating self-mutilation, on top of the current treatment regimen. It is hoped to inspire more research on self-mutilation, sensory integration, and the sensory components of self-mutilation to one day find a more successful treatment equipping all ages of individuals who self-mutilate with healthier coping mechanisms to reach their greatest potentials.

In order to develop this treatment protocol, a review of literature was done including but not limited to: sensory integration, sensory modulation, The Adult Sensory Profile, and self-mutilation. After considering the literature and determining the sensory components of self-mutilation a treatment protocol was created for occupational therapists to use as a guide while treating individuals who self-mutilate.

This protocol was developed as an alternative treatment for individuals who self-mutilate; as a treatment for consideration in correlation with other forms of treatment.

Limitations of the Project

There are no current studies done on the effectiveness sensory integrative treatment for individuals who self-mutilate (excluding Autism and Spectrum disorders). There is little information and studies about self-mutilation, the sensory components of self-mutilation, and the efficacy of sensory integration with adults or in mental health.

Proposed Project Implementation

Skilled Occupational therapists with knowledge of sensory integration should implement the protocol to individuals who match the criteria suggested by Adult Sensory Profile and whose reasons for self-mutilation may include the sensory stimulation it provides. The protocol is not to be used as the sole treatment for individuals who self-mutilate, but in correlation with psychiatric treatment, social skills and relationship skills training, and possible pharmaceutical treatment to combat the underlying issues of self-mutilation.

In regard to working with individuals who may have sensory integration dysfunction, or sensory modulation dysfunction it is important to know the individual reaction of the therapist to sensory stimuli. In this protocol it is strongly recommended that the occupational therapist working with the clients, take the Adult Sensory Profile. Due to the importance of rapport building with clients exhibiting self-mutilation, the way the therapist presents sensory stimuli is extremely important. The therapist will unconsciously present sensory integration therapy sessions that reflect his or her own sensory processing. For example, a therapist who is sensory defensive may not provide enough sensory input during a treatment session to an individual who is sensory seeking. Although for a therapist who is sensory seeking and working with a sensory defensive client, it could overwhelm the patient and lose gains made in rapport.

Recommendations

It is recommended that therapists who implement this protocol document the response of patients to further study the efficacy of sensory integrative therapy in mental health and with individuals who self-mutilate. More research needs to be done on self-mutilation, sensory integration in mental health and adolescents and adults, as well as the sensory components of self-mutilation.

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Appendix

*Treatment Protocol Using Sensory Integration
for Treating
Self-Mutilation*



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Introduction

This document provides an outline to create a detailed description of a treatment protocol for individuals who engage in self-mutilation using sensory integration techniques based upon Dunn's Model of Sensory Processing.

Purpose

The protocol is designed for occupational therapists to use as a guide to working with adolescences and adults who exhibit self-mutilative behavior, applying sensory integrative techniques based upon the Model of Sensory Processing by Winnie Dunn. The premise of the protocol is that sensory integrative and processing techniques can effectively help to replace unhealthy coping, such as self-mutilation with a healthy form of sensory input and stimulation. The protocol is not designed to replace other forms of intervention but to occur simultaneously with other forms of intervention prescribed by the individuals' psychiatrist/psychologist.

Organization/Structure of Protocol

The protocol is organized to create a user-friendly tool for treating adolescents and adults who exhibit self-mutilative behaviors using sensory integrative techniques. The protocol begins with a review of the literature including information regarding self-mutilation and sensory processing. A hypothesis, population, inclusion and exclusion criteria, and discharge criteria is identified. The Adult Sensory Profile is addressed as a recommended assessment.

The Adult Sensory Profile utilizes four quadrants for classifying patient sensory tendencies and intervention recommendations: Low Registration, Sensation Seeking, Sensory Defensiveness, and Sensation Avoidant. A combination of the tendencies is also addressed and explained. Each of the quadrants are color-coded to create user-friendly reading.

- **Low Registration** information and intervention ideas are coded in **green**,
- **Sensation Seeking** information and intervention ideas are coded in **pink**,

- **Sensory Defensiveness** information and intervention ideas are coded in navy blue,
- **Sensation Avoidant** information and intervention ideas are coded in purple,
- And an explanation and information regarding **combinations** of the quadrants is coded in orange.

Review of the Literature

It is estimated that 2 million people in the United States intentionally and repeatedly bruise, cut, burn, mark, scratch and mutilate different parts of their own bodies. This estimate represents only the adolescents and adults who actually seek help for the behavior (Strong, 1998). The literature identifies several terms that are used interchangeably to describe self-injurious behavior. These terms include: self-mutilation, self-harm, self-abuse, self-injury, self-injurious behavior, auto aggression, parasuicidal behavior, deliberate self-harm, and cutting (Conterio & Lader, 2005; Conterio & Lader, 1998; Hersh, 2004; Levenkron, 1998; Strong, 1998, Sullivan, 2000). For purposes of this protocol, the author will consistently use the term self-mutilation, but it is important to remember that through the presentation of the literature, the terms will vary with integration of researchers' quotes and related information.

Self-Mutilation

Self-mutilation is described as the deliberate alteration of tissues without the intent of suicide (Conterio & Lader, 1998; Hersh, 2004, p. 147; Hicks, 2005; Levenkron, 1998; Strong, 1998; Turner, 2002). Haines, Williams, Brian, & Wilson (1995) state that self-mutilation is a conscious decision to repeatedly cause harm to oneself in an attempt to reduce/relieve mental pain, anguish, or extreme anxiety or tension or as a means to feel or not to feel.

Incidence

Several researchers have speculated that number of individuals who engage in self-mutilation is growing (Conterio & Lader, 1998; Derouin & Bravender, 2004; House,

Owens, & Patchett, 1999; Jacobs, 2000; Kennedy, 2004; Kluger, 2005; Warner, 2002). Czarnopys claims that between two to three million Americans are using self-mutilation (2002). Recent research indicates that approximately one out of eight adolescents self-mutilate at some point in their lives (Conterio & Lader, 1998, Strong, 1998). More and more young people are using self-mutilation to cope with stressors, get sensory input, and express themselves.

Evaluation

Health professionals are seeing a dramatic increase of this behavior, with little research to treat individuals who self-mutilate. There are dilemmas in effectively treating this growing population. First of all, there are no current diagnostic criteria to guide psychiatrists or other health professionals when diagnosing individuals with self-mutilation, although it is starting to emerge into the psychiatric realm as a diagnosis. Secondly, the limited research results in limited theoretical supported treatment modules for therapists and other mental health professionals to base their treatment upon.

Treatment Approaches

There are several therapeutic approaches that are used in treating self-mutilation such as: self-help approaches, interpersonal group and talk therapies, individual or family counseling, rational-emotive therapy, individual skill building therapy, hypnosis, visualization and relaxation therapy, dialectical behavioral therapy, pharmacological therapy, psychoanalytical perspective, music therapy, and psychodynamic approach (Czarnopys, 2002; Derouin & Bravender, 2004). The most popular of these are dialectical behavioral therapy, pharmacological therapy, and individual skill building therapy. None of these have attained a significant degree of success largely due to the limited research and the complexity of the issue(s).

Sensory Integration/Processing

“In the literature, sensory processing is often used interchangeably with sensory integration and is a broad term used to describe the way a person takes in, organizes, and interprets sensory information for functional use” (Garanek, 1998, p. 1). Sensory integration is considered both: a process of neurological organization of sensory information for behavioral responses and a clinical frame of reference used to guide

occupational therapists in the evaluation and treatment of persons who have sensory processing deficits (Brachtesende, 2003). “Sensory integration processing also affects children’s ability to mentally and physically organize themselves for making orderly transitions from one activity to another” (AOTA, p. 1).

Although sensory integration treatment has been primarily used with autism, learning disabilities, or sensory dysfunction, over the past decades the application of sensory integration intervention has been expanding to other diagnoses and behavioral disorders. “With an established relationship between sensorimotor function and coping skills, the use of coping skills as a potential outcome measure of sensory integrative treatment effectiveness is also supported” (May-Benson, p. 1). In an article by Pfeiffer, Kinnealey, Reed & Herzberg (2005) it was discussed how “researchers have identified relationships between sensory defensiveness and anxiety in adults diagnosed with no medical or mental health issues” (p. 341).

Researchers conducted a study to determine if there was a significant relationship between dysfunction in sensory modulation, symptoms of affective disorders, and adaptive behaviors in children and adolescents with Asperger’s disorder between 6 and 7 years of age. (Pfeiffer et.al, 2005)

1. “As the level of anxiety increased, the adults reported an increased sensitivity to environmental stimuli” (Pfeiffer et al, 2005, p. 341-342)
2. “Researchers (Clark & Watson,1991; Johnson, 1975; and Neal et al., 2002) have suggested that individuals with anxiety tend to overrespond to environmental stimuli (sensory hypersensitivity) whereas those with depression tend to under-respond to environmental stimuli (sensory hyposensitivity)” (Pfeiffer et al., 2005, p. 342)
3. There was a significant inverse relationship between symptoms of depression and functional academics, leisure and social skills, which was consistent with prior research (Pfeiffer et al., 2005).

Although the information from the study focused on individuals diagnosed with Aspergers, the information presented above, in regard to sensory processing is significant. The fundamental assumptions of sensory integrative therapy lend itself to the challenges of self-regulation and modulation of the sensory system in the individual who

self-mutilates. The techniques presented in this proposed protocol will not cure self-mutilation alone, but when used simultaneously with other forms of intervention, it may prove to be an effective treatment for self-mutilators.

Protocol

Hypothesis

Using sensory integrative techniques simultaneously with other treatment regimens will produce a more effective treatment for people who self-mutilate. Self-mutilation may be engaged in to combat sensory processing difficulties, sensory modulation deficits, or under-/over-sensitivity.

Objectives

Primary objectives:

- Identify and utilize positive coping skills
- Identify sensory triggers
- Recognize individual signs of stress

Secondary objectives:

- Develop effective communication skills
- Identify ways healthy ways for self-expression

Population

Patients exhibiting moderate/superficial self-mutilative behaviors will be eligible to participate in treatment. Moderate/superficial self-mutilation is seen in patients seeking temporary relief from anxiety, depersonalization, racing thoughts, and fluctuating emotions. (in Hicks, 2005; Strong, 1998). It is the most populated category of self-mutilation. This group of patients is typically average to high intelligence.

Treatment for moderate/superficial self-mutilation is currently a combination of medications, individual therapy, Dialectical Behavioral Therapy, and/or coping skills training. The literature identifies the main themes to moderate/superficial self-mutilators as attempting to feel or to stop feeling. The sensory components gained from the self-mutilative behavior are not addressed in many treatment modules.

Inclusion Criteria:

- Patient will be accepted into group if he/she exhibits self-mutilation
- Patient is cognitively able to gain insight into their self-mutilation
- Patient displays self-mutilation symptoms similar to the moderate/superficial self-mutilation category such as: hair-pulling, skin scratches, nail biting, burning, needle sticking, bone breaking, and interference with wound healing (Hicks, 2005, Strong, 1998).

Exclusion Criteria:

- Patient will be excluded from the group if he/she displays active psychosis.
- Patient is unable to gain insight into self-mutilation, due to cognition.
- Patient demonstrates unsafe behaviors towards other group members.

Discharge Criteria:

- Patient will demonstrate healthy coping mechanisms to control motivation, aggression, impulsivity, frustration, attentiveness, and emotional reactions.
- Patient will demonstrate recognition of sensory defensive behaviors in themselves
- Patient will demonstrate techniques from their individual sensory needs to regulate their behavior.
- Patient attends 75% of all groups and group activities.
- Patient participates in 75% of all group activities.

Terminology

Hyper-responsive: “Oversensitivity to sensory stimuli, characterized by a tendency to be either fearful and cautious, or negative and defiant” (Kranowitz, 1998, p. 285).

Hypo-responsive: “Undersensitivity to sensory stimuli to sensory stimuli, characterized by a tendency to crave intense sensations or to withdraw and be difficult to engage” (Kranowitz, 1998, p. 285).

Neurological Thresholds: “refers to the amount of stimuli required for a neuron or neuron system to respond” (Brown & Dunn, 2002, p. 7).

Quadrants: Dunn identified four separate sensory processing tendencies & behavioral responses to sensory stimulation (Brown, Tollefson, Dunn, Cromwell, & Fillion, 2001). These quadrants are: Low Registration, Sensory Seeking, Sensory Sensitivity, and Sensory Avoiding.

Self-mutilation: deliberate act of harming oneself, without the intent of suicide (Conterio & Lader, 1998; Hersh, 2004; Hicks, 2005; Levenkron, 1998; Strong, 1998; Turner, 2002).

Sensory Acuity: Awareness of what is happening inside and outside the body and accurately displaying emotions, behaviors, and reactions accordingly.

Sensory Processing: the ability to effectively organize sensory information to functionally participate in activities of daily living (Kranowitz, 2002). The way an individual organizes sensory input in an efficient and accurate manner, which includes behavioral responses, ability to attend, motor control and response, and functioning abilities (Hanft, Miller, & Lane, 2000).

Self-regulation: “ability to control one’s activity level and state of alertness, as well as one’s emotional, mental, or physical responses to sensations; self-organization”

(Kranowitz, 1998, p. 291).

TREATMENT PROGRAM DESIGN

THEORY

Jean Ayres, an occupational therapist in the 1950's and 1960's, developed the theory of sensory integration. She based her theory off of her knowledge of neurology. The theory depicts the connection between the brain and behavior. Sensory integration theory suggests that normal individuals take in the sensory stimuli in their environment and bodily movements to process or integrate in their central nervous system, which in turn organizes their reactions and plans out motor and behavior responses. Dysfunction in the process of sensory integration results in deficits in conceptual and motor learning. The theory recommends and guides therapists to create interventions to enhance sensory experiences and produce a purposeful and goal-directed behavior. The adapted behavior is the result of sensory integration and enhanced learning (Fisher, Murray, & Bundy, 1991, Yack, Aquilla, & Sutton, 2002).

Sensory Processing is the ability to effectively organize sensory information to functionally participate in activities of daily living (Kranowitz, 1998). The central nervous system is responsible for receiving, detecting, integrating, and modulating the sensory information; the brain then prepares the body for the response (Kranowitz, 1998). The central nervous system has seven different types of input to effectively organize: visual, auditory, vestibular, olfactory, gustatory, tactile, and proprioceptive (Biel & Peske, 2005).

PREPARATION

Therapist: Therapeutic Use of Self

In regard to working with individuals who may have sensory integration dysfunction, or sensory modulation dysfunction it is important to know the individual reaction of the therapist to sensory stimuli. In this protocol it is strongly recommended that the occupational therapist working with the clients, take the Adult Sensory Profile.

Due to the importance of rapport building with clients exhibiting self-mutilation, the way the therapist presents sensory stimuli is extremely important. The therapist will unconsciously present sensory integration therapy sessions that reflect his or her own sensory processing. For example, a therapist who is sensory defensive may not provide enough sensory input during a treatment session to an individual who is sensory seeking. Although for a therapist who is sensory seeking and working with a sensory defensive client, it could overwhelm the patient and lose gains made in rapport.

Therapeutic Relationship: Building Rapport

Building rapport with the patients who self-mutilate is extremely important. These individuals tend to have relationship difficulties, isolate, and trust issues. It is important for the patient to understand that the therapist will not stop treatment if they relapse or immediately after they stop self-mutilating. Individuals who self-mutilate need someone to encourage and support them, regardless of emotional state they are currently in. Building rapport with individuals who self-mutilate takes time and patience. They are untrusting of authority and secretive of their self-mutilation.

In order to build rapport with this clientele, it is important not to react to their situation(s), reaffirm them, give feedback, be honest, respect their confidentiality, and allow them to feel their emotions.

ASSESSMENT

Process

Screening

The first session of treatment will be completion of the Adult Sensory Profile with the patient. This is the beginning of rapport with the client, as well as a guideline for treatment and interventions designed specifically to the needs of the patients' uniqueness. The assessment is based off the individuals view of their own sensory experiences. It is important to be aware of exaggeration or poor insight, so observations will be a continual form of assessment.

QUADRANTS

It is important to remember that anyone who takes this assessment may score high or low in at least one quadrant on the Adult Sensory Profile. Intervention is only necessary if it interferes with performance in daily activities. There are 4 primary quadrants that will be presented in this protocol. Some individuals will demonstrate qualities in more than one quadrant.

Low Registration Quadrant

Individuals with low registration tend to take longer to register sensory stimulation or miss the input completely. Individuals with low registration may also display difficulty in reactions to rapid or low-intensity stimuli. They may not notice background noises, smells, or bumping into objects (Brown & Dunn, 2002).

High scores (classifications of Much More Than Most People or More Than Most People)

1. Individuals who score in the low registration quadrant take more sensory input to fulfill their sensory needs. Their activities and environments may not provide enough intensity or variability to sustain their attention to performance (Brown & Dunn, 2002).
2. “Intervention strategies for low registration enhance task features and contextual cues so that the person’s neurological thresholds can be met” (Brown & Dunn, 2002, p. 35).
Therapeutic interventions should include varying routines, increase intensity of sensory information, and slowing the presentation of sensory information to allow reaction and process time for the individual (Brown & Dunn, 2002).
3. * In relation to self-mutilation, high scores may be indicative of the “numb” sensation. Self-mutilation may be a way for an individual to “feel” their sensory input. Pain may be the only sensation they believe they can actually interpret. By providing these individuals with an increase in sensory input, it may reduce the urge to self-mutilate.

* Denotes MOTS interpretation based on research and fieldwork experiences

Low Registration Quadrant (cont.)

Low scores (classifications of Much Less Than Most People or Less Than Most People)

1. Individuals that have a longer processing time. It does not mean they are sensitive, (consult their sensory sensitivity quadrant scores) or do not notice sensory stimulation, the information is processed slower (Brown & Dunn, 2002).
2. Interventions should focus on eliminating high stimulating sensory input, to allow the individual to allow their attention on one form of sensory input at a time (Brown & Dunn, 2002).
3. * In relation to self-mutilation, an individual that has low scores in the low registration quadrant may be self-mutilating in response to the anxiety of an unpredictable environment or intensity of sensory stimulation. Interventions should help establish a tolerable routine and eliminate the intense stimulation in their environment.

* Denotes MOTS interpretation based on research and fieldwork experiences

Sensory Seeking Quadrant

Individuals with sensation seeking behaviors have a tendency to look for sensory stimulating environments or more stimulation. They enjoy the feelings associated with sensory stimulation, and tend to surround themselves with bright colors, various textures, music, and/or crowds. Occasionally, individuals with sensation seeking behaviors will become bored in their environments, or find them intolerable (Brown & Dunn, 2002).

High scores (classifications of Much More Than Most People or More Than Most People)

1. In sensory seeking are indicative of an individual that enjoys exploring their sensory environment. These individuals require a wide range of sensory input at varying intensities.
2. Intervention strategies should include additional sensory input before and during a task. Engaging activities with many different textures, colors, movement, smells, and sounds will be most beneficial (Brown & Dunn, 2002).
3. * In regards to self-mutilation, individuals with high scores in sensory seeking, may be using self-mutilation to feel more intense sensations. Interventions will teach the individual how to use their resources to receive the sensory input desired, in a healthy way.

* Denotes MOTS interpretation based on research and fieldwork experiences

Sensory Seeking Quadrant (cont.)

Low scores (classifications of Much Less Than Most People or Less Than Most People)

1. This sensory seeking quadrant describes someone who does not actively engage in their environment. They do not necessarily avoid their environmental stimuli (compare with sensory avoidant quadrant scores), but does not explore their environment to find new or intriguing sensations (Brown & Dunn, 2002).
2. Interventions should promote exploration and interaction with the new or intriguing sensations. Interventions should promote exploration and interaction with the sensory environment. Interventions should not be forceful or overwhelming, but should include subtle changes (Brown & Dunn, 2002).
3. * Individuals who self-mutilate and have a low score in the sensory seeking quadrant are not receiving sensory input on a consistent basis. It is possible that these individuals try to compensate for their lack of sensory input, by self-mutilating. Self-mutilation could also be their primary form of sensory stimulation. Gradual exposure to different textures, colors, and/or other sensory experiences may begin to use healthy ways to get their sensory input.

* Denotes MOTS interpretation based on research and fieldwork experiences.

Sensory Sensitivity

Individuals with sensory sensitivity have low thresholds for sensory stimulation. They are often uncomfortable, distractible, irritable, and/or fearful of sensory input. Many times individuals with sensory sensitivity respond to background noises, chose their foods and clothing textures based on their tolerance, and portray an overwhelmed behaviors during crowds and other high levels of sensory stimulation to process (Brown & Dunn, 2002).

High scores (classifications of Much More Than Most People or More Than Most People)

1. This quadrant describes an individual that is easily distracted, which interrupts an individual's experimentation with their sensory environment.
2. These individuals require a distraction-free environment. Interventions should include familiar, calm, and consistent sensory tasks for treating sensory sensitivity (Brown & Dunn, 2002).
3. * In regards to self-mutilation, individuals with high scores in sensory sensitivity, may be using self-mutilation to control racing thoughts and ground themselves back to reality. Interventions will teach the individual how to use their environment to their advantage, by eliminating distractions or adding sensory stimuli consistently to decrease or stop the need for self-mutilation.

* Denotes MOTS interpretation based on research and fieldwork experiences

Sensory Sensitivity Quadrant (cont.)

Low scores (classifications of Much Less Than Most People or Less Than Most People)

1. The sensory sensitivity quadrant describes someone who has difficulty detecting sensory stimuli. They do not necessarily avoid their environmental stimuli (compare with sensory avoidant quadrant scores), nor do they become distracted by their environment, but have difficulty processing the sensory input quickly (Brown & Dunn, 2002).
 2. Interventions should include Activities of daily living (ADL's) and Instruments of Daily Living (IADL's) that may require an increase of responsibility to the sensory input, such as cooking, bathing, shaving, etc. These interventions would increase safety and teach predictability and adaptation (Brown & Dunn, 2002).
 3. * Individuals who self-mutilate and have a low score in the sensory sensitivity quadrant are not processing the pain from cutting in the brain. The self-mutilation is being used to feel, and feel things normally. To these individuals any sensation may be perceived as soothing, even pain.
- * Denotes MOTS interpretation based on research and fieldwork experiences

Sensation Avoiding Quadrant

Individuals who are sensation avoiding tend to be overwhelmed by sensory stimulation, so they eliminate sensory stimulation in their environments. These people enjoy structures, predictable environments.

High scores (classifications of Much More Than Most People or More Than Most People)

1. This quadrant describes an individual that will avoid activities and environments that provide too much intensity or variability.
2. These individuals require opportunities and setting where they can take a break from overwhelming stimuli. Predictable, consistent environments are more supportive because it reduces his or her nervous system's need to attend to and make sense of new stimuli (Brown & Dunn, 2002, p. 41).
- 3.

* Denotes MOTS interpretation based on research and fieldwork experiences

Sensation Avoiding Quadrant (cont.)

Low scores (classifications of Much Less Than Most People or Less Than Most People)

1. A low score in the sensation avoiding quadrant suggests that he or she does not engage in behaviors that lessen sensory stimuli nor engaged in actively diminishing sensory input (Brown & Dunn, 2002, p. 42).
2. It is important to consider daily situations in which the individual could benefit from more sensation avoiding behaviors so strategies that support engagement in behaviors that eliminate sensory stimuli would be useful (Brown & Dunn, 2002, p. 42).

* Denotes MOTS interpretation based on research and fieldwork experiences

Combination of Quadrants

- 1.
2. Frequently, individuals will score high or low in more than one quadrant.
3. Individuals who are sensory defensive are commonly sensory avoidant. On the contrary, individuals who are sensory seeking, may have low registration tendencies.
4. Interventions should be provided to individuals using the recommendations from the corresponding categories of their combination of tendencies for sensory processing.

INTERVENTION

DESIGN

Together 1:1 therapy and group therapy can provide an individual with the tools they need to successfully end their struggles with self-mutilation.

1:1

In order to successfully treat self-mutilation, a balance and/or combination of 1:1 therapy and group therapy is important. One-to-one therapy provides individuals the opportunity to share with someone they trust, the experiences that they believe is the cause of their self-mutilation. The underlying components of self-mutilation can be treated individually, with the uniqueness of the patient's life experiences.

Group

Group therapy can break down the barriers of secrecy, isolation, and guilt by demonstrating to an individual that they are not suffering from an unusual disorder. It can connect them to a group, foster communication skills, develop empathy for themselves and others, and challenge group members to be accountable in their abstinence from self-mutilation (Conterio & Lader, 1998; Strong, 1998).

Sensory Organization

When beginning a sensory-based therapy session, starting with organizing activities will allow the patient feel in control of their environment, emotions, and behavior.

Preparation

Equipment

Equipment for providing sensory input in therapy session, while providing meaningful activity for the individual is extremely important when working with adolescents and adults. Sensory integration is normally seen as a treatment for children, so in order to avoid this stigma it is important to make therapy age appropriate.

Materials

- ❑ Small buckets or bags filled with rice, pinto beans, sand, clay/putty, or noodles will provide a distraction for patients who self-mutilate. Throughout recovery the patients may need to keep their hands occupied, so they do not feel the urge to search for sharp objects or other ways of harming themselves.
- ❑ The thicker the consistency of the materials (clay/putty) the more organizing the device becomes, and also provides deeper sensory stimulation. The thinner the consistency of the materials (rice, beans) the more superficial the stimulation and the more sensory tolerance it requires.
- ❑ Handheld vibrators offering a variety of speeds and variety of removable heads should be purchased. It is recommended that more than one be offered for the individual patient to test out. Some offer deeper stimulation compared to others.
 - The higher speeds of the handheld vibrator offer deeper stimulation for the individuals who are sensory defensive, whereas the lower speeds create a more superficial stimulation for the sensory seeking patients.
 - The removable heads can provide different superficial sensory input, while

providing the deeper sensations. Some heads may be more comfortable than others for the individual patient.

- Paintbrushes, surgical brushes, and other soft-medium stiffness brushes can be used to create a more superficial stimulation. It is recommended that various types of brushes be offered for the patient to find one that suits them best.
 - The brushes can be used simultaneously with other activities or be used by individually.
 - It is an activity that can be self-administered, and be used after patient discharge.
 - Brushing the arms, hands, and legs can help organize, calm, or stimulate the wide variety of patients' needs.
- Swings or hammock swings may or may not be available or feasible for the facility, but do provide proprioceptive input for patients. If it is not feasible, physical engagement in activities are important to provide the proprioceptive input.
 - Proprioceptive activities are sensory organizing and may help an individual who self-mutilates learn to react to their environment in a healthier way.
 - Therapists should be aware of the fine line when working with individuals who self-mutilate. Conterio & Lader suggest that physical activity may cause the patient to feel less in control of their feelings and behavior (1998, p. 189).
 - Keeping the physical activity at the discretion of the patient will allow the patient to feel in control.

- Seating should be provided on a variety of textures.
 - Beanbags, metal chairs, couches, recliners, gel cushions, or therapy balls can provide sensory stimulation in any type of group setting.
 - They can also be used to promote attentiveness, comfort, alertness, or relaxation. They can also be a secondary source of sensory stimulation, during a treatment session.
 - Completing projects while sitting on different types of furniture/cushions can provide proprioceptive organization, balancing, weight shifting, and weight distribution.

Low Registration Interventions

High Scores in Low Registration Quadrant Interventions

Treatment session

Type/Method: 1 to 1 (inpatient or outpatient setting)

Activities/Descriptions of activities:

- Patient set-up of equipment (mat & therapy ball)
- Sandwich-patient lies on a mat and therapist rolls therapy ball over top of patient with consistent pressure (deep sensory input).
- Finger-painting on smooth white paper. Patient should have the choice of 1-2 colors to use while painting.
- Patient clean-up
- Listening to relaxation CD while in rocking chair or swing

Goals:

- Promote sensory detection
- Promote self-assessment of sensory awareness
- Build therapist/patient rapport
- Promote Self-expression

Activities/Goals rationale:

- Patient set-up and tear-down of equipment (mat & therapy ball) is heavy work, which is organizing and prepares patient for therapeutic activities. Allowing the patient to set up helps patient feel in control of their therapy.
- Sandwich activity is a deep pressure activity that allows the individual with low registration to receive consistent and predictable sensory input. The concentration is on the deep sensory input, with minimal distractions from other environmental stimuli. This allows processing time for the patient.

- Sandwich activity is a deep pressure activity that allows the individual with low registration to receive consistent and predictable sensory input. The concentration is on the deep sensory input, with minimal distractions from other environmental stimuli. This allows processing time for the patient.
- Finger-painting promotes tactile sensory processing and socialization with the therapist. Socialization is rapport building and allows for time to process the activities, as well as self-assessment of sensory processing skills. By finger-painting, the patient does not require any object that could be used for self-mutilation, which increases safety and patient accountability. Therapists should limit choices to 1-2 colors of finger paint to limit sensory input for patient processing.
- Listening to a Relaxation CD while rocking or swinging, provides vestibular calming techniques that are consistent and predictable with the patient in control of their therapy. If more than one CD is available, allow the client to choose their music. If a rocking chair and swing are both available, allow the patient to choose their preference.

Precautions:

- Watch for patient's negative responses which can indicate overload of sensory stimulation (excessive yawning, hiccupping, sighing, irregular breathing, sweating, motor agitation, and/or increased anxiety). Any form of agitation could trigger thoughts of self-mutilation.
- During clean-up, check water temperature patient uses to wash their hands in. Due to low registration, temperature may be too hot or too cold.
- Keep sharp objects locked away, to prevent triggering thoughts of self-mutilation or patient access to self-mutilative materials.

Outcome criteria:

- Patient is able to tolerate and attend to activities.
- Patient is cooperative and participates in activities

Setting:

- Times should be scheduled when a room is available for 1 on 1 interaction, to limit distractions. Time should be convenient for patient, to promote attendance.
- Room should have adequate, but not bright lighting. The room should have limited visual and auditorial distractions.
- Patient should have access to a sink for hand washing and cleaning materials.
- Room should have an available outlet to plug in CD player.

Supplies and cost:

- Finger-paints-16 oz approximately \$2-6
- Paper-30 sheet notepad approximately \$3-5
- Therapy ball-approximately \$30-50 depending on diameter
- Individual Mat-approximately \$70-90
- Relaxation CD-approximately \$7-15
- CD Player-approximately \$40-70 for basic CD Player
- Hammock swing-approximately \$70-\$120 (can come with stand, so there is no installation)

Low Scores in Low Registration Quadrant Interventions

Treatment Session

Type/Method: 1 to 1 (inpatient or outpatient setting)

Activities/Description:

- Patient set-up of equipment (Planter, seeds/flowers/plant, & dirt/potting soil)
- Therapist provides pictorial & written directions for proper planting for patient to follow.
- Patient follows the directions to complete planting of flowers or seeds (attention to detail.
- Patient should have the choice of 1-2 choices of seeds or flower/plant options to use in their planter.
- Patient clean-up.

Goals

- Explore Leisure/Recreational Interests
- Build therapist/patient rapport
- Promote healthy sensory exploration with a few sensory experiences

Goals rationale:

- Patient set-up and clean-up of activity allows the patient to feel in control of their therapy.
- Patient able to process the sensory stimulation of a few different sensory experiences.
It allows the patient to take the time to fully process the sensory information presented.

- Patient should follow directions (written & pictures) to help patient process sequence of events and focus on the sensory aspect of the activity.
- Individual therapy should be provided to limit distractions and allow patient to attend to one task to increase success.

Precautions:

- Keep sharp objects locked away, to prevent triggering thoughts of self-mutilation or patient access to materials that could be dangerous.
- Check to make sure patient does not have any allergies to plants or flowers.
- Watch for patient's negative responses which indicate overload of sensory stimulation (excessive yawning, hiccupping, sighing, irregular breathing, sweating, motor agitation, and/or increased anxiety). Any agitation could trigger thoughts of self-mutilation.

Outcome criteria:

- Patient is able to tolerate and attend to activities
- Patient is cooperative and participates in activities
- Patient is able to follow directions to complete planting activity by demonstrating understanding of directions

Setting:

- Room should allow patient access to a sink for hand washing & watering plants.
- Room should have adequate, but not bright lighting.
- The room should have limited visual and auditorial distractions

- Times should be scheduled when a room is available for 1 on 1 interaction, to limit distractions. Time should be convenient for patient, to promote attendance.
- The room should have all sharp objects locked up and out of sight to avoid triggering thoughts of self-mutilation.

Supplies and cost:

- Basic planter or flower pot (depending on preference)-approximately \$5-10
- Seeds of plants or flowers (depending on preference)-approximately \$0.50-1.00
- Small shovel-approximately \$5-8
- Potting soil or dirt-\$5-15
- Directions (cost of printing, ink, & paper)-approximatley \$0.20-0.30

Sensation Seeking Interventions

High Scores in Sensation Seeking Quadrant Interventions

Treatment session

Type/Method: Group (inpatient or outpatient setting)

Activities/Descriptions of activities:

- Patient set-up of individual mats
- Stretching activities with relaxation music. Stretches should be done with a partner. Choose someone to lead stretches, allowing the group to be patient-lead. Dance aerobics following the instruction of a dancing aerobic videotape. Cool down following the instruction of the video or stretches to relaxation music.
- Patient clean-up of mats

Goals:

- Promote healthy sensory exploration by incorporating multi-sensory experiences (vestibular, auditorial, tactile, proprioceptive, and visual)
- Promote socialization and relationship building
- Provide leisure exploration
- Promote exercise as a healthy coping skill

Activities/Goals rationale:

- Patient set-up and tear-down of equipment (mat) is heavy work, which is organizing and prepares patient for therapy. Allowing the patient to set up helps patient feel in control of their therapy.

- Stretching with partners (before and after activity) allows tactile stimulation and promotes socialization and relationship building. The stretching will allow musculature preparation for the dance aerobics or a cool down after the aerobic workout. Relaxation music provides auditory stimulation, decreases anxiety, and a calming sensory intervention.
- Dance aerobics combine auditorial sensory input with proprioceptive/vestibular sensory input. A wide variety of dance aerobic videos are available that can fit any group of patients (hip-hop/urban, African beats, Latin beats, jazz/swing dancing, etc). The dance video will also be a guide to decrease impulsivity and promote a structured group session. The group activity will promote socialization, leisure exploration, relationship building, and a healthy coping skill.

Precautions:

- Watch for patient's negative responses, which indicate, overload of sensory stimulation (excessive yawning, hiccupping, sighing, irregular breathing, sweating, motor agitation, and/or increased anxiety).
- Any form of agitation could trigger thoughts of self-mutilation.
- Sweating and heavy breathing will have to be monitored and up to the discretion of the therapist. Frequent breaks should be offered to break the physical activity.
- Physical activity increases the chance of injury, proper stretching can decrease the chances of an injury.
- Keep sharp objects locked away, to prevent triggering thoughts of self-mutilation or patient access to materials that could be dangerous.
- It is recommended that group time should not follow mealtime, and time is available for showering following group activity.

Setting:

- Times should be scheduled when a larger room is available for an active group activity that requires space.
- Time should be convenient for patients, to promote attendance.
- It is recommended that group time should not follow mealtime, and time is available for showering following group activity.

Outcome criteria:

- Patient is cooperative and participates in activities with other group members.
- Patient displays appropriate behavior during group activities.
- The room should have all sharp objects locked up and out of sight to avoid triggering thoughts of self-mutilation.
- Room should have an available outlet to plug in CD player, television, and DVD/VCR.
- The television should be placed in a position where all group members are able to view the screen easily
- Room should have adequate lighting and provide participants with enough personal space to move around.

Supplies and cost:

- Dance aerobic video-approximately \$15-30 each
- Individual Mat-approximately \$70-90
- Relaxation CD-approximately \$7-15
- CD Player-approximately \$40-70 for basic CD Player
- Television-approximately \$80-200 (depending on screen size and brand)
- VCR/DVD player-approximately \$80-\$150 (for combination player)

Low Scores in Sensation Seeking Quadrant Interventions

Treatment Sessions

Type/Method: Group (outpatient or inpatient able to go on outings)

Activities/Description:

- Scavenger hunt in local park, patient will walk through local park with a partner looking for objects on scavenger hunt list.
- Patient will find the following items (List can be adjusted to therapist's discretion or complied by group participants for more interactive group):
 - Butterfly
 - Frisbee
 - Bench
 - Garbage can
 - Swingset
 - Water fountain
 - Jogger/walker
 - River/stream
 - Tree
 - Slide
 - Seesaw
 - Dog
 - Bird
 - Squirrel
 - Walkman/CD player
 - Flower
 - Tennis court/volleyball net
 - Four leaf clover
 - Berries
 - Red vehicle
 - Sandals
 - Baseball mitt
 - Bird's nest
 - Dandelion
 - Bicycle
 - Roller blades
 - Stop sign

Goals:

- Patient will actively explore environment and search for items on list
- Promote socialization, teamwork, and relationship building
- Promote exercise as a healthy coping skill
- Patient is able to tolerate and attend to activities
- Patient is cooperative and participates in activities

Activity/Goals rationale:

- Scavenger hunt in local park allows patient to work with a partner promoting socialization, teamwork, and relationship building.
- Patient will have a list of items to search for throughout the park, allowing them to explore their environment. The items on the list should include a list of typical found items as a park, as well as some challenging items.

Precautions:

- Therapist should carry an EpiPen in case a patient has an allergic reaction to a bee sting.
- Watch for patient's negative responses which indicate overload of sensory stimulation (excessive yawning, hiccupping, sighing, irregular breathing, sweating, motor agitation, and/or increased anxiety). Any agitation could trigger thoughts of self-mutilation.
- Patient's who have a tendency to run away, should not be included on outing/trip.

Outcome criteria:

- Patient is able to tolerate and attend to activities
- Patient is cooperative and participates in activities
- Patient is able to work with partner cooperatively
- Patient finds majority of items on list

Setting:

- Local park with naturalistic environment, that contains majority of items on list.
- Park should be open to public, during time of group session.
- Park should promote safety environment for recreation

Supplies and cost:

- Printing costs for scavenger hunt lists (ink & paper)-\$0.20-1.00 (dependent on size of group).
- Possible park entrance fee-approximately \$0-15.00

Sensory Sensitivity

Interventions

High Scores in Sensory Sensitivity Quadrant Interventions

Treatment Sessions

Type/Method: 1 on 1 (outpatient or inpatient)

Activities/Description:

- Preparatory activity using handheld vibrator/massager. Patient should try different handheld massager/vibrators to get the preferred deep stimulation on hands, arms, back, shoulders, and neck as tolerated. Patient or therapist can control the activity.
- Oil pastel art. Patient will use oil pastels on the desired paper (smooth or textured paper). Therapist demonstrates use of oil pastels.
- Relaxation music and sitting/swinging in a hammock swing.

Goals

- Promote self assessment of sensory triggers
- Present deep pressure activities that are calming to reduce anxiety
- Socialization and relationship building
- Patient tolerance and attentiveness
- Promote self-expression
- Build therapist/patient rapport

Activities/Goals rationale:

- Deep pressure activities, such as vibration, cause a calming or relaxing sensation, which can decrease anxiety.

- Oil pastels require consistent pressure to create the desired effect. Patients will apply pressure and control when using the oil pastels, which is deep pressure stimulation. Patients can choose textured or smooth paper to draw on, depending on their tolerance. Textured paper provides sensory feedback in addition to the oil pastels, but may not be tolerated by all patients. Color of paper should be limited, as to not overwhelm the patient with choices. If the patient has difficulty making choices, a theme of drawing can be implemented (for example: nature, flower, animal).
- Relaxation CD should have deep tones, such as slow, steady drum beats. This music is consistent, predictable, and provides deep sensations for calming. Music with medium to high tones may increase anxiety.
- Listening to a Relaxation CD while swinging, provides vestibular calming techniques that are consistent and predictable with the patient in control of their therapy.

Precautions:

- Watch for patient's negative responses which indicate overload of sensory stimulation (excessive yawning, hiccupping, sighing, irregular breathing, sweating, motor agitation, and/or increased anxiety). Any agitation could trigger thoughts of self-mutilation.
- The room should have all sharp objects locked up to avoid triggering thoughts of self-mutilation

Outcome criteria:

- Patient is able to tolerate and attend to activities
- Patient is cooperative and participates in activities

Setting:

- Room should allow patient access to a sink for hand washing.
- Room should have adequate, but not bright lighting.
- The room should have limited visual and auditorial distractions.
- Times should be scheduled when a room is available for 1 on 1 interaction, to limit distractions. Time should be convenient for patient, to promote attendance.
- The room should have all sharp objects locked up and out of sight to avoid triggering thoughts of self-mutilation.

Supplies and cost

- Handheld vibrator/massager-approximately \$10-20 each
- Oil pastel set-approximately \$10-20
- Textured paper notepad-approximately \$3-7
- Smooth paper notepad-approximately \$2-5
- Relaxation CD-approximately \$7-15
- CD Player-approximately \$40-70 for basic CD Player
- Hammock swing-approximately \$70-\$120 (can come with stand, so there no installation is required)

Low Scores in Sensory Sensitivity Quadrant Interventions

Treatment Sessions

Type/Method: Individual or Group (inpatient or outpatient)

Activities/Description:

- Patient and therapist shops for laundry detergent and fabric softener
- Patient gathers and sorts clothing by color
- Patient reads directions on tags of clothing to assure proper care
- Patient and therapist collaboratively re-check sorting and start laundry
- Patient completes laundry activity by folding clothing and putting it away.
- Depending on patient independence, an outing could be planned to laundry mat.

Goals:

- Socialization and relationship building
- Patient tolerance and attentiveness to detail
- Build patient/therapist rapport
- Promote exercise as a healthy coping skill
- Promote independence & self-esteem

Goals rationale:

- Therapist and patient shop together to choose a laundry detergent and fabric softener, to allow the patient to feel independent and in charge of their therapeutic treatment. Patient is able to smell laundry detergent and fabric softener (subtle sensory experimentation) that appeals to them, while paying attention to label (bleach, color-safe, etc.).

- Patient sorting laundry and reading clothing tags, allows them to pay attention to the details and care of their clothing. Patient sorts laundry into dark colors, light colors, and/or whites. Therapist and patient may collaboratively discuss the laundry settings on the washing machine and dryer, to guide and educate patient.
- Patient able to take time to process and integrate information on clothing tags, settings on machine, as well as the sensory experiences during the activity (smell, clothing textures, temperature, wet/dry, etc.).

Precautions:

- Due to slow processing and difficulty integrating sensory input, patient may have a tendency to miss occasional details; such as clothing tag cares, items that may bleed onto other materials, etc.
- Some individuals may have adverse reactions to certain laundry detergents, watch patient for any sign of reaction.

Outcome criteria:

- Patient is able to tolerate and attend to activities
- Patient is cooperative and participates in activities
- Patient completes laundry activity by washing, drying, and folding a load of clothing

Setting:

- The room should have all sharp objects locked up and out of sight to avoid triggering thoughts of self-mutilation.
- The room should include a washing machine, dryer, and table for sorting clothes
- The room should have adequate lighting to ensure success with sorting clothing into piles.

Supplies and cost:

- Laundry Basket-approximately \$5-10
- Laundry Detergent-approximately \$5-8
- Fabric Softener-approximately \$3-5
- If at laundry mat, will need quarters for washing machine & dryer-approximately-\$5-8

Sensory Sensitivity

Interventions

High Scores in Sensation Avoidant Quadrant Interventions

Treatment Sessions

Type/Method: 1 on 1 (inpatient or outpatient, but towards end of treatment)

Activities/Description:

- Making fleece tie pillows-patient will choose a fleece pattern that they would like to make a pillow out of. Patient will also choose a throw pillow. Patient cuts out two pieces of fleece that are the same size and 4 inches wider and longer than the pillow. The patient proceeds to measure and cut one inch strips (width apart) around the four sides of the fleece. Each strip cut should be 3-4 inches long, and tied together with the opposite piece of fleece. Three sides should be completely tied, before pillow is inserted. After pillow is inserted, patient can continue to tie the remaining side. If patient has poor impulse control and cannot be trusted with a safety scissor with rounded tips, then therapist could have the fleece pre-cut.
- During activity, relaxation music may be playing softly
- Patient clean up of supplies

Goals

- Provide patient tolerated sensory stimulation
- Promote activity participation
- Increase attentiveness to group by eliminating distractions
- Build patient/therapist rapport
- Promote socialization or the provide an opportunity to socialize with therapist.
- Patient is able to work with tools safely

Activities/Goals rationale:

- Fleece material provides tactile sensory input, but a relatively smooth texture. Exposure to different textures will increase tolerance to sensory stimulation.
- Relaxation music will provide calming, repetitive sounds to block distracting background noises that may be distracting to an individual who is sensation avoidant.

Precautions:

- Watch for patient's negative responses which indicate overload of sensory stimulation (excessive yawning, hiccupping, sighing, irregular breathing, sweating, motor agitation, and/or increased anxiety). Any agitation could trigger thoughts of self-mutilation.
- This activity should not be chosen for an individual with poor impulse control, or a patient that is having thoughts of self-mutilation.
- Therapist should watch patient carefully, while they use a scissors to cut their fleece. It could be used as a self-mutilating tool.
- The room should have all sharp objects locked up to avoid triggering thoughts of self-mutilation.

Outcome criteria:

- Patient is able to work safely
- Patient project has all four sides enclosed and a pillow encased in the fleece
- Patient is cooperative and participates in group activity

Setting:

- Room should have adequate, but not bright lighting. The room should have limited visual and auditorial distractions.
- Times should be scheduled when a room is available for 1 on 1 interaction, to limit distractions. Time should be convenient for patient, to promote attendance.

- The room should have all sharp objects locked up and out of sight to avoid triggering thoughts of self-mutilation.
- The room should have an available outlet to plug in CD player.

Supplies and cost:

- Safety scissors with plastic edges (concealing the metal edge) and rounded tips- approximately \$2-4
- Fleece-approximately \$5-15 per yard
- Throw pillow-\$5-15 per pillow
- Relaxation CD-approximately \$7-15
- CD Player-approximately \$40-70 for basic CD Player

Low Scores in Sensation Avoidant Quadrant Interventions

Treatment Sessions

Type/Method: Group activity (outpatient or inpatient)

Activities/Description:

- Patients will go to gym area or outside to play game of dodgeball.
- Patients are divided into two teams. A line is made that the teams are not allowed to cross, each team on one side.
- Three rubber balls are given to each team. Patients will try to hit another player with a rubber ball; tagging them out. If a player is hit, they are out of the game. If a ball is caught, the person who threw the ball is out of the game.
- The person who catches a ball, may choose a teammate who was out of the game to return.
- The team with the last person left standing wins.

Goals

- Promote activity participation
- Promote socialization, teamwork, communication, and relationship building
- Promote exercise as a healthy coping skill
- Allow wide variety of sensory experiences: visual, proprioceptual, tactile (deep pressure or light pressure).
- Promote integration of senses with hand-eye coordination and anticipation.

Goals Rationale:

- Game promotes teamwork, communication, teamwork, and relationship building

- The Hand-eye coordination and anticipation required catching a dodgeball or move out of the way of a dodgeball promotes multi-sensory integration, allowing the patients to explore different types of sensory stimulation.
- Activity promotes exercise and recreation exploration to replace current unhealthy coping mechanisms.

Precautions:

- Patients who are overly aggressive or have a history of violent behavior towards others should be not be included into group, to maintain safety of peers.
- Therapist should monitor game to maintain fun, safe activity.

Outcome criteria:

- Patient is cooperative and participates in group activity
- Patient demonstrates teamwork, communication, and socialization efforts with teammates.
- Patient maintains safe game by controlling aggression and anger towards peers

Setting:

- Outside or in gym with plenty room for two teams to move around
- Line will need to be drawn or created to divide two teams
- Boundaries will need to be established for patients to stay within

Supplies and cost

- 6 rubber balls: approximately \$1.00-5.00 each
- Yarn (to create line to divide teams)-\$1.00-4.00 (for package)
- Possible entrance fee into gym or park-free-\$20.00 (dependent upon number of group members)

Art & Music Therapy

Art and music therapy are forms of treatment that can encourage self-expression, fill self-mutilation voids, and provide sensory input. Individuals who self-mutilate often complain of internalizing their emotions.

Art therapy and music therapy can be a way for individuals to express the emotions without physically harming themselves. The stressful time normally spent self-mutilating will need to be replaced with a healthy coping mechanism. Drawing, painting, sculpting, making jewelry, listening to music, singing, dancing, writing poetry, or learning to play an instrument can fulfill the void of self-mutilation.

Art and music are versatile and can match the sensory needs of virtually any individual. With all the different genres of music, it can be used as calming background music to relax the overstimulated individual or stimulating beats, rhythms, sounds, and instrumental effects to meet the understimulated individual's sensory needs. Art therapy can be used in the same way. Bright/relaxing colors, wide variety of textures, and tactile experiences can also provide sensory needs for patients' unique needs.

Art

- ❑ Art supplies with varying textures, colors, and consistencies will provide meaningful, age appropriate sensory stimulation for a wide variety of patients.
- ❑ Art paper and canvases comes in a wide selection of textures and colors.
- ❑ Oil pastels require pressure to get the desired effect, whereas colored pencils require virtually no pressure to use.
- ❑ Allow patients experimentation with different types of paints, oils, pastels and chalks on the different textures.
- ❑ Using oil pastels on a textured canvas can produce a lot of sensory feedback to the

patient seeking it, whereas using colored pencils on textured paper may give the patient trying to avoid it a taste of healthy sensory stimulation.

Music

- ❑ Music can provide the background atmosphere in an individual therapy session or a group session. The choice of music can greatly affect the way the patient views therapy, or what they feel they learned from therapy. A music collection with a wide variety of music types is preferred.
- ❑ The music should reflect the mood the therapist is hoping to accomplish in the group. For example, in a relaxation group meditation music should be played. Upbeat or motivational groups can use fast paced classical music or Caribbean beats with minimal distraction to the process of the group.
- ❑ Music with higher tones are more suited for the sensory seeking population, whereas music with lower tones and steady beats are suited best for sensory defensive clientele. When working with sensory defensive patients, the drum beats in Native American rooted music can provide a steady, deep sound that can soothe the patients while still providing them with sensory stimulation.

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