

Child Temperament and Socio-Cognitive Processes: A Physiological and Behavioural Study

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The Lab:

Our lab's overarching goal is to learn about how children relate to other children and understand their social world. We use multiple assessment methods in our studies, including direct observations of children's interactions with adults and peers, parent- and self-report measures, and physiological recordings.



The Project:

- Children between the ages of 9 and 11 (up to 12) participated in a study on temperament, cognitive processes, and social and emotional functioning.
- This study aimed to explore the relation between child temperament (particularly shyness) and children's processing of self-vs. other-related information and their joint influences on social outcomes.
- This study involved two visits to the lab, each about 2 hours long. In one visit, an electroencephalography (EEG) cap was used to measure brain waves while the child completed questionnaires and computer tasks.
- Two children (both of which have completed the EEG visit) were matched up in the second visit, and their heart rates were monitored while performing behavioral tasks.

The Challenge:

Precision

For many years we used paper and pen to code behaviors from video, which limited us to relatively gross measures of behavior frequencies and timing.

Efficiency

Coding by hand required large amounts of time for reliability training and coding for SPSS, our research team.

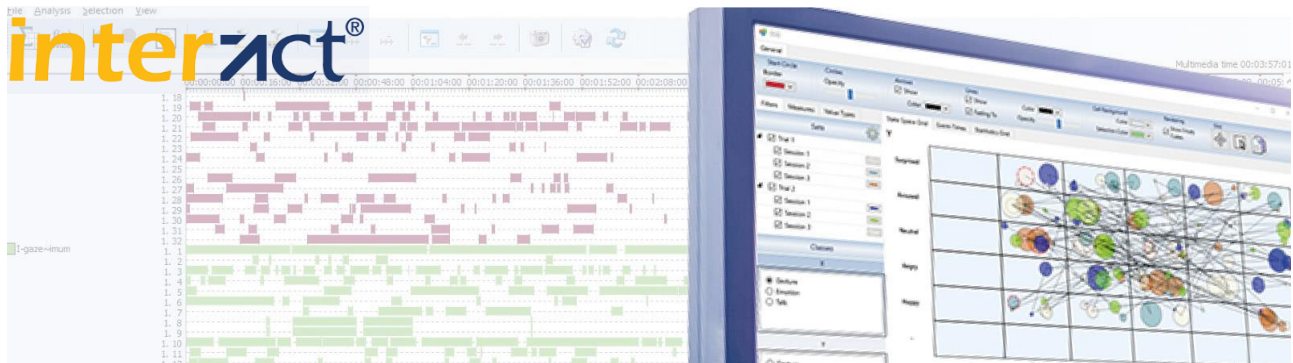
Flexibility

We were limited to coding from designated coding stations in our lab which would have led to a complete shutdown of coding activity during COVID.

Analysis and reliability

Coded data were entered by hand into time requiring teams of coders to check each others' entry, subject to human error. Analyses were limited to frequency codes.

The Solution:



Precision physiology

We were able to directly link our physiological and behavioural data allowing for detailed analyses of linkages.

Time-specific information

We were able to conduct detailed temporal analyses using codes such as: Latency, Duration, Contingency, Co-occurrence

Advanced analysis of dyadic interactions State-space grid

Detailed analysis of inter-rater reliability

Mangold User Support "Amazing support!"

Remote access

Ability to work from home with the support of Mangold

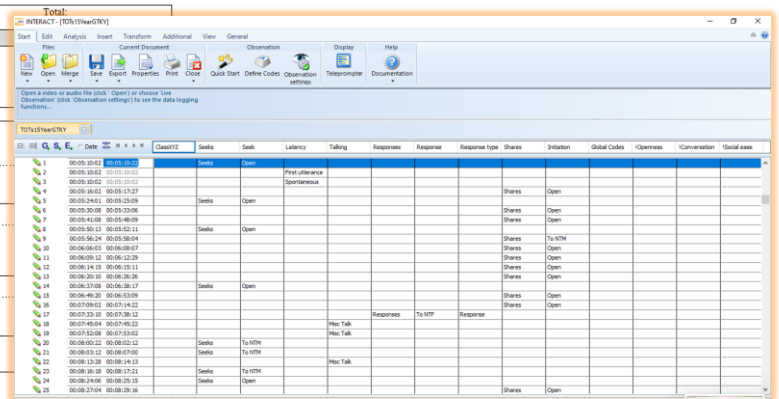
The Benefits:

Before Mangold INTERACT

Coder Name: _____ P R F _____ DE _____ DC _____
 Child ID: _____ Triad #: _____

Get to know you Target

1. Total time of 'Get to know you' segment	Start:	End:
Child 6		
2. Latency to first utterance		
3. First to make spontaneous utterance?	Yes / No	
4. Latency to first spontaneous utterance		
5. Total time talking		
6. Frequency of initiation (tally):	Share information	
	Seek information	
7. Frequency of response to #7 (tally):	No response	
	Response	
8. Frequency of response to #8 (tally):	No response	
	Response	
9. Global rating of openness to interaction (e.g., physical orientation, eye contact)	1 2 3 4 5	
10. Global rating of social ease during interaction (e.g., affective flexibility, spontaneous affect, anxious behaviors)	1 2 3 4 5	
11. Global rating of appropriateness of conversation interaction	1 2 3 4 5	



With Mangold INTERACT

Get to Know You Coding for Community Participants

The Feedback:



"Working with the Mangold team has revolutionized the way we run studies and analyze data in my lab. We've always been interested in the inter-relations between physiological systems, behavior and emotion in dyadic contexts. However, in the past we were largely estimating these relations over long periods of time. Using the Interact coding system has allowed us to efficiently characterize the precise time course of behaviors and emotions, their inter-relations within an individual child and between children during dyadic interactions. We continually receive personalized customer support and know that the Mangold team will help us generate solutions to complex problems."

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