Developing and Piloting "Knowing Your Baby Matters," a Temperament Based Intervention

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Psychobiological Model of Temperament as a Framework

- "Constitutionally based individual differences in reactivity and self-regulation" (Rothbart & Derryberry, 1981)
  - Negative Emotionality
  - Surgency/Extraversion
  - Effortful Control/Regulatory Capacity
    - (Gartstein & Rothbart, 2003; Rothbart & Bates, 2006; Rothbart, 2011)

Using the Psychobiological Model for Intervention

- Information about risk /protective factors based on the temperament profile and existing empirical research (Kochanka, 1991; Bridgett et al., 2012; Gartstein, Crawford, & Robertson, 2008)
  - Focus on tension between intensity of reactive tendencies and efficiency of regulatory efforts
- Can provide an uplifting message to parents, emphasizing the role parents can play in guiding their child toward a more positive developmental trajectory, with respect to social-emotional factors
  - Can provide specific recommendations for managing risk factors of infant's profile based on previous research (e.g., Kochanska, 1995; Lengua, Honorado, & Bush, 2007)

Expected Outcomes for our Temperament Based Intervention

- "Goodness-of-Fit"- match between child characteristics and parental demands/expectations (Chess & Thomas, 1991)
  - Provide parents with detailed information regarding child's temperament attributes
  - Compare child's temperament profile to a comparison sample of infants, matched for age, gender, race/ethnicity
  - Help parents match demands/expectations to improve sensitivity and responsiveness in interactions
- Usability/Feasibility of the project by evaluating attitudes and understanding.
- Example questions:
  - **Usability:** Overall, understanding the information provided in the "Knowing Your Baby Matters" was: (easy to hard)
  - **Attitude:** Regarding my understanding of temperament, I feel I have learned a lot of useful information: (true to false)

Program Development Before Piloting

- Consultation with experts in temperament
  - Obtained feedback on the conceptual foundation and design/methodological considerations
  - Discussed information to be included in temperament feedback
- Consultation with mothers of infants
  - Asked about what information might be helpful
  - Obtained feedback regarding the content and format of the temperament feedback report

Program Development Before Piloting

- Create unique temperament profiles by comparing infants to others matched on age (within 2 weeks), gender, and race/ethnicity
  - Compiled Infant Behavior Questionnaire, Revised (IBQ-R; Gartstein & Rothbart, 2003) data to create comparison sample

Contributor	Location of Data Collection	Number of Families
Carol Cheatham, Ph.D.	North Carolina	86
Jennifer LaBounty, Ph.D.	Oregon	32
Rina Eiden, Ph.D.	New York	63
Krystal Mize, Ph.D.	Florida	85
Gina Mireualt, Ph.D.	Vermont	26
Rebecca Brand, Ph.D.	Pennsylvania	52
Karina Money, M.A.	Massachusetts	150
Julie Braungart-Reiker, Ph.D.	Indiana	258
Martha Ann Bell, Ph.D.	Virginia	750
Esther Leerkes, Ph.D.	North Carolina	197
TOTAL: 11		**TOTAL: 1,699**

Measures

Pre- Measures	Post- Measures
Demographics	Abbreviated Attachment Q-Set, (AQS; Rogmann, Cook, & Akers, 2004) adapted from Attachment Q-Sort (AQS; Waters & Deane, 1985)
Parenting Stress Index (PSI; Abidin, 1995)	Parenting Stress Index (PSI; Abidin, 1995)
The Nursing Child Assessment Teaching Scales (NCATS; Sumner & Spietz, 1995)- Parent-Child Interaction tasks	The Nursing Child Assessment Teaching Scales (NCATS; Sumner & Spietz, 1995)- Parent-Child Interaction tasks
Free-Play Parent-Child Interaction Task (Gartstein, Crawford, & Robertson, 2008)	Free-Play Parent-Child Interaction Task (Gartstein, Crawford, & Robertson, 2008)
Mindfulness and Parenting Scale (MPS)	Mindfulness and Parenting Scale (MPS)
Infant Behavior Questionnaire Revised (IBQ-R; Gartstein & Rothbart, 2003) – Maternal self-report measure of infant temperament	Usability Inventory Questionnaire- assesses understanding/accessibility . 3 versions, based on condition
	Attitude Inventory- adapted from Therapy Attitude Inventory (Eyberg, 1974)
	Knowledge Questionnaire- Q's about general understanding of temperament

"Knowing Your Baby Matters"- Piloting our Randomized Controlled Trial

- Carey's (1994) stages: using temperament evaluation for prevention and treatment purposes
  1. General education
  2. Identifying individual profile
  3. Intervention tailoring to parental efforts
- **3-12 month infants & moms randomly assigned to a condition:**
  - Control Condition
    - General temperament education
  - Written Treatment Condition
    - General temperament education
    - Personalized Temperament Profile
  - In-Person Treatment Condition
    - General temperament education
    - Personalized Temperament Profile
    - Meeting with Temperament Counselor

Participation Process

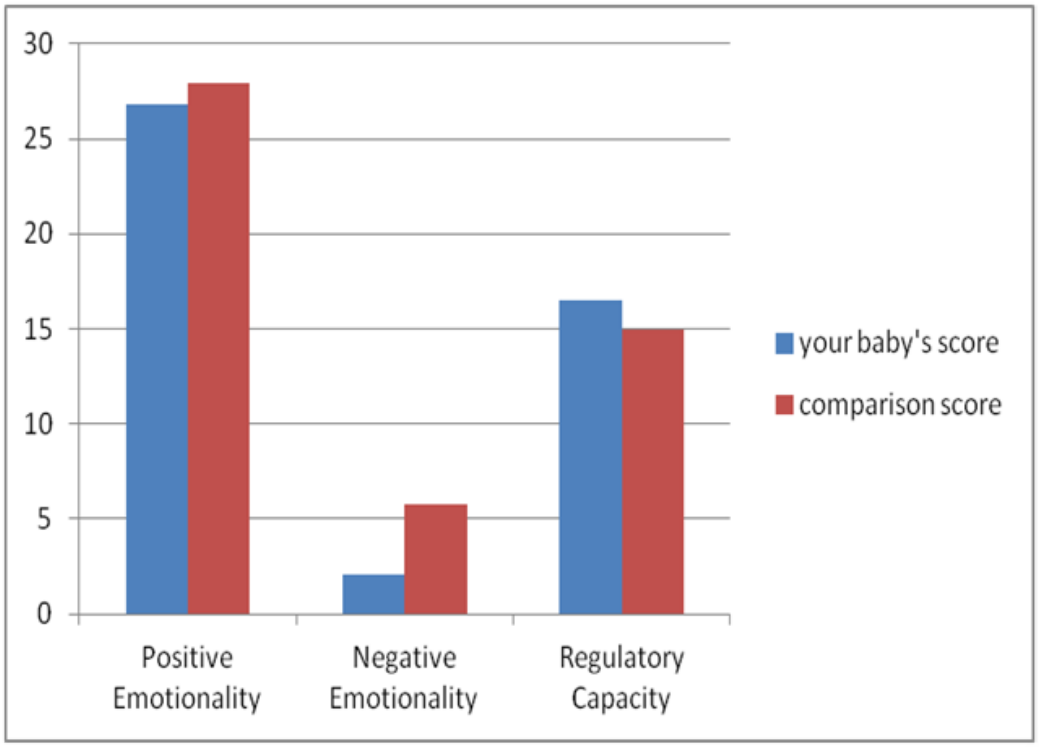
1. Pre-survey packet
2. Pre-home visit to observe parent-child interactions
   - Free play task
   - Teaching task
3. Provide Temperament Information
4. Post-survey packet
5. Post-home visit to observe parent-child interactions
   - Free play task
   - Teaching task

General Temperament Information

- Descriptions of 3 Temperament Factors
  - “Risks and Benefits” of each factor
- How to apply this information in everyday situations
  - “Goodness-of-fit”
  - How to navigate more difficult temperament profiles
- How Temperament relates to
  - Feeding/Eating
  - Sleeping

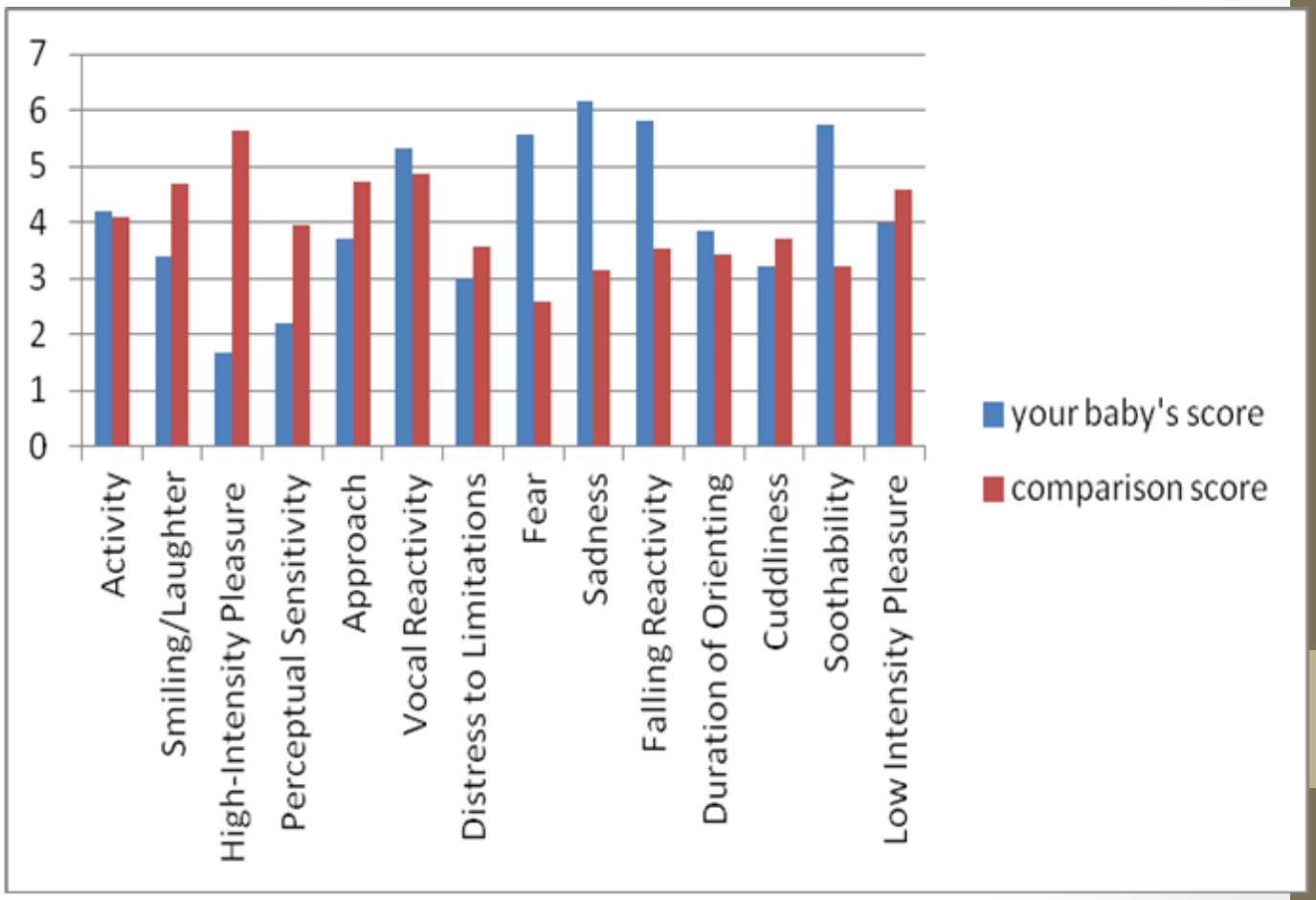
Unique Temperament Profiles

- **Part 1:** Comparison of 3 broad temperament factors
  - Defines/Explains the factors
  - Provides comparison: “As you can see from the graph bellow, your child’s ratings appear to be very similar to the average ratings received by the matching group of infants.”



Unique Temperament Profiles

- **Part 2:** Comparison of 14 temperament subscales
  - Provides 1-7 frequency ratings for each IBQ-R subscale
  - Describes what each subscale is, and what high vs. low scores represent

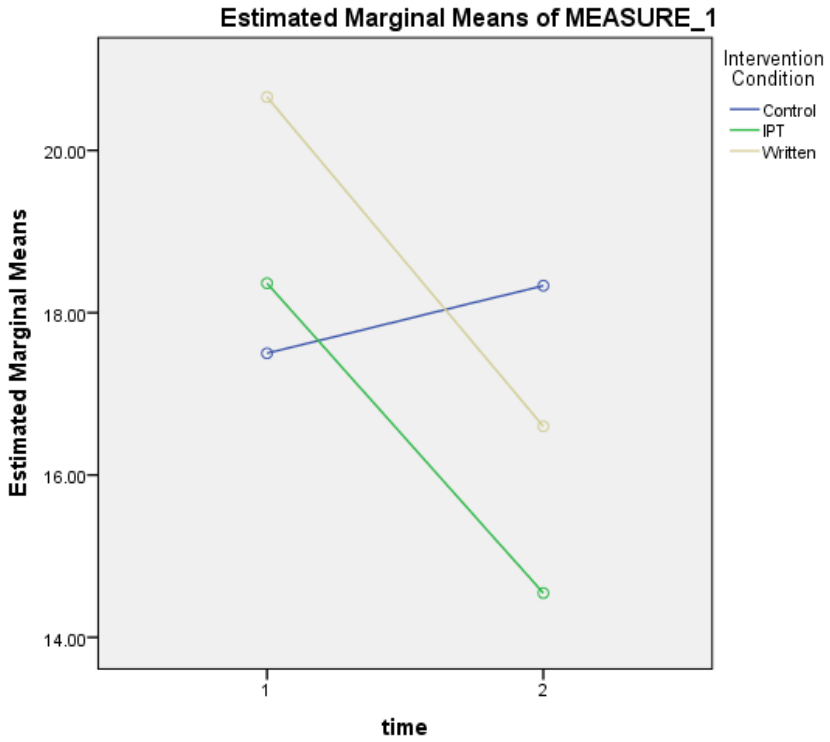


Preliminary Results (N=33)

- Parenting Stress Index (PSI) Competence Scale: Higher scores indicative of greater difficulties
  - Assesses insecurity in the parenting role at the high end of the scale and indicates parenting efficacy with low values
  - Using a paired samples t-test, collapsing across groups, there was a significant difference in the scores for pre (M= 27.879, SD= 3.990) and post-intervention parenting competence scores (M= 25.061, SD= 3.791); t(32)= 4.574, p= .000)

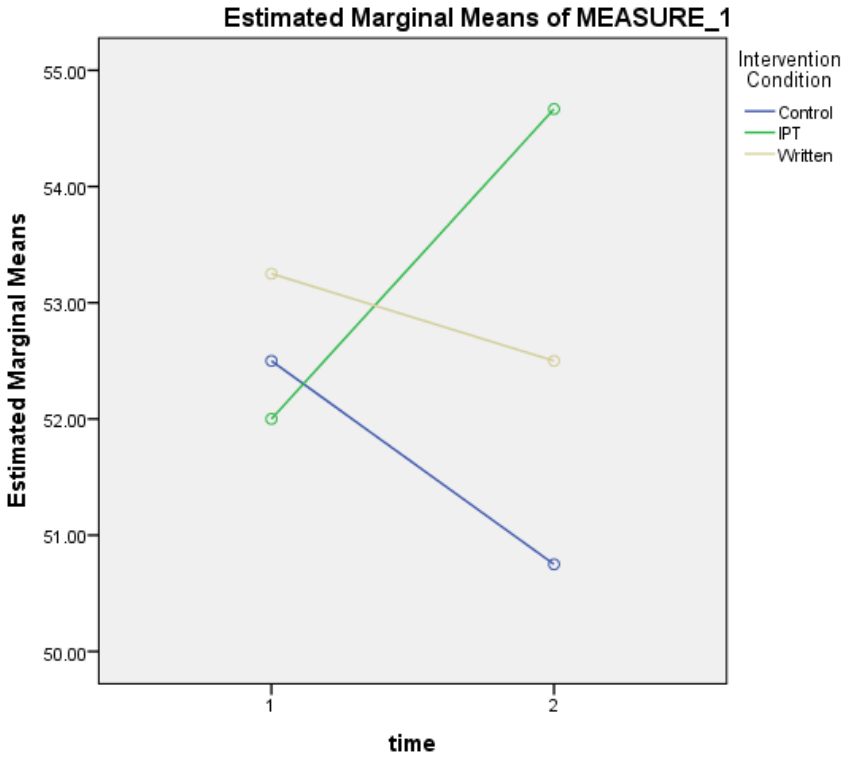
Preliminary Results

- Parenting Stress Index (PSI) Relationship Subscale: Higher scores indicative of greater difficulties
  - Assesses marital satisfaction and relationship quality
  - Using a repeated measures ANOVA, the interaction between condition and time of assessment for the PSI relationship scale approached significance, $F(2,30)= 2.579$, $p= .093$
  - Trend toward relationship stress decreasing in Written and In-Person conditions



Preliminary Results

- Mindfulness and Parenting Scale (MPS): Higher scores indicative of more mindful parenting
  - Using a repeated measures ANOVA, the interaction between condition and time of assessment for the mindfulness scale only began to approach significance; however, the graph suggests that mothers who received in-person temperament feedback reported an increase in mindful parenting



Discussion

- **Summary of Results**
  - All groups showed increase in parental competence
  - Trends/Approaching significance
    - Improved marital satisfaction in treatment conditions
    - Higher levels of parenting mindfulness in in-person treatment group
- **Additional Planned Analyses**
  - Descriptive and graphic examinations of feasibility/acceptability indices
  - Effect of intervention on parent-child interactions
  - Moderation effects
    - Temperament as a moderator of intervention outcome
- **Future Directions**
  - Online distribution to access other locations/populations
  - Rework intervention for higher-risk samples

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