

Can autism be detected at 18 months? The needle, the haystack, and the CHAT

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ABSTRACT:

Autism is currently detected only at about three years of age. This study aimed to establish if detection of autism was possible at 18 months of age. We screened 41 18-month-old toddlers who were at high genetic risk for developing autism, and 50 randomly selected 18-month-olds, using a new instrument, the CHAT, administered by GPs or health visitors. More than 80% of the randomly selected 18-month-old toddlers passed on all items, and none failed on more than one of pretend play, protodeclarative pointing, joint-attention, social interest, and social play. Four children in the high-risk group failed on two or more of these five key types of behaviour. At follow-up at 30 months of age, the 87 children who had passed four or more of these key types of behaviour at 18 months of age had continued to develop normally. The four toddlers who had failed on two or more of these key types of behaviour at 18 months received a diagnosis of autism by 30 months.

My notes

NOTE: The CHAT was published by Simon Baron-Cohen in 1992. As far as I can tell, he has published nothing further on it. As described in the abstract, he tested 41 18-month-old children "at genetic risk for autism" (they had older siblings with autism) and 50 randomly selected 18-month-olds. It identified 4 children and all 4 were later diagnosed with autism. This is a very small sample and it is difficult to establish the validity of the CHAT based on it. Nevertheless...

Some excerpts from the paper:

states in the introduction that there is a "consensus among researchers that the disorder almost always has prenatal onset" (first I've heard of that)

reasons given for usual late detection of autism:

- 1) primary health practitioners are not specifically trained to detect autism early
- 2) nothing in the current routine developmental screening would alert a GP to a possible case of autism - they generally only screen for motor, intellectual and perceptual development, which may all appear normal in autism
- 3) the disorder is quite rare
- 4) most sets of criteria for autism emphasize abnormalities in social and communicative development, both of which are difficult to assess in the pre-school period.

My comments:

on point 1) why not?

on point 2) this is wrong - it needs to be changed

on point 3) questionable - it's no rarer than PKU (I think) and all kids are screened for that by law

on point 4) why do they ignore stimming, and lack of language as signs of a problem?

Baron-Cohen states:

"A basic tenet of the present study is that the early detection of autism is both possible and economic. It is possible because findings from experimental psychology have shown us what to look for in toddlers if we want to detect autism early. Firstly, PRETEND PLAY (...normally present by 12-15 months) is absent or abnormal in autism....Secondly, JOINT-ATTENTION behavior (normally present by 9-14 months old) is also absent or rare in autism. Again, this is a strikingly specific deficit...(though)...pointing for "non-social" purposes is present (eg pointing for naming -).(Joint attention behavior includes pointing, showing, and gaze monitoring, and is defined as attempts to monitor or direct the attention of another person to an object or event).

Since both pretend play and joint-attention behavior, especially protodeclarative pointing (pointing to indicate to another person an object of interest), are universal development achievements, normally present in simple forms by 15 months, their absence

at the routine 18-month screening could be clear, specific indicators of autism or related disorders. Yet neither of these two psychological markers are currently checked."

Baron-Cohen and coworkers initially constructed a "long version" of the CHAT. They then removed any items that were failed by more than 20% of randomly selected 18-month-olds (imitation skills) and then kept only one question in each area of development – the one that was passed by the largest number of randomly selected children. This resulted in the short CHAT (see below).

"Section A of the resulting checklist therefore assessed each of nine areas of development, with one question for each: rough and tumble play, social interest, motor development, social play, pretend play, protoimperative pointing, protodeclarative pointing, functional play, joint attention. The order of questions was designed to avoid a yes or a no bias, by interspersing the predicted areas of abnormality with the predicted areas of normality in children with autism.

Section B was included for the clinician to check the child's actual behavior against the parental report given in Section A."

The key questions in Section A are 7, 2, 9, and 5 which test protodeclarative pointing, social interest, joint-attention and pretend play. Some of the randomly selected children failed one of these (8% failed Q7, 6% failed Q2, 6% failed Q9 and 14% failed Q5) but none failed more than one. None of the randomly selected children failed Q4 (social play). Four of the risk children failed two or more of these 5 questions.

So, here is the CHAT:

SECTION A – Ask parent:

- 1) Does your child enjoy being swung, bounced on your knee, etc?
- 2) Does your child take an interest in other children?
- 3) Does your child like climbing on things, such as up stairs?
- 4) Does your child enjoy playing peek-a-boo/hide-and-seek?
- 5) Does your child ever pretend, for example, to make a cup of tea using a toy cup and teapot, or pretend other things?
- 6) Does your child ever use his/her index finger to point, to ask for something?
- 7) Does your child ever use his/her index finger to point, to indicate interest in something?
- 8) Can your child play properly with small toys (e.g. cars or bricks) without just mouthing, fiddling, or dropping them?
- 9). Does your child ever bring objects over to you, to show you something?

SECTION B – GP's observation:

- i) During the appointment, has the child made eye contact with you?
- ii) Get child's attention, then point across the room at an interesting object and say "Oh look! There's a (name of toy)!" Watch child's face. Does the child look across to see what you are pointing at?

NOTE – to record yes on this item, ensure the child has not simply looked at your hand, but has actually looked at the object you are pointing at.

- iii) Get the child's attention, then give child a miniature toy cup and teapot and say "Can you make a cup of tea?" Does the child pretend to pour out tea, drink it, etc.?

NOTE - If you can elicit an example of pretending in some other game, score a yes on this item.

- iv) Say to the child "Where's the light?", or "Show me the light". Does the child POINT with his/her index finger at the light?

NOTE - Repeat this with "Where's the teddy?" or some other unreachable object, if the child does not understand "light." To record yes on this item, the child must also have looked up at your face around the time of pointing.

- v) Can the child build a tower of bricks? (If so, how many?) (Number of bricks...)