



Understanding Sensory Overload

App solution for Sensory Overload
[Research Document]

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Introduction

Our project's objective is to develop an app designed to assist individuals affected by sensory overload. As understanding the condition is an important key factor, this research was conducted by taking steps into the research questions surrounding sensory overload and its symptoms.

This document briefly covers various aspects of sensory overload such as its definition, the types of people affected by it, symptoms, triggers, expressions, coping strategies. It explains sensory overload as the overstimulation of one or more of the body's senses, leading to symptoms like anxiety and discomfort. It discusses how sensory overload can affect different people, including individuals with autism, ADHD, PTSD, sensory processing disorder, and other conditions. Additionally, it addresses how sensory overload is identified, its triggers, physical and emotional expressions, and strategies for managing it.

Finally, this research document draws conclusions based on the findings presented and offers recommendations for best strategies in designing and developing an app to assist individuals with sensory overload.

Research

Main Research Question

What strategies can be implemented in a mobile application to effectively assist individuals experiencing sensory overload?

Sub-Research Questions

1. What is sensory overload?

Sensory Overload

Sensory overload is when one or more of the body's five senses become overwhelmed by the environment factors around. For example loud noise from crowded places, bright light and strong smells can be the causes for sensory overload.

As the senses receive the information from the surrounding environment, the brain interprets the information and tells the body how to act. When the sensory overload occur, there is competing sensory information and the brain can't interpret it all at the same time and fails to prioritize what sensory information it needs to focus on. The brain feels trapped and tells the body to escape these sensory inputs.

People respond differently to sensory overload but mostly have feeling of being stuck and discomfort that can range from mild to intense. In some cases the anxiety, discomfort and fear can lead to panic.

2. What kind of people are affected by it?

Individuals experiencing sensory overload

It is not uncommon to experience sensory overload at some point in life but experiencing it regularly can be a symptom of underlying health conditions. In those who experience it regularly there may be a biological basis and can have quantifiable differences in their brain structure.

It commonly occurs in individuals with the following conditions:-

Autism:

Autistic people experience sensory information differently which makes them hypersensitive to sensory input.

ADHD:

In individuals with attention-deficit hyperactivity disorder (ADHD), sensory inputs compete for attention in the brain which can lead to sensory overload.

PTSD:

Individuals with mental health problem such as post-traumatic stress disorder (PTSD) have usually experienced one or more traumatic events making them hypersensitive to their surroundings. Specially for certain sensory triggers that remind them of the trauma they experienced, they will have heightened sensitivity

Sensory processing disorder (SPD):

Individuals with neurological disorder called Sensory processing disorder (SPD), find it difficult to respond to sensory input.

SPD can affect a person in the form of Hypersensitivity which makes a person overly sensitive to sensory inputs, Hyposensitivity which makes a person look for more sensory stimulation and in a mix of both types.

Other individual with condition such as multiple sclerosis (MS), chronic fatigue syndrome, fibromyalgia and Tourette's syndrome.

3. How do people know if they have the condition?

Findings:

Identifying Sensory Overload

Sensory overload is not an official disorder, which makes it difficult to get a formal diagnosis. If a person suffers from sensory overload on a regular basis, it is advised to keep a record of triggers and events surrounding the sensory overload occurrences and discuss with a professional to figure out the underlying condition which is causing the symptom.

4. How many kinds of sensory overload triggers are there

Triggers

Sensory triggers are related to the body's senses such as touch, smell, hearing, sight and taste. For example texture of food or sensation of clothing, strong smells, loud sounds, bright lights and certain taste of food from the surrounding environment can overwhelm the body's senses and cause sensory overload.

5. What are the physical and emotional expressions of the triggers on different people with the condition?

Symptoms

Symptoms can vary from person to person and depending on the case. The common symptoms include:-

- Loss of focus
- Discomfort, irritability and restlessness
- Fear, or anxiety about the surroundings
- Stress

- Inability to ignore the sensory input
- Feeling overwhelmed or agitated
- Insomnia
- Panic attack

6. How do different people react/deal with the triggers?

Immediate Responses to Sensory Overload Triggers

- Avoiding specific places or situations
- Closing the eyes
- Covering the face
- Placing the hands over the ears
- Crying
- Running away from specific places or situations
- Using sound cancelling technology, dimming lights or using sun glasses
- Asking family members for support
- Seeking social support
- Seeking professional assistance
- Keeping a diary

7. What can help calm a person triggered by sensory overload?

Coping Strategies

- changing environment
- keeping a diary of signs, symptoms, and triggers of sensory overload
- avoiding the triggers of sensory overloads
- identifying safe spaces to escape
- soothing sounds
- visual therapy
- breathing techniques
- aroma therapy
- Vibration Therapy
- Talking to professional
- Asking for help
- Sharing experiences with other individuals with sensory overload

Conclusion and Recommendation

Conclusion:

Sensory overload is when one or more of the body's five senses become overwhelmed by the environment factors around. It is not an official disorder, which makes it difficult to get a formal diagnosis.

When sensory overload experienced regularly, it has a big impact on the individual. People respond differently to sensory overload but mostly have feeling of being stuck and discomfort that can range from mild to intense.

Sensory overload is mostly a symptom of underlying condition. It is mostly associated with health conditions such as Autism, ADHD, PTSD, Sensory processing disorder (PSD), as multiple sclerosis (MS), chronic fatigue syndrome, fibromyalgia and Tourette's syndrome.

People experiencing with sensory overload react differently but mostly try to avoid the sensory input for example by covering eyes ears or nose, running away from the trigger, avoiding the triggering environment all together.

Coping strategies for sensory overload can include, using diary, sound cancelling technologies, safe escaping spaces, dimming lights, aroma therapy, breathing techniques, vibration therapy, getting professional help, sharing experiences with other individuals with sensory overload and so on.

Recommendation:

To effectively assist individuals facing sensory overload, it's recommended to adopt a minimalist interface design, offer customizable visual options, incorporate light dimming and sound regulation features, include a diary function, integrate a location feature to find quiet spaces, provide a platform for connecting with others experiencing similar situations, and offer access to professional guidance.

Considering both hypersensitivity and hyposensitivity, two types of Sensory Processing Disorder (SPD), is important strategy in designing the functionality of the app.

Further exploration into vibration therapy is necessary as it holds potential for calming individuals during sensory overload episodes. Integrating customizable vibration patterns with visual and sound inputs could significantly enhance the user experience by engaging multiple body senses.

Resources

- Leonard, J. (2023, April 26). *What to know about sensory overload*.
<https://www.medicalnewstoday.com/articles/sensory-overload#what-is-it>
- Watson, K. (2021, November 19). *What is sensory overload?* Healthline.
<https://www.healthline.com/health/sensory-overload#symptoms>
- Ms, T. G. L. (2023, August 14). *How to reduce sensory Overload: 10 coping Strategies*. wikiHow. <https://www.wikihow.com/Reduce-Sensory-Overload>