Contributions of temperament and parent child interactions to behavioral problems - Germany and the US

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Temperament and Culture

- Constitutionally based individual differences in reactivity and self-regulation, which are shaped over time by heredity, maturation, and experience (Rothbart & Derryberry, 1981).
- Cultural differences can be anticipated since reactivity and self-regulation are expected to be influenced by experience.

Cultural and Environmental influences on Temperament

- Parenting goals in child rearing:
  - consistency with the values of the cultural group (Kohnstamm, 1989).
  - Successful adaptation, becoming a functioning member of society (LeVine, 1977; Trommsdorff & Konradt, 2003).

The Developmental Niche (Super and Harkness,1986)

Three subsystems mediate the developmental experience within a culture:

1) Physical and social settings that are available to the child

2) Customs of childcare/parenting

3) Caretaker characteristics and ethnotheories

- Ethnotheories include expectations about the cognitive, social and emotional development of children (Rosenthal & Roer-Strier, 2001).

The "developmental niche" across cultures

- Cultural variations in parental beliefs and behaviors were found in a comparison study of parents of Anglo, Somali and Vietnamese background in Australia. Parents from an Anglo background expected children to achieve language, cognitive, independent and obedience/self-regulation milestones earlier (CCICC, Wise & Da Silva, 2007).
- Between Western cultures, strongest cross–cultural differences were found in activities that related to meals, play, and school related activities (ISPS, Harkness et al., 2006).

The "developmental niche" across cultures

- Parmar, Harkness & Super (2008) compared Euro-American and Asian parents in Connecticut and found that mothers take on different roles in both countries. While Asian parents viewed themselves as teachers, Euro-Americans saw themselves as playmates.
- The time parents spend in close physical contact with their child by carrying/holding them, and soothing them with close physical contact, are both likely to reflect the habits and customs of the parents' culture (Webb, 2001).

Hypothesis

- Although German and U.S. cultures are often viewed as similar "Western cultures", differences in Temperament, Parent Child Interactions, and Behavior Problems between German and U.S. toddlers were anticipated.
- Cross-cultural differences were expected in the patterns of association for parent-child interactions, temperament, and behavior problems.
  - Culture was predicted to play a moderating role, influencing the relationship between parent child interactions and temperament factors.

Method: Sample

Mean	U.S.	SD	German	SD
Age mother	33y, 6m	5y, 5m	36 y, 5 m	4 y, 4 m
Child Gender	22 female 24 male		22 female 26 male	
Years in School (Mo)	17.68**	2.23	15.74**	3.01
SES	240	121.76	233.4	122

- Mothers of toddlers between 18 and 36 months of age
- Third generation in the country
- Recruited on the basis of birth announcements, flyers, "word or mouth"

Method: Questionnaire Measures

Early Childhood Behavior Questionnaire (Putnam, Gartstein, & Rothbart, 2006)

Negative Affectivity: Discomfort, Fear, Motor Activation, Sadness, Perceptual Sensitivity, Shyness, Soothability (-), Frustration

Surgency-Extraversion: Impulsivity, Activity Level, High-Intensity Pleasure, Sociability, Positive Anticipation

Effortful Control: Inhibitory Control, Attention Shifting, Low-Intensity Pleasure, Cuddliness, Attention Focusing

- Scales were generally internally consistent (Alphas >.70 except for Impulsivity) and demonstrated satisfactory cross-rater agreement (r ranging from .33 to.79) and test-retest reliability (r=.32-.79) (Putnam et al., 2006). Satisfactory internal consistency with samples from different countries.
- German version: Alphas ranging from .65 to .87 for scales and factors.

Method: Questionnaire Measures

Child Behavior Checklist (CBCL 1 ½ -5; Achenbach & Rescorla,2000)

- Two Broadband factors (used in this study):
  - Internalizing and Externalizing Behavior Problems
  - Total Problem Score
- Seven Clinical Syndrome Scores
- Five DSM-oriented Syndrome Scales

Evidence of reliability and validity with samples from US samples and different countries

- Internal for the CBCL syndrome subscales (Alphas 66 to .92), and *DSM*-based scores (Alphas .65 to .86).
- Inter-rater (*r* ranging from .40 to .75) and test-retest (*r* = .80s and .90s) reliability adequate.

Methods: Parent Child Interaction

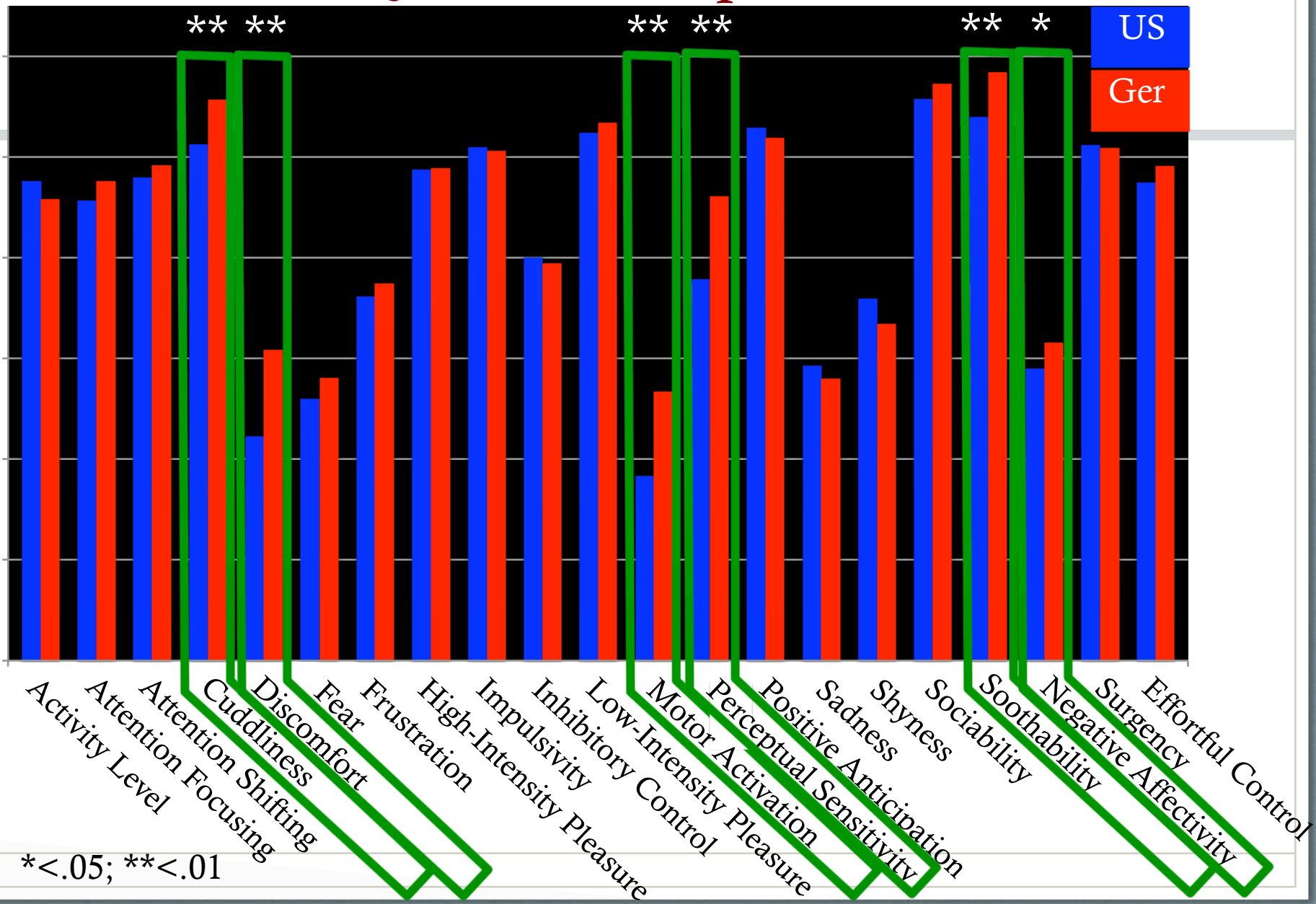
Observation of 10 minute free play sequence

Parent-child Interaction Attributes: Global ratings
(7-point Likert scale; Gartstein, Crawford, & Robertson, 2008)

- Responsiveness: Non-responsive - Sensitive
- Reciprocity: Asynchronous - Reciprocal
- Tempo: Slow paced – Fast paced interaction
- Intensity: Low Intensity – Exuberance, complexity
- Emotional Tone: Negative – Positive emotional tone
- Direction: Child - Parent directed interaction

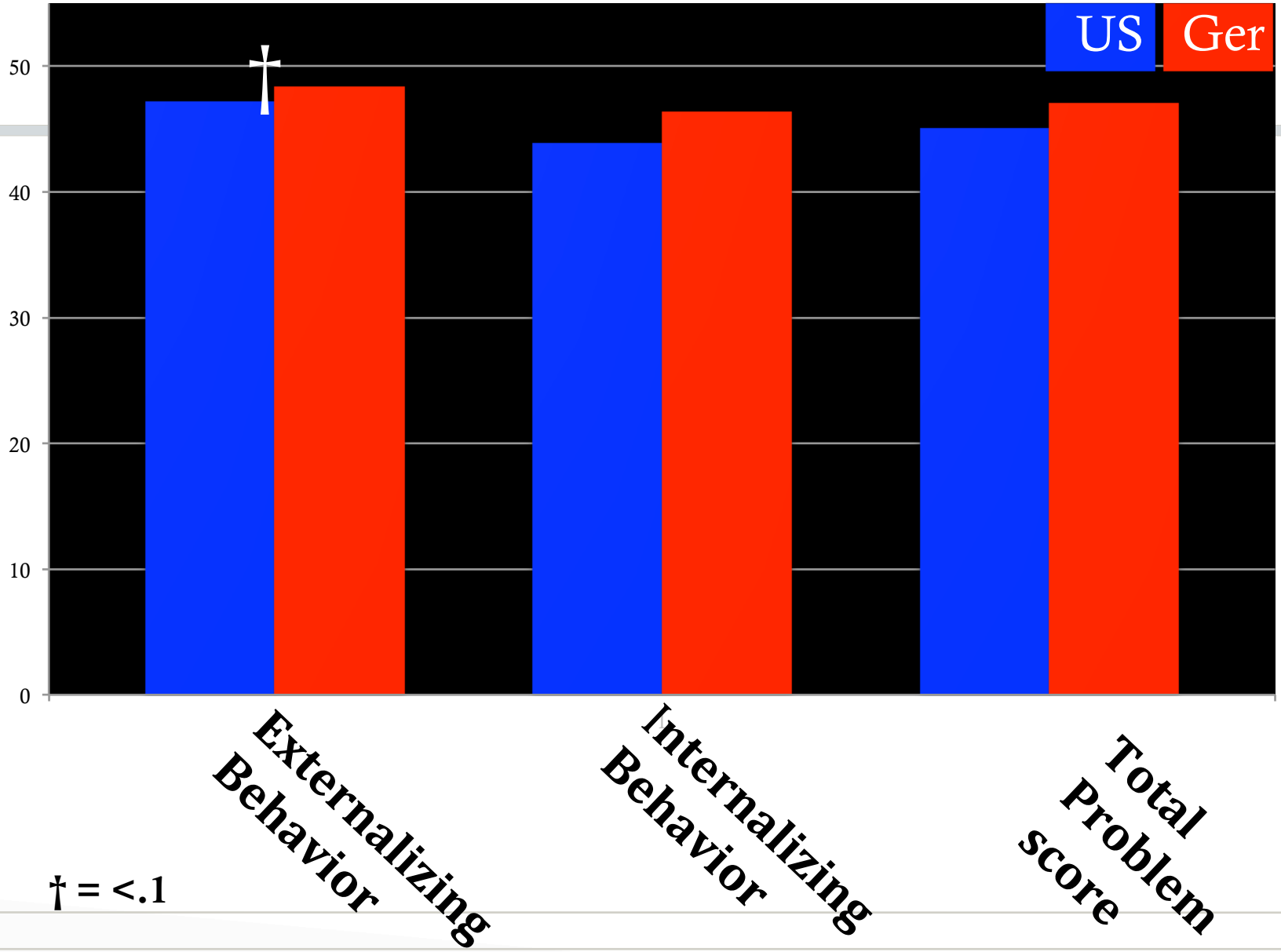
➢ Inter-rater Reliability: interclass r's > .60

ECBQ Mean Comparison (n=90)



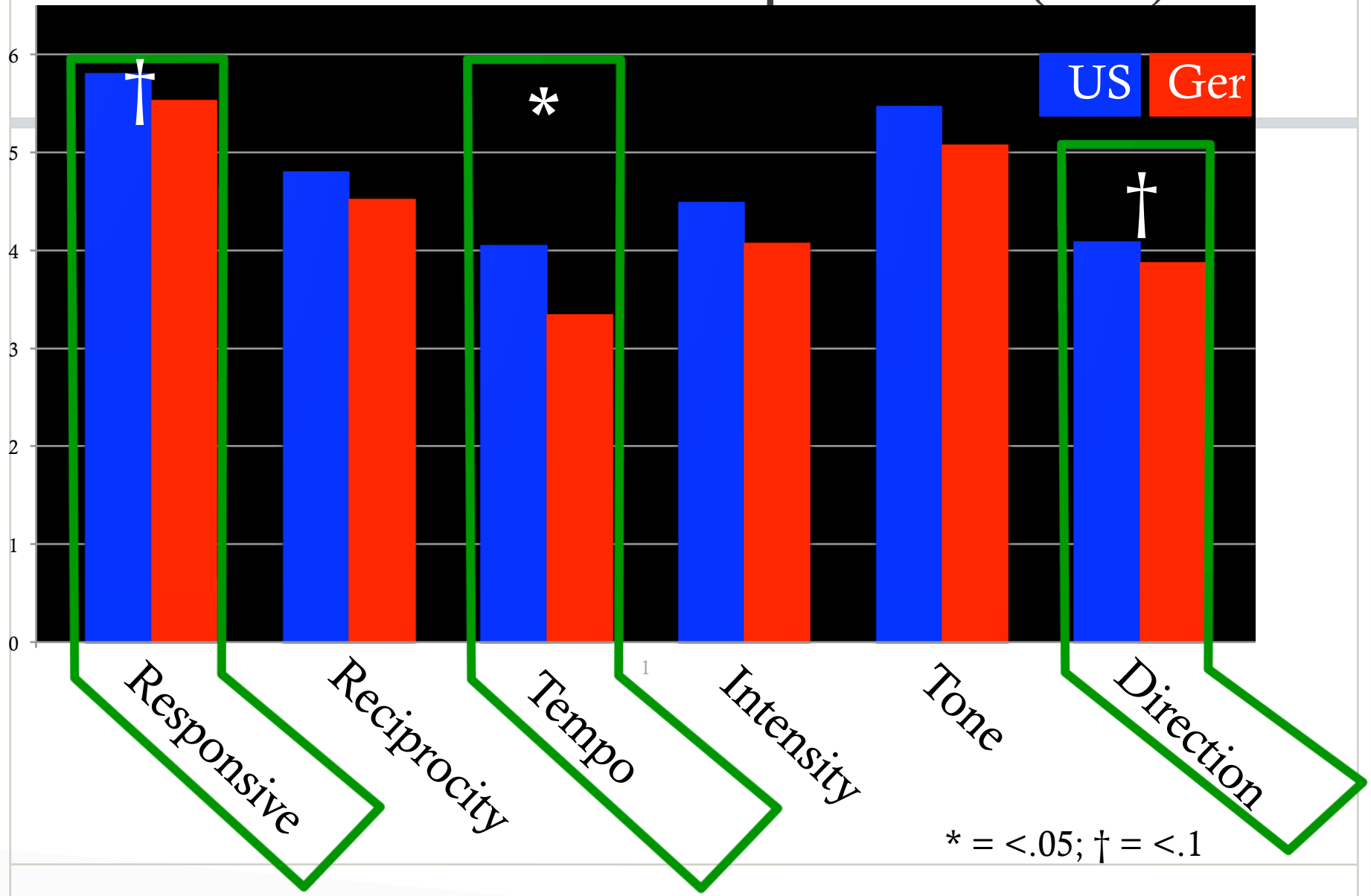
*<.05; **<.01

CBCL Mean Comparison (n=87)



† = <.1

PCI Mean Comparison (n=95)



Simple Correlations

Parent-Child Interaction -ECBQ Factors

	US			Germany		
PCI Variables	**Neg. Affect**	**Surgen**	**Effort Contr.**	**Neg. Affect**	**Surg.**	**Effort Contr.**
Responsive	-.140	-.018	.165	.007	-.156	.116
Reciprocity	-.009	-.202	-.015	-.164	-.255	.095
Tempo	.233	-.016	.188	.086	-.018	.168
Intensity	**.363**[a]	.125	.046	**-.114**[a]	-.059	.084
Tone	-.005	**.253**[b]	.103	.066	**-.149**[b]	.003
Direction	-.034	.075	.233	.084	-.138	.221

$p \leq 0.5$ Bolded coefficient differ: [a] $z = 2.26$, $p \leq .05$; [b] $z = 1.86$, $p \leq .$

Simple Correlations

Parent-Child Interaction and fine grained aspects of Negative Affectivity (ECBQ)

	Subscales Negative Affectivity US							
PCI Variables	Disc	Fear	Frust	Mot. Act.	Perc. Sens	Sadn	Shy	Sooth ab.
Responsive	-.121	.091	.008	-.194	**-.175[b]**	-.001	.035	.358
Reciprocity	-.067	**.366[a]**	.123	.041	-.313	.116	-.074	.080
Tempo	.289	.280	.182	.017	-.096	.350	-.063	-.179
Intensity	.354	.268	.324	.141	-.050	.416	.009	-.304
Tone	-.063	.018	.147	-.166	-.049	.095	-.011	.052
Direction	.082	.018	.068	.067	.135	-.118	.016	.136

$p \leq 0.5$ $p \leq 0.01$ Bolded coefficient: [a] $z = 2.51$, $p \leq .05$; [b] $z = -1.88$, $p < .1$

Moderating Factors between PCIs and ECBQ Factor level

Variable PCI	R	R^2	$R^2\Delta$	F Δ	β
<u>Intensity</u> Negative Affectivity * Culture (US)	.362	.131	.042	4.032*	1.246*

Conclusions: PCI and temperament

- Cross-cultural differences in the development of temperament and in parent-child interactions.
- Differences in associations between toddler temperament and parent child interaction on a **factor level**:
  - Interactions between U.S. mothers and toddlers were observed to be higher in Intensity when children were rated higher in Negative Affectivity.
  - Emotional Tone was more positive in the interactions of U.S. dyads when toddlers were rated higher in Surgency; this association was relatively stronger for the U.S. sample compared to the German group.

Conclusions: PCI and temperament subscales of Negative Affectivity for U.S. sample

- More **fine grained analysis** of the association between PCIs and *Negative Affectivity* for U.S. sample:
  - Greater Intensity in interactions for children displaying more Discomfort, Frustration, and Sadness, according to mothers.
  - Higher Tempo for children rated as exhibiting more Sadness.
  - Greater Responsiveness for those higher in Soothability.
  - Greater Reciprocity for those higher in Fear, coupled with lower Reciprocity for toddlers with heightened Perceptual Sensitivity.

Conclusions: Culture as a moderator between temperament and PCI

Culture moderated the interaction between Negative Affectivity and Intensity, with the association emerging as significant for the U.S. sample only.

- Intensity increases for U.S. mothers with children who display higher levels of Negative Affectivity. Negative Emotionality seems to activate U.S. mothers more than German mothers, possibly reflecting that expression of negative emotionality may fit less with the cultural values/expectations of U.S. and that U.S. Children are expected to achieve independence and self-regulation milestones earlier.

Outlook

- Exploration of parent child interactions offer a unique contribution to research addressing cultural influences on parenting practices and transmission of parental values.
- Future work should include longitudinal assessments in order to address development of temperament and behavior problems, and potential changes in parent-child interactions resulting from the child's maturation.
- Examining multiple cultures would also be important in answering questions about generalizability of the observed effects.
- The role of gender as a moderating factor in the interaction between PCI and temperament needs further exploration. Preliminary results show a gender moderation effect.