



COMMENTARY

Neurodiverse transactional development may confound primary attachment inferences - Commentary on Martin et al 2020. <https://doi.org/10.1111/desc.12953>

Jonathan Green  | Ming Wai Wan

Faculty of Biology Medicine and Health, University of Manchester, Manchester, UK

Correspondence

Jonathan Green, University of Manchester, Manchester, UK.

Email: jonathan.green@manchester.ac.uk

To the Editor,

Martin et al. contribute interesting observations on parent-infant interaction within the early prodrome of ASD. However, the inference they draw from their observations, namely that '*insecure and insecure-resistant attachments are noteworthy precursors of later diagnosis*', is debatable.

The paper reports observations using the standard Strange Situation Procedure (SSP). This observes infant behaviour in a defined experimental condition, namely reunion with caregiver after a planned separation of a length intended to mobilise the infant's underlying 'attachment behaviour system', theorised to be largely quiescent in every day interaction unless mobilised by conditions of threat or loss. This then allows a specific inference from the behaviour to infant attachment dynamics. A corollary is that behaviours classified within the SSP will not necessarily relate to everyday naturalistic observations in a low stress situation; something supported generally by empirical research within attachment theory.

Within this SSP reunion procedure, Martin et al. observe high levels of infant emotional intensity and negative affect towards the parent; behaviours indicating an insecure resistant classification with attachment coding—and this accounts for the inference they make in their paper. The group incidentally do not find high levels of 'disorganisation' of attachment in the sample, something that has been typically associated with ASD in the past.

Their observations echo our own findings on infants at elevated familial risk of autism relative to low-risk controls ($n = 91$) made within the British Autism Study of Infant Siblings (BASIS) cohort (Wan et al., 2013). At 12–14 months, we found in these high-risk infants that lower positive affect and attentiveness to parent alongside less dyadic mutuality was specifically associated with an ASD diagnosis at 3 years. Importantly, these observations were made in an intentionally low-

stress free play lab setting rather than in a high stress SSP paradigm, since our interest was to plot the evolution of naturalistic social communication between infant and parent from 8 months in both at risk and normative infants, as part of a transactional account of the early ASD prodrome (Green, 2019; Sameroff, 2009; Wan et al., 2019). Our inference from this and other longitudinal observations is that these interactive behaviours form part of the transactional precursor trajectory towards autism emergence in the first years; indeed are a rather sensitive marker of it.

Such findings of negative infant affective responses to parent associated with ASD but outwith the SSP context, introduce a key potential confound into the Martin et al. coding inference around attachment.

That standard attachment coding inferences can be confounded by altered neurodevelopment has been well-recognised and much discussed since the early studies of Capps et al. and the important 1999 SRCD Monograph that they reference. Most other studies in this area have subsequently adjusted attachment codings to exclude inferences from autism-specific behaviours—and at least this should have been addressed in their discussion.

Martin et al. confine themselves to reporting just two measures in their report (15 month SSP and 36 month ADOS outcome). To investigate the potential confound we point up here they could for instance have reported a 15 month measure of autism pre-symptoms (e.g., the Autism Observation Scale for Infants, AOSI)—a measure that would be standard in 'babysibs' studies of this kind. They do report a group comparison on the adjustment for attachment disorganisation advised by Pipp-Siegal et al., but this is not relevant to their reported insecure-resistant attachment coding.

Does all this matter? We have interestingly convergent early behavioural observations linked to later ASD diagnosis on similarly sampled risk-infants; but importantly in very different lab settings,

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designed for different inferences. The unique property of the SSP is to allow specific inferences about the attachment behavioural system. The fact however that the same behaviours are seen in low-stress interactions as a precursor to ASD outcomes, suggests not an attachment-specific inference but one related to emerging transactional trajectories of social communication development.

Yes! on the one hand this matters greatly. Inferences about disrupted attachments as a precursor of autism have a lot of historical salience in autism, stemming from the notorious (disproven) 'refrigerator mother' aetiological ideas from psychoanalytic theory. Developmental research has not supported an attachment origin for autism, which seems to be the inference they make.

On the other hand, both sets of observations relate to early parent infant interaction within emergent autism. Their suggestions for intervention strategies flowing from such observations, which target optimisation of such interaction, are indeed relevant. For instance, our iBASIS intervention for at-risk siblings in the first year was adapted from an original intervention aimed at improving attachment relationships; but in our hands the adaptation intentionally focused on dyadic social communication as a precursor of ASD rather than attachment; while still aiming to optimise dyadic social interaction and communication within early development. In an RCT with longitudinal follow-up, iBASIS intervention succeeded in producing significant sustained reduction in prodromal ASD symptom severity to 3 years (Green et al., 2017). Of course, such dyadic improvement may also benefit parent-child relational quality as well as child symptom severity, but this is a far cry from

inferring that attachment insecurity is a causal precursor for autism, for which we would say there is no evidence.

DATA AVAILABILITY STATEMENT

Data from Wan et al 2013 is available on request.

ORCID

Jonathan Green  <https://orcid.org/0000-0002-0143-181X>

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