STUDY PROTOCOL

Title: *Sensory Experiences of Neurodiverse Adolescents in Mainstream Secondary Education: A Qualitative Phenomenological Study*

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1. Background and Rationale

Neurodiverse adolescents frequently experience sensory processing differences that affect their participation, wellbeing, and learning in mainstream secondary schools. School environments often contain intense sensory stimuli—noise, crowding, lighting, and unpredictable transitions—that can trigger sensory overload. These experiences can lead to distress, disengagement, behavioural misunderstandings, and reduced access to learning.

Despite rising numbers of students identified with SEND, there is limited qualitative research exploring how neurodiverse young people *experience* sensory demands in everyday school environments. Existing studies often focus on autism or adult populations, leaving a gap in understanding the broader neurodiverse adolescent experience.

This study addresses that gap by exploring lived sensory experiences using interviews, drawings, and reflexive thematic analysis.

2. Aim and Research Question

Aim

To explore how neurodiverse adolescents experience sensory differences within mainstream secondary school environments.

Research Question

How do neurodiverse secondary school–aged children experience sensory differences within the school setting?

3. Study Design

A qualitative phenomenological design was used to explore lived sensory experiences. Reflexive thematic analysis (Braun & Clarke) was selected for its suitability in capturing subjective, contextualised experiences and its alignment with an interpretivist paradigm.

4. Setting

The study took place in a large UK mainstream secondary school with an Area Resource Base (ARB). The ARB provides specialist support, sensory-motor interventions, and structured learning opportunities. Participants accessed both ARB and mainstream classrooms, offering dual-environment perspectives.

5. Participants

Inclusion Criteria

- Aged 10–19 years
- Diagnosed neurodiverse condition (e.g., autism, ADHD, dyslexia, dyspraxia)
- Identified sensory processing differences
- Attending the participating secondary school

Exclusion Criteria

- Significant communication barriers preventing assent
- Students unable to participate safely due to acute distress

Sampling

Purposive, non-probability sampling. **Sample size:** 8 participants.

6. Recruitment

Participants were identified through the school's SENCO and approached via parent/guardian information packs. Written parental consent and child assent were obtained prior to participation.

7. Data Collection

Methods

- Semi-structured interviews
- Arts-based methods (drawings, visual prompts)
- Field notes and reflexive journaling

Interviews were conducted in quiet, familiar school spaces to reduce sensory overload.

Interview Topics

- Sensory experiences in classrooms
- Transitions and corridors
- Break/lunch periods
- Emotional and physical responses to sensory overwhelm
- Strategies and spaces that support regulation

Arts-based methods supported communication and reduced verbal load.

8. Data Analysis

Data were analysed using **Braun & Clarke's reflexive thematic analysis**:

1. Familiarisation
2. Coding
3. Generating themes
4. Reviewing themes
5. Defining and naming themes
6. Producing the report

NVivo supported data organisation. Visual data were analysed alongside participants' verbal explanations to ensure accuracy.

A detailed audit trail and reflexive notes enhanced transparency and trustworthiness.

9. Ethical Considerations

Ethical approval was granted by **Sheffield Hallam University**.

Safeguarding

- Mandatory reporting procedures followed
- Confidentiality maintained except where risk of harm was disclosed

Consent

- Written parental consent
- Child assent
- Right to withdraw at any time

Data Protection

- Anonymised transcripts
- Secure password-protected storage
- Compliance with the Data Protection Act (2018)

10. Possible Benefits and Risks of Participating

Possible Benefits

- Participants may gain a better understanding of their own sensory experiences and how these affect their school day.
- Taking part may help young people feel heard, valued, and able to share experiences that are often overlooked.
- The findings may contribute to improved support for neurodiverse adolescents in schools, including more sensory-informed environments and practices.
- Although there is no direct personal benefit, participation may help shape future educational and therapeutic approaches for other students.

Possible Risks

- Some interview questions may feel personal or emotionally sensitive, particularly when discussing stress, overwhelm, or difficult school experiences.
- Reflecting on sensory challenges may cause mild emotional discomfort or temporary distress.
- There are **no physical risks** associated with participation.
- Participants may pause, stop the interview, or withdraw from the study at any time without giving a reason.

11. Dissemination

Findings will be shared through:

- ISRCTN trial record
- MSc dissertation
- Peer-reviewed publication (OTJR submission)
- Feedback to the participating school

No identifiable data will be shared.

12. Funding and Sponsor

Sponsor: Sheffield Hallam University

Funder: Sheffield Hallam University

No external funding received.

13. Conflicts of Interest

None declared.

14. Data Availability

Due to the involvement of minors and sensitive content, full datasets cannot be publicly shared. Anonymised excerpts may be provided upon reasonable request.