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INVESTIGATING OPTOMETRIC AND ORTHOPTIC  
CONDITIONS IN AUTISTIC ADULTS: *STUDY I*

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## WHAT'S AN OPTOMETRIC AND ORTHOPTIC CONDITION?



Optometric conditions: eye conditions which can be corrected with lenses.



Orthoptic conditions: issues related to the coordination of the two eyes (considering they should work as a pair).



## WHY IS THIS PROJECT IMPORTANT?

*From a research angle*

- Current vision-research is largely on perception and processing; the limitation lies in the early visual system.
- Current research has shown autistic children to have a greater need for spectacles and altered eye coordination.
- We can only assume from these results what the status is in adults. Some of these eye conditions could also be a result of other coexisting learning disability.



## WHY IS THIS PROJECT IMPORTANT?

*From a practical angle*

- If autistic adults are, as children, at greater risk of optometric conditions they are more likely to visit an optometrist.
- Due to communication, social and sensory difficulties an autistic individual may find a visit to an optometrist stressful, resulting in avoidance or incorrect test results.
- Optometrists may have a poor awareness around autism so their services may not be very accessible.

# STUDY I: AIMS

1. To characterise the visual issues and symptoms experienced by autistic adults.

2. To gain feedback on eye examinations.

- We conducted 4 focus groups, April – June 2019.
- A total of 18 participants: 6 females & 12 males, aged 25-67 years, all but one spectacle wearers, some participants had history of eye conditions and treatment.
- Researcher facilitated the sessions using 4 key questions.
- *Received ethical approval from UREC (2019-6025-9932)*



**WHAT WE  
DID**



# STUDY I: RESULTS

Q1: "DOES ANYBODY EXPERIENCE ANY VISUAL SYMPTOMS OR UNUSUAL VISUAL EXPERIENCES?"

## VISUAL EXPERIENCES

- 1) *Visual sensitivity*
- 2) *Visual symptoms vary from person to person*
- 3) *Eye movements*

## AUTISTIC INDIVIDUALS' VISION-RELATED KNOWLEDGE

- 1) *Degree awareness*
- 2) *Impact of awareness*

Q2: “DO YOU  
FEEL YOU CAN  
DO ANYTHING  
TO IMPROVE  
THESE  
SYMPTOMS?”

## COPING STRATEGIES

- 1) *Multisensory experience*
- 2) *Avoid visual clutter*
- 3) *Optical correction choices*
- 4) *Colorimetry*
- 5) *Light alterations*
- 6) *“Cope as best as you can”*

Q3: "HOW DO YOUR VISUAL ISSUES IMPACT YOUR DAILY ROUTINE?"

IMPACT ON PERSONAL WELLBEING

- 1) *Physical wellbeing*
- 2) *Mental wellbeing*
- 3) *Emotional wellbeing*

IMPACT ON DAILY LIFE

- 1) *Home life*
- 2) *Employment*
- 3) *Public places*
- 4) *Social life*
- 5) *Travel*

A POOR PUBLIC UNDERSTANDING OF SENSORY ISSUES IN AUTISM

Q4: "WHAT ARE YOUR EXPERIENCES OF AN EYE EXAMINATION?"

## THE PRACTICE

- 1) Practice setting
- 2) Patient service
- 3) Booking appointments

## TESTING TECHNIQUES

- 1) Subjective technique
- 2) Emotional response

## PATIENT-PRACTITIONER RELATIONSHIP

- 1) Rapport
- 2) Practitioner continuity
- 3) Communication

## PATIENT EDUCATION

- 1) Pre-eye examination education
- 2) Post-eye examination education

*Booking online is preferred; don't like too much human interaction*



*No problem with objective test; just need clear information and questioning on subjective tests*



*The patient-practitioner relationship is upmost important*



*Pre- and post- eye examination education is equally helpful*

## KEY THOUGHTS

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Many autistic adults are dissatisfied with their vision, and suffer a range of visual symptoms, but these vary from person to person.

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Visual symptoms can occur alone or as part of a larger multisensory response, nevertheless, vision contributes to sensory overload and emotional responses.

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These symptoms or experiences can have both positive and negative impacts on the lives of autistic adults.

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Autistic adults employ a variety of strategies to overcome their visual symptoms, but the last resort is to endure these.

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In terms of eye examinations, it is evident that these are currently not very accessible; improvements can be made in terms of the practice, the manner of the staff, the testing procedure and information provision to make these more “autism-friendly”.

# STUDY 2

*Conducted at The University of Manchester, currently on hold*

- Comprehensive eye examinations provided for autistic adults @ The University of Manchester
- ~80 participants
- *To describe the range and type of optometric conditions in autistic adults and investigate if these are linked with visual experiences.*
- *To investigate the impact of treatment on vision, visual symptoms and quality of life.*
- **Email [ketan.parmar@postgrad.manchester.ac.uk](mailto:ketan.parmar@postgrad.manchester.ac.uk)**

# STUDY 3

*Conducted online, currently live for participation*

- Autistic adults are invited to complete a short online questionnaire, which asks about how they've felt when attending for an eye examination.
- This study is not linked to study 2.
- ~200 participants.
- **Can you help us? Complete the survey at <http://man.ac.uk/f3U4IH>**
- *To gain an understanding of eye examination-related anxiety in a UK autistic adult population.*
- *To provide further evidence for the need to develop “autism-friendly” guidelines for optometry practices.*

# THANK YOU

*Supervisors: Dr Emma Gowen, Prof Christine Dickinson, Dr Catherine Porter*

*Visit our project website: [sites.manchester.ac.uk/autism-and-vision/](https://sites.manchester.ac.uk/autism-and-vision/)*

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