Author's response to reviews

Title: Prediction of 7-Year Psychopathology from Mother-Infant Joint Attention Behaviours: a case-control study.

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Author's response to reviews:

Response to Editor

MS: 7226999379452630 - Prediction of 7-Year Psychopathology from Mother-Infant Joint Attention Behaviours: a case-control study.

Dear Dr O'Donovan,

We are delighted that you are interested in our paper and we enclose a revised manuscript, together with a version with changes tracked (submitted as an additional file). Our responses to the reviewers' comments, and your own, are given below.

Reviewer: Luisa Lazaro

Reviewer Comment – 1
Abstract: In the Results, is necessary to support the text with numerical data (odds ratio with 95% confidence interval and p-value) when association is found.
Response to Reviewer Comment - 1
We have added the effect estimate as requested.

Reviewer Comment - 2
Method: The mean duration of caregiver-infant interactions should be more appropriately described at the end of the 2nd paragraph, instead of at the end of 3th (p.5).
Response to Reviewer Comment – 2
We have moved the description on video length to the end of paragraph two.

Reviewer Comment - 3
Results: In the 4th paragraph, the p-value regarding the association between long interaction duration with shared attention intensity should be included (p.8).

Response to Reviewer Comment - 3
The p-value has been added as requested.

Reviewer: Rosa Calvo

Reviewer Comment - 1
Assessment of JA:
- The main aim of the study is to investigate whether later diagnosis of psychiatric disorder can be predicted from the analysis of mother-infant JA. As the authors acknowledge this assessment was not ideal: nor the task, Thorpe Interaction Measure (interaction mother-child as they look at a book together) neither the conditions of recording (camera in the upper corner of the room that not always permitted a full vision of the child’s face/gaze).
- A naturalistic play context with enough duration has proved a valid way to assess JA, when compared to coding in a structured assessment situation (ESCS, i.e.). But mean time of assessment was short and no other measures of interaction (free play, i.e.) are provided.
- The coding system was not exactly based on operational definitions of Initiation JA and Response JA that have been employed in previous studies. To facilitate the future comparison with other groups of children is advisable to choose the same coding.

Response to Reviewer Comment - 1
We have a sample derived from a 20 year old unique cohort which is a great strength and enables us to work with very rich data. Using a measure of joint attention such as the Early Social Communication Scales (ESCS), a 20-min semi-structured interaction that codes children’s tendency to initiate coordinated joint attention with a tester, was unfortunately not feasible or ideal for the present study. The videos we used, which were filmed when the children were 12 months of age, were taken in the early 90s, so we have no way of changing the context of the situation. We only have videos of this early mother-infant interaction in a setting where the mother was asked to share a picture book with the infant in the same way that they would at home. We recognise that this is not a naturalistic play context with such elements as free play, so employing the standard joint attention measures is not feasible in this case. Mean time of assessment was also relatively short so we had to employ a more brief measure to capture joint attention behaviours between the mother and infant.
Reviewer Comment - 2
Table 3 (p.18)
It seems that the difference in EPDS score at 32-40 weeks gestation and 8 months postnatal could be significative. Please, add significance values (t and p) to the scores.

Response to Reviewer Comment – 2
The p-values have been added and minor changes to the results text on page 8.

Reviewer Comment - 3
Table 4 (p.18) and text (p.5)
Total number of cases was 53.
Part of the sample is grouped into the composite categorie “Disruptive Behaviour Disorders”. Clearer information on comorbidies could be provided: How many children into the ADHD category shared also “any emotional disorder”.

Response to Reviewer Comment - 3
We have added text to page 5 describing the pattern of comorbidities.
We have also included a Figure (Figure 1) referred to on page 5 which gives a hierarchical diagram of the categories of disorders within the 53 cases.

Reviewer Comment - 4
Language and cognition should have been taken into account before drawing conclusions from the study. To discover if JA behaviours may have been related to later social competence as peripheral associations with language and cognitive development, the authors should take into account children’s language and cognitive abilities: either in intermediate measures around 36 months of age or at the outcome at 91 months. This different measurement time points could have enlighten the amount of contribution of pure JA measures…………… Even if JA measures seem to predict positive social outcomes beyond the variance associated with language and cognition, I strongly recommend to perform further analysis after controlling for the language and cognition. If the authors decide not to perform this analysis they should explain the rationale for it.

Response to Reviewer Comment - 4
We agree that the mechanism by means of which the children develop a psychopathology may include language (speech) and other cognitive defects. However, the focus of our investigation was on the psychopathology of the children. More specifically, we were focused on identifying possible predictors of later development of psychopathology based on joint attention behaviours. The majority of research on joint attention surrounds its involvement in both cognitive and language development. However, relatively little research has focused on
the relationship of JA with social-emotional factors such as psychopathology investigated in the present study. As we mentioned in the paper, to our knowledge, this is the first study which has examined whether mother-infant joint attention behaviours during an interaction when the infant is 12 months is predictive of later diagnosis of a wide range of psychopathologies, not simply autism. If joint attention had been a predictor of later psychopathology, then looking at potential mediating effects of language and cognitive development would be interesting, but (a) no association was observed, and (b) the small sample size available to us means that we are probably pushing the data as far as we can. Any associations between the joint attention behaviours and language & cognition would have had to be very strong indeed to have been detected.

Additional formatting request:
Copyediting. After reading through your manuscript, we feel that the quality of written English needs to be improved before the manuscript can be considered further.

We advise you to seek the assistance of a fluent English speaking colleague, or to have a professional editing service correct your language. Please ensure that particular attention is paid to the abstract.

We have gone through the manuscript and made some minor changes.

Competing interests
We have included a competing interest section.

Financial competing interests
We have included a financial competing interest statement.

Non-financial competing interests
We have included a non-financial competing interest statement.

We believe that our manuscript has been improved by the reviewers’ comments and we look forward to hearing from you in the near future.

Kind regards,

Clare Allely, Jean Golding, Christopher Gillberg and Philip Wilson, on behalf of the authors.