

INTERVENTION WITHIN THE BRITISH AUTISM STUDY OF INFANT SIBLINGS (i-BASIS)

AUTHORS

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ACKNOWLEDGEMENT

Much of the procedural manual contained here is based on or adapted from the original work and manual of the Video Interaction to Promote Positive Parenting (VIPP)

Juffer, F., M.J. Bakerman-Kranenburg, and M.J. Van Ijzendoorn, *Promoting Positive Parenting: An Attachment-Based Intervention*. 2008, New York: Taylor Francis

www.leidenattachmentresearchprogram.eu/vipp/welcome/en/

AIM

Enrichment of the social interactive environment of the developing infant using a parent-mediated programme to enhance early social engagement and reciprocity.

The intervention strategy

The i-BASIS intervention strategy is a parent-mediated approach to achieve two goals;

- 1) general enrichment of the core interactive social experience for infants 9-14 months inclusive
- 2) specific attention within this to addressing any emerging atypicalities that might be expected in prodromal autism at this age and their interactional consequences

The *i*-BASIS programme comprises twelve home based two hourly sessions over a period of 5 months. The programme is individualised to the needs of each dyad but core procedures are taken from the Video feedback Intervention to promote Positive Parenting (VIPP) [1], www.leidenattachmentresearchprogram.eu/vipp/welcome/en/. We chose this as the basis because its method (video-aided and parent-mediated using a direct work with parent and infant) is similar to that which we have used intensively with preschool children with diagnosed autism (2,

www.manchester.ac.uk/medicine/pact) and because of its good evidence base across disorders and in neurotypical groups.

There is a preliminary session (baseline/relationship building with parent); followed by six intervention sessions (delivered weekly to fortnightly); each with a theme building on techniques and learning from the previous session. In the six intervention sessions, the first two focus on infant behaviour (with maternal behaviour alluded to indirectly), the second two sessions address maternal behaviour, and the final two sessions examine more complex chains of interaction. The set up of each session is designed to facilitate exploration of specific targeted themes. There are five booster sessions to consolidate learning.

1. Juffer, F., M.J. Bakerman-Kranenburg, and M.J. Van Ijzendoorn, *Promoting Positive Parenting: An Attachment-Based Intervention*. 2008, New York: Taylor Francis Group.

2. Green J. Charman, T., McConachie, H., Aldred, C., Slomins, V., Howlin, P., Le Couteur, A., Leadbitter, K., Hudrey, K., Byford, S., Barrett, B., Temple, K., MacDonald, W., Pickles, A., and the PACT consortium. (2010). Parent-Mediated Communication-Focused Treatment for preschool children with Autism (PACT); a randomised controlled trial. *The Lancet*, 375(9732), 2152-2160.

SESSION PLANS

INTRODUCTORY SESSION

<p>Aim: Introduction, rapport building, goal-setting, and baseline measurement.</p>	<p>Video recording Six minute parent-infant interaction: free play with toys</p>
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SESSION 1 – “INFANT WATCHING”

Theoretical Focus: Sensitive responding

The parent has an opportunity to observe the focus and choice of activity of their infant without interruption which encourages them to recognize the pace of the infant’s exploratory behaviours and to match her own responses accordingly. The parent’s experience of watching her infant may also encourage her to think of him or her as a “thinking” being and help her appreciate the potential positive impact of a timely and sensitive response to her child’s behaviours.

<p>Aim: Observing and naming infant social interactive behaviour</p>	<p>Video recording Free play interaction (6 mins) Non-interactive play (2 mins)</p>
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SESSION 2: ‘ SPEAKING FOR THE BABY’

Theoretical Focus: Inference of intentionality

The observations made of the first session are discussed in depth with a focus on the endowment of intentionality to the infant. The purpose is to reinforce parental empathy with the infant's affect state as this forms the basis of a sensitive contingent response. The parent is encouraged to display this understanding back to the infant, "feeling for them", so that the infant feels understood.

Aim: Observing infant interactive behaviour in conjunction with exploratory behaviour	Video recording Free play interaction (6 mins)
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SESSION 3: 'SENSITIVITY CHAINS'

Theoretical Focus: Synchrony and contingent responsiveness

Building on the concepts introduced in session 2, the parent is encouraged to respond to a range of infant behaviours and match her responses to that of the infant, thereby increasing synchrony. The identification of sensitivity chains reinforces the parent's awareness of contingent responsiveness as she demonstrates attunement to her infant's needs.

Aim: Encourage parental contingent responsiveness Particular reinforcement of inter-personal face to face type interactions	Video recording Naturalistic setting of a meal time or snack time (20-30 mins)
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SESSION 4: SENSITIVITY CHAINS AT MEALTIMES

Theoretical focus: Contingent responsiveness in everyday situations

This session focuses on generalizing the skills addressed in session 3 to an everyday context in a naturalistic setting to show the parent that skills such as attunement and synchrony with her infant are applicable to every interaction between them.

Aim: Generalising contingent responsiveness to a naturalistic setting	Video recording Face-to-face 'songs and rhymes' interaction (6 mins)
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SESSION 5: 'SHARING FEELINGS'

Theoretical Basis: Affect matching

Session 5 introduces a technique to enhance maternal empathy: inviting the parent to speak as if she herself were the infant. This is carried out using a video clip of face-to-face interaction to encourage affect matching.

<p>Aim: Encourage affect matching and empathy Reinforcement of inter-personal interactions, including eye contact</p>	<p>Video recording Free play with toys, to include reading a book together if possible (4 mins) “Funny Sound Game” (2 mins)</p>
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SESSION 6: ”SHARING TALK”

Theoretical Focus: Communication

In this session the mother is assisted to reflect on more subtle aspects of vocal and non-vocal communication in the context of a structured interaction involving book reading. The aim is to support reciprocal vocalisations in a social context with contingent, attuned responses from the parent.

<p>Aim: Encourage vocal communication and social babble Reinforcement of interpersonal interactions, including eye contact</p>	<p>Video recording Free play with toys (6 mins)</p>
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SESSIONS 7 – 12: REINFORCEMENT AND BOOSTER SESSIONS; FURTHER MANAGEMENT OF ATYPICALITY

Reinforcement and booster sessions

The aim of these sessions is to reinforce the parent’s learning and ensure progress in parent-infant synchrony, attunement and communication as the infant rapidly learns new skills. This will sometimes involve a return to earlier themes e.g. ‘infant watching’, observation and sensitivity to the infant’s particular traits and reinforcing synchronous responses.

Identification of atypicality

The therapist in the *i*-BASIS study will not have been involved in the baseline assessment. However, during the intervention sessions there will have been adequate time for the therapist to identify any evidence of atypicality in the infant within the therapy context. Appendix 2 shows a checklist of potential atypicalities. It will be used as a aide memoire by the therapist at the end of sessions and rated on a 0-2 rating scale after the introductory session and then the 3rd, 6th, 9th and final sessions. Identified atypicalities will be discussed with the parent in terms of the infant’s behavioural repertoire *without labelling them as prodromal signs*. They will be identified as potential barriers to the processes of reciprocity and shared communication and appropriate advice will be given to facilitate interaction. The degree of interactional perturbation is likely to vary considerably with each infant and parent. Thus the selection of intervention approaches will be tailored to the individual

dyad. The therapist will adopt a collaborative and exploratory approach with the parent to reduce the impact of these potentially atypical behaviours.

We have considered it important to have an intervention that does not assume atypicality in a group of infant siblings of children with autism spectrum disorder. In cases where a parent and infant have successfully established reciprocal and mutually satisfactory interaction within the 6 intervention sessions or before the end of the booster sessions the final visits can be spaced more or the total number limited by mutual agreement with parent. In this way *i*-BASIS has built-in flexibility to the heterogeneity of development in the intervention group. The generic parental enhancement techniques in VIPP have demonstrated applicability across a range of normative parenting styles; the additional components more specific to prodromal autism can adapt the intervention where children are presenting with differences in development.

POTENTIAL AREAS OF ATYPICALITY AND REMEDIATION STRATEGIES

1. See section 2 of the introduction for discussion of atypicalities with reference to literature – this section includes discussion of possible underlying mechanisms for the atypicalities e.g visual preference and ERP response studies.
2. Remediation strategies are designed to either (a) focus on the ‘interactional perturbations’/ dyadic consequences of the atypicality on the parent-infant interaction and encourage more typical interactions where possible or (b) provide the infant with the optimal parent child interaction to improve the atypicalities in the child. In addition remediation strategies attempt to take into account what is known about possible underlying difficulties i.e. visual preferences, sticky attention etc

OBSERVED ATYPICALITIES IN INFANT	POTENTIAL DYADIC CONSEQUENCES	REMEDICATION	
		Core I-BASIS Strategies to Emphasise	Additional strategies
GAZE BEHAVIOURS <ul style="list-style-type: none"> • Reduced/unusual use of eye contact in face-face interactions • Lack of short gaze e.g. to share reactions and check involvement of parent during toy play • Reduced ability to follow parent gaze • Reduced joint attention behaviours 	<ul style="list-style-type: none"> • Parental disengagement • Reduction in gaze initiations/length by parent 		<ul style="list-style-type: none"> • Enhance parental observation and monitoring of their infant’s use of eye gaze. • Assist parent to recognise episodes in which eye contact may occur and to respond immediately and contingently with a response which is appropriate to their infant’s tolerance i.e. animated and interesting responses which are not overwhelming
ATTENTION BEHAVIOURS <ul style="list-style-type: none"> • Difficulties in disengagement and smooth pursuit of attention • Overlong staring at toy 	<ul style="list-style-type: none"> • Mistiming of parent responses through adults getting ahead of the child • Parent may 	<ul style="list-style-type: none"> • Enhance further the parent’s skill in observing and matching the infant’s focus and the pace of the interaction 	<ul style="list-style-type: none"> • In later stages of the therapy parents can be taught to assist the infant in shifting attention to a range of toys/situations or transitions in routine care. • Encourage parents to

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		Core I-BASIS Strategies to Emphasise	Additional strategies
<ul style="list-style-type: none"> Reduced level of gaze switching during play 	<p>become intrusive and attempt to impose an attentional shift on the infant which is likely to be counter-productive</p>		<p>sensitively experiment with strategies for shifting attention e.g. touch, sound, using the baby's name, moving objects to face level?</p> <ul style="list-style-type: none"> These strategies should be introduced in terms of "Lets see if we can get him interested in a few more things". Therapist needs to be careful to explain the balance between following the child's focus and encouraging attention shifts
<p>ATYPICAL PLAY BEHAVIOURS</p> <ul style="list-style-type: none"> Low interest in sharing toys Tendency to play alone, removed from parent 	<ul style="list-style-type: none"> Parent may become intrusive and direct/take control of play in an attempt to interact with the infant; this is likely to be counterproductive 	<ul style="list-style-type: none"> Encourage parent to allow infant to explore the environment and toys Encourage parent to attend to infant's focus of interest without interfering 	<ul style="list-style-type: none"> Encourage parent to observe what types of play their child enjoys most and what opens up opportunities for interaction – e.g. rough and tumble/physical games. Encourage parent to learn through observing their child's individual signals which indicate they are ready to join in (help parents understand parents that these signals may be very subtle or weak) Encourage parents to observe actively, showing interest in what the child is doing, but waiting and watching for signals that indicate the infant's readiness for them to sensitively join in.
<p>ATYPICAL RECIPROCITY</p> <ul style="list-style-type: none"> Reduced reciprocal social smile Reduced response to name Reduced response to social talk from parent Reduced affect matching Reduced response to parent attempts to engage infant in play 	<ul style="list-style-type: none"> Disruption of finely tuned reciprocity that typically develops between parent and infant 	<ul style="list-style-type: none"> Emphasise core I-BASIS procedures that promote reciprocity e.g. affect matching, imitation? Encourage parents to imitate their infant's vocalisations e.g. infant vocalises with 'a'; parent responds 'aa'; infant vocalises 'm'; adult responds 'mm'. 	<ul style="list-style-type: none"> Encourage a balance of response and the introduction of novel information that is developmentally appropriate. Build in non-verbal social anticipation games e.g. peek-a-boo into the more structured part of the treatment, particularly in later stages.

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		Core I-BASIS Strategies to Emphasise	Additional strategies
<ul style="list-style-type: none"> Reduced affective response to social touch 			
<p>AFFECT</p> <ul style="list-style-type: none"> Reduced expression of affect Reduced affect matching 	<ul style="list-style-type: none"> Parent may miss subtle expressions of affect and not respond appropriately Lack of response to affect from infant may have led to parent reducing the sharing of their own affect. 	<ul style="list-style-type: none"> Emphasise the ‘talking for the child’ technique to enhance the parent’s skills in inferring intentionality and affect in the infant. Assist the parent to recognise infant’s range and unique expression of affect in free play and structured settings. Encourage the parent to respond to infant’s affect as communicative, interpreting meaning based on contextual cues. Encourage the parent to mirror affect sensitively whilst monitoring the infant’s response. Establish ways for the parent to reflect back to the infant their understanding; ‘feeling for them’ 	<ul style="list-style-type: none"> Encourage parents to share their affect responses with the infant. However avoid over exaggeration – work with parent’s natural style Encourage parents to ensure that the baby has a good view of their face. Encourage parents to use facial expression when interacting with their baby. Encourage parents to use expression in their voice when speaking to the baby.
<p>EMERGING ATYPICAL COMMUNICATION</p> <ul style="list-style-type: none"> Reduced response to communicative gesture Reduced use of communicative gestures Reduced use of protodeclarative pointing Delays in sound production Reduced simple and complex babbling Delays in early word production 	<ul style="list-style-type: none"> Parent’s may miss some of the infant’s weaker communicative signals and not respond reciprocally; this results in reduced experience of reciprocity for the infant and reduces their language learning opportunities. 	<ul style="list-style-type: none"> Emphasise I-BASIS procedures for close observation of the focus and intent of the infant Help parent respond to any vocalisations in a social context that recognises the infant’s intent and underlying affect e.g. infant squeals with joy vocalising ‘a’; adult recognises 	<ul style="list-style-type: none"> Encourage parent to use simple natural gestures and pointing Encourage the parent to introduce sound games. Encourage parents to use symbolic sounds. Assist the parent to provide the infant with developmentally appropriate language models i.e. relating

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		Core I-BASIS Strategies to Emphasise	Additional strategies
	<ul style="list-style-type: none"> Parent's may become more didactic in their approach to communication, may resort to attempts to 'teach' words 	<ul style="list-style-type: none"> direction of infant gaze and notices the bin lorry; parent responds with matched vocal pitch 'lorry', signalling shared excitement. Encourage parent to make comments that relate directly to infant's focus of interest; for instance if the infant throws a toy share and comment on that activity rather than attempting to direct the infant to 'use the toy properly'. 	<ul style="list-style-type: none"> to present context and about items that are visible. Help parents to recognise their child's attempts at early word approximations and provide the relevant word – e.g. 'o' – 'dog'.
ATYPICAL REACTIVITY AND SENSORY BEHAVIOURS <ul style="list-style-type: none"> Sensitivity to e.g. foods textures, sounds etc Extremes of temperament – overly reactive or overly passive. 	<ul style="list-style-type: none"> Extreme and unexpected reactions may adversely affect interaction if parents fail to recognise the reasons for the reaction e.g. may blame themselves for the breakdown in the interaction. Extreme passivity may result in parents becoming less motivated to interact with their child 		<ul style="list-style-type: none"> Help parent to recognise when atypical reactions are affecting the interaction and to identify possible causes of these. Parents will be assisted to experiment with ways to respond to atypical reactions. This may involve assisting the parent to 'contain' extreme emotional reactions by the infant with sensitive and well matched affect. Assist parent to provide support and containment of the infant's affect state e.g. waiting and remaining engaged while the infant recovers from a particular emotional state rather than attempting to 'distract' or move the infant on before they are ready.
REPETITIVE BEHAVIOURS <ul style="list-style-type: none"> Atypical motor mannerisms e.g. arm waving 	<ul style="list-style-type: none"> Parents may monitor for presence of mannerisms and if signs emerge this may lead to parental anxiety 		<ul style="list-style-type: none"> Encourage parents to consider what the mannerism indicates – e.g. over or under stimulation and respond accordingly Where possible encourage

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		Core I-BASIS Strategies to Emphasise	Additional strategies
	<p>which impacts on interaction with child.</p> <ul style="list-style-type: none"> • Parent may copy mannerisms in a non-social way and/or may use them to initiate interaction. 		<p>parent to comment on child's perceived emotional state e.g. hand flapping through excitement – 'Oh it's exciting!'</p> <ul style="list-style-type: none"> • Encourage parent to experiment with using imitation as a means of engagement. • Encourage parent to adapt mannerisms into meaningful actions e.g. shaking a shaker, tapping a drum.

