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.

SOCIAL DEVELOPMENT LAB

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:

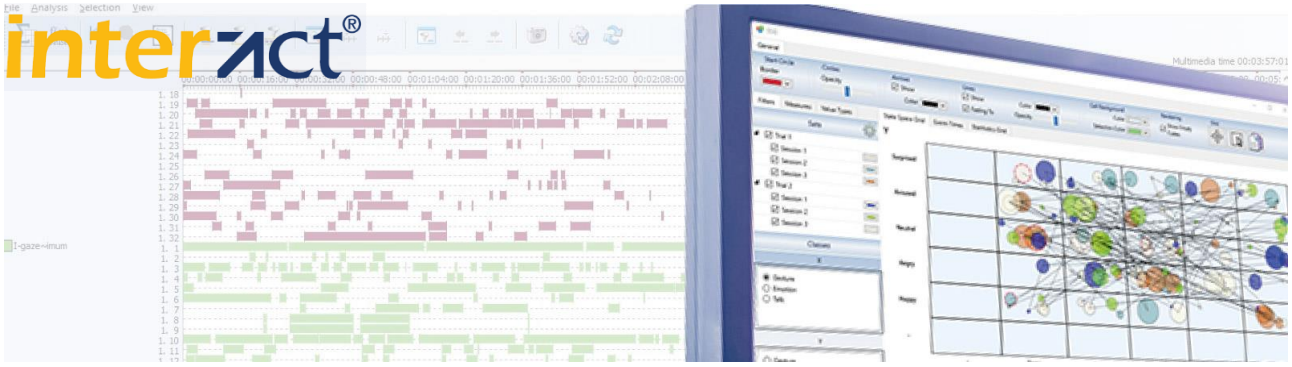
Precision
For many years we used paper and pen to code behaviors from video, which limited us to relatively gross measures of behavior frequencies and timing.

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.

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

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

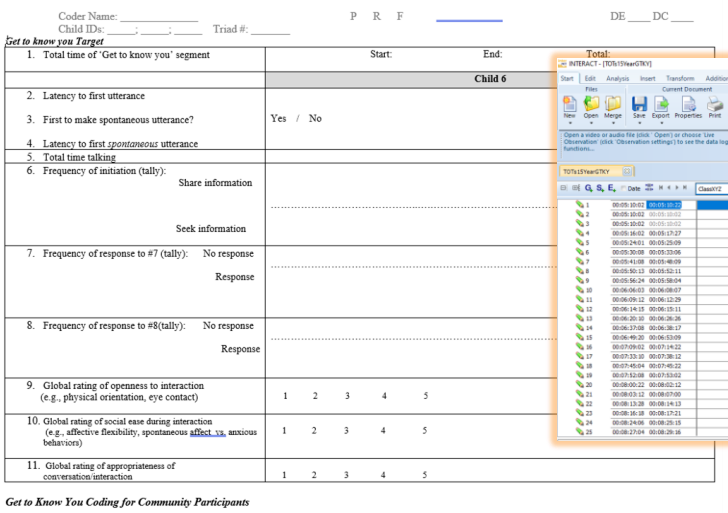
Detailed analysis of inter-rater reliability

Mangold User Support
"Amazing support!"

Remote access
Ability to work from home with the support of Mangold

The Benefits:

Before Mangold INTERACT

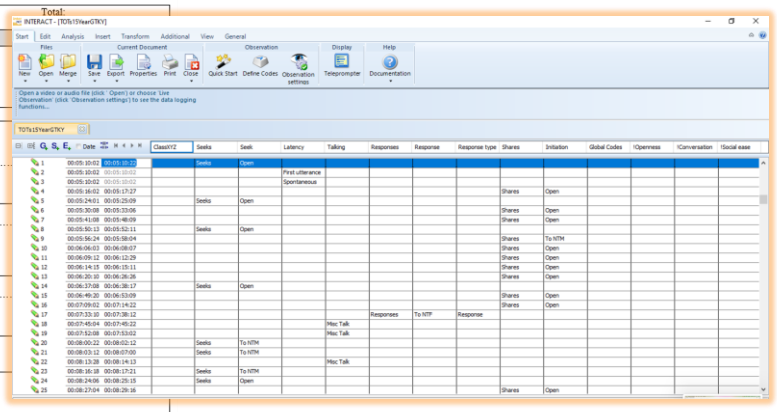


Coder Name: _____ P R F _____ DE ___ DC ___
Child IDs: ____; ____; ____ Triad #: _____

Get to know you Target

1. Total time of 'Get to know you' segment	Start:	End:	Total:
		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 vs. anxious behaviors)	1 2 3 4 5		
11. Global rating of appropriateness of conversation/interaction	1 2 3 4 5		

Get to Know You Coding for Community Participants



With Mangold INTERACT

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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