Hello from the Stony Brook University Temperament Study! We hope this newsletter keeps you up-to-date on the progress of our study of children’s temperament and development. Please let us know what you would like to see in future newsletters. As a reminder, you can find all previous newsletters online at: www.sbutemperamentstudy.org.

**Progress Report**

As always, we would like to thank you all for your continued participation in the study!!! On August 27th, 2010 we launched the Age 9 Phase of the study. Already we have enrolled 66 families. Once again, the Project Coordinator, Laura Klein, will be contacting you as your child approaches his/her 9th birthday.

*From the Project Coordinator*

Just wanted to let you all know of the changes we have made at this phase of the study to make your participation easier and that much more exciting. Due to the busy lives you all lead, we’ve decided to combine two visits into one, so you only have to make one trip to the University. We also have doubled the money, so if last time you remember completing all portions of the study, and receiving $250, this time around you will be receiving $500 in total, upon completion of everything. We also have established links via a web-based program for parents/children to do their questionnaires on computers. In addition, instead of having to send us saliva samples through the mail, a member of our staff will come to your home to pick them up. As before, the child’s other parent will be interviewed by telephone. However, if you all want to come in as a family and get everything done on the same day, be sure to let us know so that we can arrange for enough staff.

Most families have preferred scheduling their visits for Saturday and Sunday. However, some prefer Friday afternoons, when the kids get out of school. **We will make every effort to schedule your family whenever it works best for you** and that causes the least amount of interference in your lives; **that means any time of the day, any day of the week, including weekends and holidays.** Just remember that you need to allow enough time, since now with the one visit, it is taking, on average about 4 hrs.

I look forward to seeing you all again in the near future. Until then, stay warm, and safe with this incredibly cold, snowy Winter we’ve been experiencing this season.
From the Principal Investigator:

Below are some abstracts of some preliminary findings of the Stony Brook Temperament Study that have been published in professional journals.

Abstracts of Recent Scientific Publications from the Stony Brook Temperament Study

We are beginning to publish scientific papers from the project, and are excited to share them with you. Below are five abstracts of recent papers. If you want a copy of any of these articles, please let us know.


The present report replicates and extends our previous study using a laboratory assessment of child temperament and behavior to distinguish the affective component, low positive affect (PA), of the broader positive emotionality construct from behavioral inhibition (BI) in a larger, independent sample. Additionally, we examined whether laboratory-assessed traits could be distinguished on parent/teacher-reports of related constructs. Low positive emotionality and BI share the core feature of low approach/engagement and are often not distinguished in the literature, despite presumed differences in underlying motivation. We examined these traits in novel and non-novel laboratory contexts. Similar to previous findings, we found that in novel situations, children with low PA and children with high BI exhibited similar levels of approach, and both groups exhibited lower approach than controls. In contrast, in non-novel situations, children with low PA exhibited significantly lower levels of approach than children with high BI and controls. Finally, we also found external evidence for the distinction between laboratory-defined low PA and high BI on parent- and teacher-reports of child temperament.


The error-related negativity (ERN) is an event-related brain potential observed in adults when errors are committed, and which appears to be sensitive to error value. Recent work suggests that the ERN can also be elicited in relatively young children using simple tasks and that ERN amplitude might be sensitive to error value. The current study employed a Go No-Go paradigm in which 5–7-year-old children (N = 18) earned low or high points for correct responses. Results indicated that errors were associated with an ERN; however, the size was not reliably moderated by error value.


Context: The brain-derived neurotrophic factor (BDNF) gene is a plausible candidate for early-emerging negative emotionality (NE), an endophenotype for depression. Evidence suggests that
the effects of this gene may be especially salient in the context of familial risk factors for child maladjustment.

Objective: To better understand how genetic and early contextual factors influence emotional vulnerability, we examined whether BDNF genotype at the val66met site was associated with child NE in the context of parental depression and relationship discord.

Design, Setting, and Participants: A community sample of 413 three-year-old children was assessed for temperamental emotionality using standardized laboratory measures. Parents participated in clinical interviews and completed a measure of marital satisfaction.

Results: Multiple regression indicated that child BDNF genotype interacted with parental depression ($pr = .15$, $p = .004$) and parental relationship discord ($pr = .16$, $p = .003$) in predicting child NE. Children with at least one copy of the BDNF met allele exhibited elevated NE when a parent had a history of depressive disorder, or when relationship discord was present. In contrast, this same genotype was associated with especially low NE when parent depression was absent, and when the parental relationship was not discordant.

Conclusions: The relationship between BDNF genotype and early-emerging NE is moderated by contextual factors. Our research suggests that the BDNF met allele may confer increased child sensitivity to both positive and negative familial influences. Findings have implications for models of early-emerging vulnerability and prevention strategies.


This study examined whether the interaction between the serotonin transporter promoter region (5-HTTLPR) and brain-derived neurotrophic factor (BDNF) Val66Met polymorphisms was associated with hypothalamic–pituitary–adrenal (HPA) axis reactivity to stress. A community sample of 144 preschool aged children was genotyped and exposed to stress-inducing laboratory tasks. Salivary cortisol was obtained at four time points during a standardized laboratory assessment before and after stressors involving separation from a parent and frustrating tasks. Children homozygous for the short-5-HTTLPR allele and carrying the Met-BDNF allele evidenced a significantly lower initial level of cortisol, followed by a positive increase in cortisol in response to the laboratory stressors. In contrast, children who were homozygous for the short-5-HTTLPR and the Val-BDNF alleles evidenced a greater decline in cortisol in response to the laboratory stressors. Findings indicated that the BDNF gene moderated the association between 5-HTTLPR and children’s biological stress responses, suggesting that epistatic effects play a role in individual differences in stress regulation, and possibly genetic vulnerability to stress-related disorders.


Glucagon-like peptide-1 (GLP-1) has been shown to be a potent stress-regulating neuropeptide in animal models, but little is known about whether genetic polymorphisms that influence this peptide influence stress responses in humans. We therefore explored whether a missense mutation (rs1042044) in the GLP-1 receptor was associated with morning and evening salivary cortisol levels in preschool aged children. Morning and evening saliva samples and individual buccal swabs for DNA extraction were collected from seventy-seven preschool aged children.
Salivary cortisol was assayed using a time-resolved fluorescence immunoassay with flurometric end-point detection (DELFIA), and the rs1042044 single nucleotide polymorphism (SNP) was genotyped using allele specific TaqMan probes. Children homozygous for the phenylalanine (C) substitution in GLP-1R gene had significantly higher morning salivary cortisol levels than children with other GLP-1R genotypes ($p=0.029$). Additionally, children with one or two copies of the phenylalanine (C) allele had significantly higher morning cortisol levels compared to children homozygous for the leucine (A) allele ($p=0.008$). Our results identify associations between a novel genetic variant of GLP-1R and hypothalamus-pituitary-adrenal (HPA) axis regulation. This polymorphism may have functional significance in stress-related psychiatric disorders.

**Moving? New Phone? Questions/Concerns?**

We are looking forward to seeing you and your children again for the Age 9 Assessment!

If you have moved or changed your phone number, or have a question for our researchers, please call us at (631) 632-4115. You can also contact us via our email address, psychtemp@notes.cc.sunysb.edu. Even if you have moved out of the New York area, we would still like to have you and your child participate in this phase of the study! Please contact us as soon as possible so we can determine how best to have you take part.

**Resources for Parents and Children:**

Several parents have expressed interest in reading materials and other resources for parents. We would like to recommend some books that address common problems parents and children may encounter. These books are available through Amazon and most major booksellers:

- *Good Friends are Hard to Find: Help Your Child Find, Make, and Keep Friends* by Fred Frankel
- *How to Behave So Your Children Will, Too!* by Sal Severe
- *The Emotional Problems of Normal Children* by Stanley Tureki
- *Every Parent: A Positive Approach to Children’s Behavior* by Matthew R. Sanders
- *The Bully, the Bullied, and the Bystander: From Preschool to High School – How Parents and Teachers can Help Break the Cycle of Violence* by Barbara Coloroso
Finally, for problems that may require professional attention, please contact your pediatrician or consider the following resources:

- SUNY Stony Brook, Department of Psychiatry 632-8850
- SUNY Stony Brook Psychological Center 632-7830
- Child & Family Psychological Services 265-9850
- Brookhaven Youth Bureau, Medford 451-8011
- Pederson Krag MHC, Smithtown 920-8300
- Family Service League, Huntington 427-3700

Transitions:

Dawna Shimabukuro joined the study as a Research Support Specialist at the end of June 2010 and is the main staff member on the project. She received her Master's degree in Educational Psychology from the University of Washington, and she graduated from Stony Brook University with a B.A. in Psychology.

We hope you had a wonderful holiday season and wish you a very happy and healthy New Year!

Thanks again!

The Stony Brook Temperament Study