

Eye-Pointing Classification Scale App



Purpose

The eye-pointing classification scale (*eyePoint scale*) is a tool to support professionals and families in describing looking behaviours related to eye-pointing in non-speaking children with cerebral palsy affecting their whole body. The *eyePoint scale* describes looking behaviours in five levels.

Background

Children with cerebral palsy affecting the whole body who have little or no functional speech, and who cannot use limb movements to point or select, are often reliant on using their eyes to communicate and engage with the world.

Professionals observe children's looking behaviour during assessment as a way of determining receptive language and cognitive abilities in this otherwise hard to assess population. Deliberate eye gaze fixations can also be used as an access method for augmentative & alternative communication (AAC).

Although the term eye-pointing is often used when describing children's looking behaviours, there is often poor agreement between professionals concerning which looking behaviours constitute genuine eye-pointing for communication and which do not. A lack of consensus can have profound implications for clinical practice.

What is eye-pointing?

We describe eye-pointing as: *"the context-relevant, controlled and intentional use of gaze in order to direct one or more partner's visual attention to any item or object for a deliberate communicative purpose. Other communication modes (facial expression, vocalisation, head movement and body position) may be employed, as available, to support the use of gaze."* ^(1. pp.479)

For example, by shifting gaze between an object and a partner's face the child might draw their partner's attention to that object, for example to comment on it, to ask about it or to request it.

Effective and fully developed eye-pointing is an interpersonal activity, involving collaborative interaction between the child, their partner, and the environment.

When a child eye-points to an object, there may be a period of negotiation between the child and their partner concerning the intended meaning of the eye-point. Sometimes the specific context in which the child uses eye-pointing allows the partner to know the meaning of the eye-point without the need for explicit negotiation of meaning. As a consequence children's use of eye-pointing skills may vary with context and partner.

Eye-pointing skills may be spontaneously initiated by the child or generated in response to others' actions.

¹ Sargent, J, Clarke, M. T., Price, K., Griffiths, T., & Swettenham, J. (2013). Eye-pointing in children with severe cerebral palsy: What are we looking at? *International Journal of Language and Communication Disorders*, 48, 477-485.

Instructions

Use the five-level *eyePoint scale* and summary table below to classify the child's looking behaviours in relation to eye-pointing.

Select the level that best describes the child's **typical** looking behaviour during **everyday activities**. This approach is suggested because a number of factors can affect children's use of looking skills (e.g. physical positioning and stability, use of medication, fatigue, general health, and presence of stimulating or motivating objects).

Classification is based purely on careful observation of the child's specific gaze behaviours, and **not on the partner's interpretation** of possible communicative function of the looking behaviours (for example, an assumption that the child is commenting or requesting).

Discuss classification with other professionals and the child's family.

Where a child's looking behaviours are thought to fall at the borderline between two levels of classification, the **lower level** representing the greater degree of limitation should be ascribed.

Project team

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I USES EYE-POINTING

Fixes gaze on object, disengages gaze from object, shifts gaze and fixes on partner's face, returns gaze to fix on same object and/or fixes gaze on partner's face, disengages gaze from face, shifts gaze and fixes on object, returns gaze to fix on same partner's face.

Children at level I demonstrate a consistent ability to shift gaze as described in Level II. In addition, the child will then return their gaze to the original place; the partner's face or the object.

II SHIFTS GAZE TO FACE

Fixes gaze on object, disengages gaze from object, shifts gaze to partner's face and/or fixes gaze on partner's face, disengages gaze from face, shifts gaze to object.

Children at level II demonstrate a consistent ability to shift gaze from the object to the partner's face and/or from the partner's face to an object. These actions may implicate active social engagement by the child with others, but without clear evidence of eye-pointing.

Children at level II do not typically demonstrate the ability to shift gaze from an object to a partner's face and back to the object, or from a partner's face to an object and back to the face (as described in level I).

III FIXES, DISENGAGES AND SHIFTS GAZE

Fixes gaze on object, disengages gaze from object, shifts gaze away from object and fixes on a new object.

Children at level III demonstrate a consistent ability to withdraw and shift gaze voluntarily and actively from an object and shift their gaze to fix gaze on a second object. Disengaging involves active non-attendance to a range of other possible stimuli. Shifting gaze may involve moving the head as required.

Children at level III are limited in their ability to shift gaze from objects to faces and/or faces to objects (as described in Level II).

IV FIXES GAZE

Ability to fix and hold gaze.

Children at level IV will demonstrate consistent active ability to fix and hold gaze on objects or faces. Control of fixation describes the active process of stabilising the fovea on a stationary target. The fovea is the part of the retina which is responsible for central, sharpest vision. Fixation ability is crucial for attention control and underpins engagement and disengagement with stimuli.

Children at level IV are limited in their ability to disengage gaze from objects or faces, shift gaze and fix on new objects (as described in level III).

V OTHER VISUAL BEHAVIOURS

Children at level V will not demonstrate consistent gaze fixation on objects or faces (as described in level IV), and/or their visual attention to objects or faces cannot be confidently determined.

They may demonstrate the following:

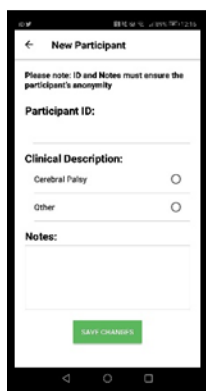
- Acknowledging the presence of objects without clearly fixing gaze on them e.g. displaying excitement when a favourite pop-up toy is introduced
- Visual attention given to objects is fleeting and not repeated

Key Features

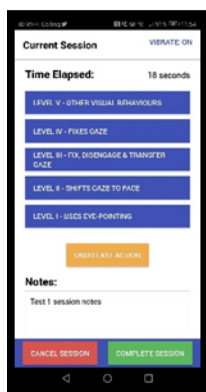


The opening page offers four options:

- start a new session
- review participants' performance
- take the tutorial
- practice using the live recording

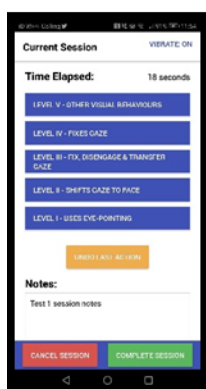


IMPORTANT: Your choice of participant ID and any Notes made must ensure participant anonymity.

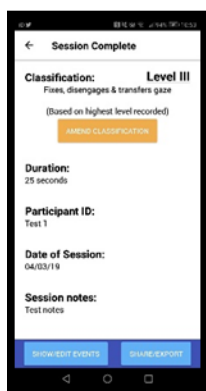


The App allows you to make a record of gaze behaviours as they occur during an observation session. This is done by clicking on the behaviour level each time you see the related gaze behaviour.

REMEMBER: Classification is based purely on careful observation of the child's gaze behaviours, and **not on the partner's interpretation** of the possible communicative function of the looking behaviours.

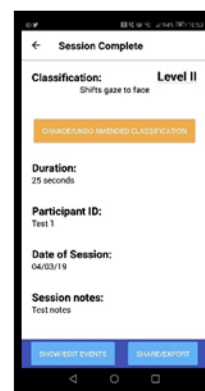


Where a child's looking behaviours are thought to fall at the borderline between two levels of classification, the **lower level** representing the greater degree of limitation should be ascribed.

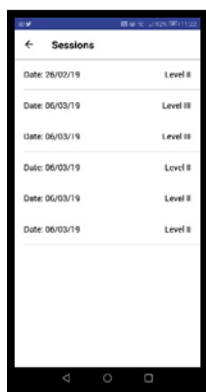


At the end of the session the App will produce a summary and will automatically assign the classification to the highest level noted by you during the observation session.

If, on reflection, you want to amend the classification, the comment (based on highest level recorded), will be removed



The next time you carry out an observation of the same child you can select him or her via the new session tab, and add new notes about the new session, such as where the observation happened, and what activities were taking place.



The App will build a record of your observations with that child, including date/time, notes made, and classification level for that session. This will give you an overview of the child's behaviour across time.



The App will also create a pdf and/or CSV file with summary information about your observations. You can use this for your records and to share with parents/caregivers and colleagues.