Anxiety and Sensory Defensiveness –
A Relationship Study

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Abstract
The aim of this study was to find out the relationship of Anxiety with Sensory Defensiveness. Thirty male adult were considered for this study from different District of West Bengal whose age ranged from 28 to 47 years. The Beck Anxiety Inventory (BAI) and Adult Sensory Questionnaire (ASQ) were used for collecting data. Pearson product moment Coefficient Correlation method was used to find out the relationship of Anxiety with Sensory Defensiveness. The Study showed that positive relationships were observed between Anxiety and Sensory Defensiveness. When Sensory Defensiveness is left unaddressed, adults demonstrate a tendency toward anxiety and depression. So Sensory integration therapies are strongly recommended to moderate sensory processing disorder.

Keywords: Sensory Defensiveness, Anxiety, Adult.

Introduction
Anxiety serves as a normal emotional response that ultimately enhances a person’s ability to overcome challenges. However, for a significant percentage of children and adults, the normal anxiety response does not function properly. The distinction is simple. When anxiety proves ultimately helpful, it is normal. When anxiety is too intense or too consistent, and it ultimately interferes with needed activities, people should seek assistance.

Treatment for anxiety among children can involve occupational therapy, psychiatry, and/or pharmacotherapy including selective serotonin reuptake inhibitors, benzodiazepines, or buspirone. Parental descriptions of a sensory processing disorder commonly include concerns over a child’s level of anxiety. Recent research has connected sensory-processing sensitivity with generalized social anxiety (Hofmann et.al 2007).

Recent research also suggests that when sensory defensiveness is left unaddressed, adults demonstrate a tendency toward anxiety and depression (Kinnealey et.al). Sensory processing disorder (SPD) means that a person receives sensory stimuli normally, but processes the input differently in the brain. SPD results in over-response to stimuli in
some people and under-response in others. In children especially, fearfulness about situations compounded by the embarrassment of not fitting in sometimes results in persistent, unhealthy anxiety.

Sensory defensiveness is a negative reaction to certain sensory inputs (i.e. tactile, vestibular, auditory, visual, gustatory, olfactory or proprioceptive), which would not normally be interpreted as aversive (Wilbarger and Wilbarger, 1991). Jean Ayres (1964) initially described this phenomenon in the literature in the 1960s.

Sensory defensiveness often has a social–emotional impact as well. For example, Knickerbocker (1980) discussed clustered clinical patterns among sensory systems. Her descriptions identified avoidance patterns and emotional issues in sensory hypersensitive and hyposensitive children as outlined below: Primary avoidance patterns are patterns of behavior directly related to a hyper- or hyposensitive response. A secondary avoidance pattern refers to behavior in motor output, social interaction, or academic performance which is disorganized or interfered with because of the child’s sensory defensiveness or dormant response. A tertiary avoidance refers to a more serious emotional disturbance that may be related in part or originate in large measure from the primary sensory defensiveness and/or dormancy. (Knickerbocker, 1980: 34) Kinnealey and colleagues (1995) also identified avoidance as a coping mechanism for adults with sensory defensiveness. Oliver (1990) provided further descriptions of the social–emotional impact of sensory defensiveness in adults. Adults with sensory defensiveness described feeling anxious and uncomfortable in social situations and having to adapt or eliminate activities because of their responses to sensory stimuli in those environments or situations. For example, they would avoid wearing certain clothing and make-up or participating in social activities that most people would enjoy. The relationship ‘between sensory defensiveness and more profound social–emotional problems has long been suspected by clinicians’ (Kinnealey et al., 1995: 450). Preliminary research has also linked sensory defensiveness to more pervasive social–emotional problems such as anxiety. Ayres was the first to link anxiety to sensory defensiveness when describing children with tactile defensiveness, ‘Anxiety surrounds all tactile experiences that the child himself does not initiate’ (Ayres, 1964: 89). A significant relationship has been found between the level of anxiety and sensory defensiveness in adults (Kinnealey and Fuiek, 1999). Anxiety is a state of uneasiness (Sykes, 1982) which can either promote or interfere with efficient functioning (Thomas, 1985). Beck and Emery (1985) described symptoms of anxiety as interfering with effective functioning. They further categorized these into cognitive (i.e. difficulty with reasoning or concentration), affective (i.e. edgy, fearful, or uneasy), behavioural (i.e. avoidance, restlessness, or inhibition), or physiological (i.e. heightened reflexes, increased heart rate, or insomnia) symptoms (Beck and Emery, 1985).
Both sensory defensiveness and anxiety have the power to be very debilitating across all aspects of an individual’s life including emotional and social experiences, motor performance, and activities of daily living (Wilbarger and Wilbarger, 1991; Beck and Emery, 1985; Pfeiffer, 2002). If sensory integration treatment could ameliorate the effects of sensory defensiveness and anxiety, it would assist individuals to function more effectively and could greatly improve productivity and quality of life. Although there is support for a relationship between sensory defensiveness and anxiety (Kinnealey and Fuiek, 1999), and therefore the present study was undertaken.

Method and Materials

Subject
Thirty male adult were considered for this study from different District of West Bengal whose age ranged from 28 to 47 years. The Beck Anxiety Inventory (BAI) and Adult Sensory Questionnaire (ASQ) were used for to measure the anxiety and sensory defensiveness.

Test/Tools

Adult Sensory Questionnaire (ASQ)
The ASQ is a 26-item true/false questionnaire developed to screen for sensory defensiveness in adults. It is a self-administered questionnaire which can be given to a group or an individual. When the ASQ was administered to 300 adults, the mean score was 6 and the standard deviation 4. Therefore, a person with a score of 10 or above is identified as sensory defensive (Kinnealey and Oliver, 2002). Out of the 300 subjects, 6% were male and 94% were female although there were no reported differences between these groups in scores. All of the subjects were between the ages of 18 and 48 (Kinnealey and Oliver, 2002).

The Beck Anxiety Inventory (BAI)
The Beck Anxiety Inventory (BAI), created by Aaron T. Beck, MD, and colleagues, is a 21-item multiple-choice self-report inventory that measures the severity of an anxiety in adults and adolescents.

Respondents are asked to report the extent to which they have been bothered by each of the 21 symptoms in the week preceding (including the day off) their completion of the BAI. Each symptom item has four possible answer choices: Not at All; Mildly (It did not bother me much); moderately (It was very unpleasant, but I could stand it), and; severely (I could barely stand it). The clinician assigns the following values to each response: Not at All = 0; mildly = 1; moderately = 2, and; severely = 3. The values for each item are summed yielding an overall or total score for all 21 symptoms that can range between 0 and 63 points. A grand sum between 0 – 21 indicates very low anxiety, a grand sum
between 22 – 35indicates moderate anxiety and a grand sum that exceeds 36 is a potential cause for concern.

**Statistical Procedure**
A Pearson’s Product Moment Co-relation statistics was used to find out the pattern of relationship of anxiety with sensory defensiveness of male adults.

**Findings**

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<thead>
<tr>
<th>VARIABLES</th>
<th>MEAN</th>
<th>S.D</th>
<th>‘R’</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANXIETY</td>
<td>30.26</td>
<td>5.15</td>
<td>0.40</td>
<td>Significant</td>
</tr>
<tr>
<td>SENSORY DEFENSIVENESS</td>
<td>10.86</td>
<td>1.83</td>
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‘R’ value required to be significant at 0.05 level of confidence with 28 degree of freedom was 0.361.

**Discussion and Findings**
This study, aimed to investigate the relationship of Anxiety with Sensory Defensiveness. It was found from the above statistical calculation that a strong positive relationship exists between Anxiety and Sensory Defensiveness of male adults.

The clinical observations by Ayres (1964) and results of other studies (Kinnealey and Fuiek, 1999; Oliver 1990) expressed that there is a significant relationship between sensory defensiveness and anxiety. Kinnealey and Fuiek (1999) also found a significant relationship between sensory defensiveness and anxiety. Others have identified the social–emotional costs of sensory defensiveness (Kinnealey et al., 1995; Pfeiffer, 2002). Pfeiffer (2002) found that the presence of sensory integration dysfunction limited the choices of occupations for the individual and lead to an avoidance of those occupations that were not individual in nature. The relationship between anxiety disorders and sensory defensiveness may extend beyond observable social–emotional behaviours. Anxiety is a complex process but most specifically relates to the threat-response apparatus of the brain, primarily the reticular formation. Sallee and March (2001), in a literature review, identified research evidence supporting the reticular formation’s involvement in controlling arousal and attention levels related to the emotional distress associated with anxiety disorders.
Sensory defensiveness is considered the behavioural manifestation of over-responsively, a dysfunction in sensory modulation. Sensory modulation dysfunction is ‘a problem in the capacity to regulate and organize the degree, intensity, and nature of response to sensory input in a graded manner’ (Lane et al., 2000). Dunn (1997) provided a framework in which to understand the neurological and behavioural manifestations of sensory modulation dysfunction. In order to modulate sensation for adaptive behaviour, there must be an appropriate balance between habituation and sensitization. Habituation occurs when the central nervous system recognizes stimuli as familiar and therefore no longer responds to them. Sensitization is the process in which the central nervous system recognizes stimuli as harmful or important and therefore heightens the response.

Individuals with sensory defensiveness have low thresholds for sensory stimuli, typically leading to heightened responses with less habituation. When sensory defensiveness is left unaddressed, adults demonstrate a tendency toward anxiety and depression so Sensory integration therapies, Occupational therapy and physical activities (that make them feel better) are strongly recommended to moderate sensory processing disorders.

References