

IS 18 MONTHS TOO EARLY FOR THE CHAT?

To the Editor:

We agree with Willemsen-Swinkels et al. (2001) that the age of application of a screen for autism is a critical issue in terms of its screening properties. In part this reflects the nature of autism as a developmental disorder, as well as the rapid development of early social communication skills in the second year of life in the typically developing population.

We specifically focused on impairments in the early social communication skills of joint attention and pretend play because previous research had led us to expect that few typically developing children would lack these skills by 18 months of age (Baron-Cohen et al., 1996). We did not consider these aspects of behavior to be independent but rather understood them to be likely precursors to the language, social, and communication impairments that characterize older preschool children with autism (Baron-Cohen, 1993; Charman, 1997).

Willemsen-Swinkels et al. correctly point out that the positive predictive value (PPV) of the CHAT might be greater if administered at 19 rather than 18 months, though note that the mean age was 18.7 months in our study (Baird et al., 2000). This clearly would have efficiencies compared to the two-stage screen-rescreen procedure adopted in our study.

However, we think that at least three factors may explain the reduction in screen positives between CHAT-1 (mean age = 18.7 months) and CHAT-2 (mean age = 19.7 months): (1) some children may begin to demonstrate the joint attention and pretend play behaviors assessed by the key items in the intervening period; (2) parents may become sensitized to behaviors previously demonstrated by their child which previously they had not noticed or construed in the terms inquired about on the screen; and (3) the second administration was by the research team, who had a clearer sense of the behaviors about which the screen inquired.

One other very important issue is that although screening at a slightly later age might increase the PPV of the screen, it might further reduce the sensitivity. As we reported in our paper (Baird et al., 2000), the sensitivity to identify autism at CHAT-1 was 38% while at CHAT-2 it was reduced to 20%. In contrast, the PPV for the high-risk group rose from 26.3% at CHAT-1 to 75.0% at CHAT-2. Even at a sensitivity of 38%, we acknowledge the significant limitations of the CHAT as a general population screen. At an even lower sensitivity the health economic benefits—as opposed to improving other

aspects of the surveillance mechanisms for identifying developmental disabilities, including autism—is reduced even further (Baird et al., 2001). Relevant to this, we made the pragmatic decision to develop a screen we hoped might identify autism at 18 months of age as this was the age at which the second-year health surveillance visits was conducted in the U.K. at the time of the study, thus minimizing the additional cost to existing surveillance procedures.

However, to end on a positive note: The PPV of the CHAT in the screen-rescreen procedure is high. That means that if a child fails the CHAT at 18 months and again at 19 months, it is highly likely that the child has an autism spectrum condition. Furthermore, very few children meet the high-risk criterion of failing all five key items at the first screen (0.23%) and thus require rescreening. In the absence of any better alternative screen, especially one that has been properly evaluated in a population study, as the CHAT has been, we recommend the CHAT. Its high PPV means that when a child is referred, following identification as screen-positive, parental concerns are being reasonably raised, as this strongly predicts developmental difficulties of an autistic type.

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- Baird G, Charman T, Baron-Cohen S et al. (2000), A screening instrument for autism at 18 months of age: a six-year follow-up study. *J Am Acad Child Adolesc Psychiatry* 39:694–702
- Baird G, Charman T, Cox A et al. (2001), Current topic: screening and surveillance for autism and pervasive developmental disorders. *Arch Dis Child* 84:468–475
- Baron-Cohen S (1993), From attention-goal psychology to belief-desire psychology: the development of a theory of mind and its dysfunction. In: *Understanding Other Minds: Perspectives From Autism*, Baron-Cohen S, Tager-Flusberg H, Cohen D, eds. Oxford, England: Oxford University Press, pp 59–82
- Baron-Cohen S, Cox A, Baird G et al. (1996), Screening for autism in a large population at 18 months of age: an investigation of the CHAT (Checklist for Autism in Toddlers). *Br J Psychiatry* 168:158–163

- Charman T (1997), The relationship between the joint attention and pretend play deficit in autism. *Dev Psychopathol* 9:1–16
- Willemsen-Swinkels SHN, Buitelaar JK, van Engeland H (2001), Is 18 months too early for the CHAT? (letter). *J Am Acad Child Adolesc Psychiatry* 40:737–738

This letter, written in response to the letter by Willemsen-Swinkels et al. (2001), was inadvertently omitted from the July 2001 issue.

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