

# Journal of Attachment Parenting

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# Journal of Attachment Parenting 2013: Recent Studies Support API's Eight Principles of Parenting

Attachment Parenting has been in the spotlight over the last few years more than ever before. Parents and providers alike regularly use social media to answer critiques and talk about their own experiences with Attachment Parenting in a rather amazing and unprecedented way. Unfortunately, less-responsive parenting methods such as sleep training have also been very much in the news over this same time with the publication of two widely distributed studies.

Parents are bombarded with a dizzying array of child rearing options and often wonder which approach they should adopt. The same forces that extolled the virtues of Attachment Parenting were also used to tout more-rigid parenting methods. When parents hear news reports praising the benefits of one-size-fits-all parenting techniques, providers need access to evidence-based information showing that other approaches are possible—and even desirable.

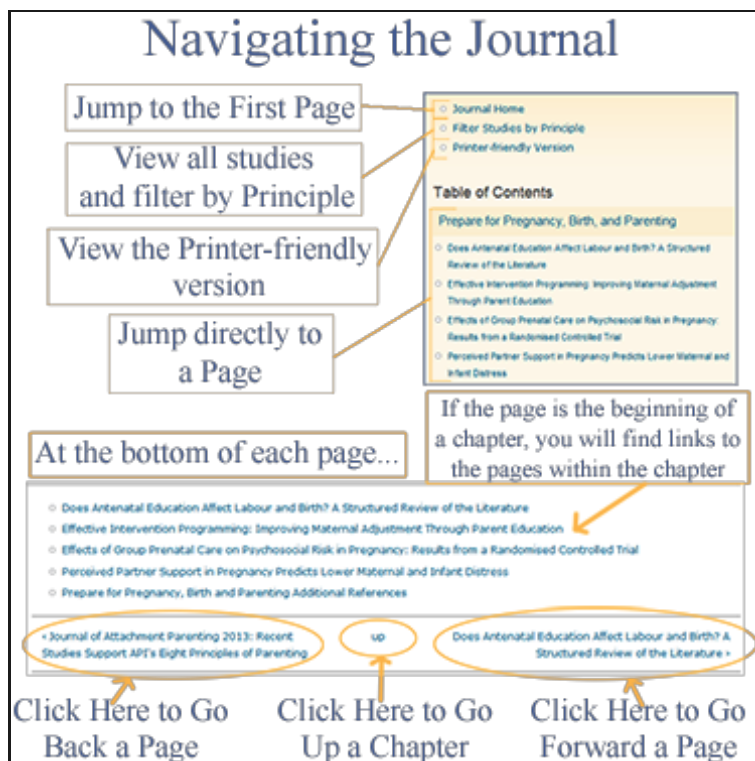
With that need in mind, and the larger need to advance the parent-child and family research into the intersection of Attachment Parenting International's Eight Principles of Parenting, we are pleased to present this collection of recent independent studies that support these Eight Principles of Parenting. Few quality studies are widely publicized owing to a number of marketing and applicability factors, and likewise, few of these studies have been noted outside of academic circles, though this is not an indication of their value. Regardless of their media worthiness, these studies nonetheless continue to accumulate the irrefutable evidence favoring responsive parenting.

We consider it the foundation of API's mission to provide evidence-based information to anyone engaged in the education, care or support of parents, families or children. In addition, API hopes that this issue of the Journal inspires further research on topics and variables related to healthy, responsive parenting and parenting support.

We hope that you find our summary of recent findings useful in your work. These studies represent a relatively small percentage of the available literature that quietly yet firmly demonstrates that responsive and warm parenting leads to the best outcomes for children—and their parents.

**Kathleen Kendall-Tackett, PhD, IBCLC & Artimesia Yuen, Editors**

Patricia Mackie, MS, LPC, *primary abstractor*; Christina Robert, PhD, *abstractor*; Kate Barclay, *abstractor*; Lisa Lord, *copy editor*; Naomi Davidson, *technology coordinator*; Rita Brhel, *publications coordinator*; Samantha Gray, *executive director*; Scott Sherwood, *Praeclarus Press*



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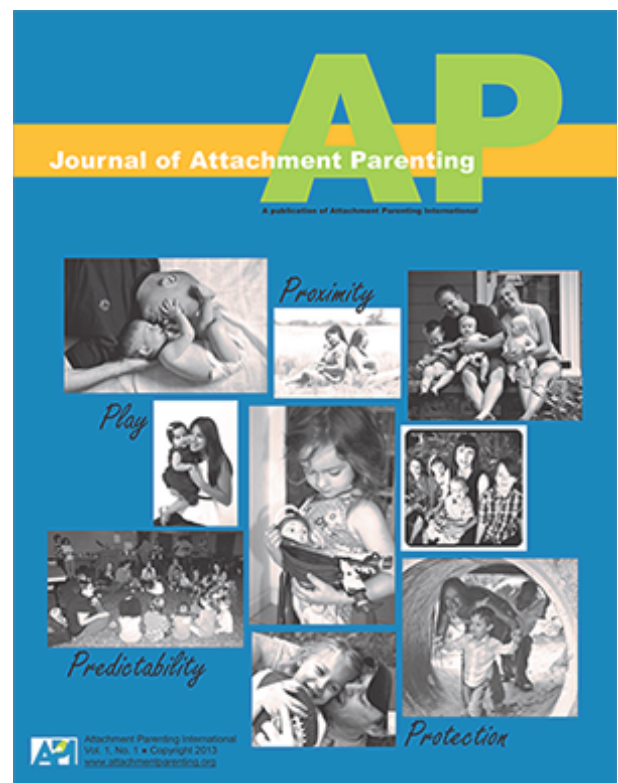
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- [Linda Folden Palmer, DC, author of \*The Baby Bond\*](#)
- [Peter Ernest Haiman, PhD, parent educator and family court specialist](#)

## About the API Abstract Format

The studies presented are in the form of abstracts with full citations provided to allow for quick, highlighted reading and easy access to the full reference for further information about a particular study.

Our formatting includes the following considerations:

- API's intent in presenting research using the API Abstract Format is to significantly preserve the authors' work and context while presenting common summary elements of each paper in a standard, accessible format. In some cases, we have edited for brevity, but our goal is a faithful summary presentation of key points.
- We have specifically omitted detailed discussions of statistical analyses and results for the sake of accessibility and brevity.
- Each paper has its own references that we encourage readers to review for a broader view of the topic.
- Research designs range widely and differ by field of study. We have attempted to identify the design that best summarizes and characterizes the paper being presented.



## Search Goals

In searching for the articles we chose to present in this issue, our criteria reflected our desire to:

- Provide a wide but not exhaustive variety of current work relevant to API's Eight Principles of Parenting
- Include approximately five papers per Principle to provide a sample of the current research related to the Principles
- Provide citations of all papers considered but not selected for presentation so that our readers have a sense of our process and can pursue their own exploration

- Present a broad range of research representative of demographic and design diversity that span:
  - Child ages
  - Caregivers
  - Geographic locations, including cross-cultural and international
  - Sample and population characteristics such as clinical, community, and at-risk
  - Assessment settings such as home, school, and lab
  - Types of assessments such as self-report, other report, and observational
  - Type of study/analysis such as experimental, randomized, controlled trials; non-experimental studies; survey and correlational studies; and literature reviews (descriptive, systematic, meta-analyses)

## Inclusion Criteria

The papers that we present met the following criteria:

- Publish date between 2010 and 2013
- Full paper is available and accessible for review using research databases
- Directly relevant to one or more of API's Eight Principles of Parenting
- Research is primary or a review of published studies
- The paper was published in a high-quality, peer-reviewed journal
- Specific search criteria and terms vary for each Principle with an aim to capture work that relates to the essence of the Principle

## Exclusion Criteria

Papers were excluded from this issue if they met the following criteria:

- Publish dates prior to 2010
- Papers not fully accessible for review with research databases
- Papers not directly related to any of API's Eight Principles of Parenting
- Books, articles, theses, or dissertations
- Papers that were not peer-reviewed or were published by an unknown or non-reputable source
- Papers that did not meet the search criteria specified for an individual Principle

**Journal Purpose:** Conceived as a component of Attachment Parenting International's mission to provide research-based information to anyone engaged in the education, care or support of parents, families or children, the Journal is envisioned as an annual survey and compilation of current, high-quality literature related to API's Mission and Eight Principles of Parenting. API hopes that the Journal inspires further research that increasingly incorporates and embraces cross-disciplinary topics and variables related to parenting and parenting support.

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API's Mission: To educate and support all parents in raising secure, joyful, and empathic children in order to strengthen families and create a more compassionate world. For more on API's perspective on parenting, please visit the API website, [www.attachmentparenting.org](http://www.attachmentparenting.org).

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## Prepare for Pregnancy, Birth, and Parenting

It's intuitive that preparation for anything is generally beneficial, and this is certainly true for parenting. Since all parents are learning on the job, multiple opportunities and stages arise to help parents prepare for smooth transitions into or through new or emerging situations.

As presented here, integrated prenatal care provided significant benefits for highly stressed mothers in particular. Childbirth education was shown to promote partner involvement, and high quality partner support is shown to be beneficial for mother and infant well-being. Parenting education demonstrated a wide benefit no matter which of the available formats was provided. Parents experiencing behavioral challenges with their children received a greater benefit from in-person classes over more passive learning experiences.

## Does Antenatal Education Affect Labour and Birth? A Structured Review of the Literature

[\*Ferguson, S., Davis, D., & Browne, J. \(2012\). Does antenatal education affect labour and birth? A structured review of the literature, Women and Birth, 26\(1\), e5–e8\*](#)

Childbirth classes encouraged partner involvement, less anxiety, and less false labor but led to more labor interventions such as induction and epidural use.

Sample, Objective, Study Design

### Sample

- N: 10 articles (of 3286 identified) originating from Spain, Sweden, Canada, Australia, Iran, UK, Thailand and the United States
- Search Method: Ovid Medline, CINAHL, Cochrane, and Web of Knowledge databases were used to identify appropriate research articles published in English from 2000 to 2012, using relevant terms in a

variety of combinations

- Inclusion Criteria: Relevancy for labor and birthing outcomes

## Objective

1. To determine the effect of antenatal education on labor and birth, particularly normal birth

**Design**—Systematic literature review

## Findings

1. The labor and birthing effects on women attending antenatal education may include less false labor admissions, more partner involvement, and less anxiety but more labor interventions.
2. Several studies found increased labor and birth interventions such as induction of labor and epidural use.
3. There is contradictory evidence on the effect of antenatal education on mode of birth.

# Effective Intervention Programming: Improving Maternal Adjustment Through Parent Education

[Farris, J. R., Bert, S. S. C., Nicholson, J. S., Glass, K., & Borkowski, J. G. \(2012\). Effective Intervention Programming: Improving Maternal Adjustment Through Parent Education. Administration and Policy in Mental Health and Mental Health Services Research, 40\(3\), 1-13](#)

**Parent education delivered through in-person and web-based classes was helpful for mothers of toddlers, whether or not they reported behavior problems.**

Sample, Hypothesis, Variables Measured, Study Design

## Sample

- N: 99
- Subject Ages: 2 to 3 years
- Location: United States, a suburban area in the Midwestern region
- SES: Overall, these demographics indicated that the present sample represented a low-risk group of mothers and their toddlers
- Eligibility: Mother had at least one child between the ages of 2 and 3 years
- Additional:
  - On average, participants were 30.74 years of age
  - 81.6% European-American, 10.7% African-American, 4.9% Asian-American, 4.1% Latina (numbers add to more than 100% because some participants were multiracial)
  - 71.4% married and 93.8% reported that their target child's father was part of his/her life

## Hypotheses

1. The intervention, consisting of 12 face-to-face parent education sessions in a university setting or online sessions combined with booklets, would improve maternal socioemotional well-being, but improvements

would be most substantial when the booklet was supplemented with face-to-face or web-based components.

2. Effects would be at least partially dependent on the mothers' perceptions of their toddler's behavior problems.

### **Variables Measured, Instruments Used**

- Maternal socioemotional adjustment - The Symptoms Checklist-90-R (SCL-90-R)
- Children's behavior problems - the Brief Infant Toddler Social and Emotional Assessment (BITSEA; Briggs-Gowan, et al. 2004)

### **Design—RCT**

### **Findings**

1. All levels of intervention were associated with increases in maternal well-being for participants with typically developing children.
2. Mothers of toddlers with behavior problems, however, did not benefit from receiving only the booklet but significantly benefitted from receiving either the face-to-face or web-based interventions.

### **Limitations**

- Maternal reports were used as the sole source of mothers' and toddlers' adjustment.
- Did not include assessments of actual parenting behaviors or other potential mediational variables (e.g., parental involvement with pro-social others or supportive activities; Burstein, et al. 2006)
- The limited sample size restricted statistical power, and therefore there was no control for the effects of all possible factors (e.g., race, gender of child, rather involvement) that may have been indirectly related to socioemotional adjustment and parenting.
- Use of a single facilitator for in-person groups and no formal record of fidelity checks

## **Effects of Group Prenatal Care on Psychosocial Risk in Pregnancy: Results from a Randomised Controlled Trial**

[Ickovics, J. R., Reed, E., Magriples, U., Westdahl, C., Rising, S. S., & Kershaw, T. S. \(2011\). Effects of group prenatal care on psychosocial risk in pregnancy: Results from a randomised controlled trial. \*Psychology and Health\*, 26\(2\), 235-250.](#)

**Group prenatal care was helpful in increasing self-esteem while decreasing social conflict and depression among at-risk women.**

Sample, Hypothesis, Variables Measured, Study Design

### **Sample**

- N: 1,047

- Subject Ages: Mothers 14–25 years
- Location: United States, two public hospitals: one in New Haven, Connecticut, the other in Atlanta, Georgia
- SES: Not available
- Eligibility: Teen and young pregnant women
- Additional:
  - 80% African American, 13% Latina, 6% White, 1% mixed or other race/ethnicity
  - 38% had completed high school (or graduate equivalent degree), 36% were still in high school, 26% had dropped out
  - 32% were currently employed; the remainder received public assistance (22%) or economic support from the baby's father (25%) or family members (16%)
  - All patients had public (e.g. Medicaid) or hospital assistance for complete prenatal care coverage
  - 48% were nulliparous

## Hypotheses

1. CenteringPregnancy Plus (CP+), a bundled intervention designed to reduce negative birth outcomes, decrease sexual risk, and improve psychosocial outcomes within a model of group prenatal care, will result in increased self-esteem and social support as well as decreased stress, social conflict, and depression.
2. The intervention will have an even greater effect for those at highest risk of adverse outcomes: younger age, African Americans, and those highest in stress.

## Variables Measured, Instruments Used

- Stress - the Perceived Stress Scale (PSS)
- Self esteem - the Rosenberg Self Esteem Scale
- Social support - seven items of the social support subscale of the Social Relationship Scale
- Social conflict - seven items of the social conflict subscale of the Social Relationship Scale
- Depression - affect-only component of the Center for Epidemiological Studies Depression Scale
- Demographic and behavioral characteristics

## Design—RCT

## Findings

1. No significant differences in psychosocial function using intention-to-treat models; yet, women in the top tertile of psychosocial stress at study entry did benefit from integrated group care.
2. High-stress women randomly assigned to CenteringPregnancy Plus (CP+) reported significantly increased self-esteem, decreased stress, and decreased social conflict in the third trimester of pregnancy. Social conflict and depression were significantly lower one year postpartum. CP+ improved psychosocial outcomes for high-stress women.
3. Most notably, the strongest finding for CP+ women was the reduction in social conflict. This effect is probably attributed to the heavy emphasis in CP+ on developing effective communication and negotiation skills.

## Limitations

- Overall effects of the intervention were not found using intention-to-treat analysis, though important subgroup



differences were identified. In terms of the potency of the intervention, it may be necessary to strengthen the psychosocial components of CP+ in order to improve psychosocial functioning for everyone and not just those with high initial levels of stress.

- High-risk sample: Sample represents a relatively restricted group of young, ethnic minority women of low socioeconomic status who attend urban hospital clinics for prenatal care. This is a group at highest risk of adverse perinatal and psychosocial outcomes and therefore may be most in need of substantive clinical intervention to reduce risk.
- Replication with diverse patient populations and within diverse clinical settings is essential to ensure reliability, generalizability, and clinical effectiveness.

## Perceived Partner Support in Pregnancy Predicts Lower Maternal and Infant Distress

[Stapleton, L. R. T., Schetter, C. D., Westling, E., Rini, C., Glynn, L. M., Hobel, C. J., & Sandman, C. A. \(2012\). Perceived partner support in pregnancy predicts lower maternal and infant distress. \*Journal of Family Psychology\*, 26\(3\), 453-463.](#)

**Women who received more support from their partners during pregnancy experienced less distress postpartum and reported that their infants were happier, too.**

Sample, Hypothesis, Variables Measured, Study Design

### Sample

- N: 272
- Subject Ages: Mean maternal age was 30 years
- Location: United States, prenatal clinics affiliated with two large urban medical centers
- SES: Diverse populations in terms of maternal education, income, and ethnicity/race
- Eligibility: Women who reported being in an intimate relationship with a partner at T1, were pregnant, at least 18 years of age, at 18 weeks singleton gestation or less at enrollment, and able to be interviewed in English
- Additional:
  - 79% of the current sample was married at T1, and all but three reported their partner was the baby's father
  - 53% non-Hispanic White, 21% Latina, 1% African American, 10% Asian American
  - Distribution of annual household income was 16% under \$30,000, 27% from \$30,000-60,000, 24% from \$60,000-90,000, and 33% over \$90,000 (mean household size 2.9 persons)
  - 12% held a high school diploma or less education; 36% held a technical degree, certificate, associate's degree, or attended some college; 52% held a bachelor's degree or higher
  - 58% having a first birth
  - Infants were born on average at 39.0 weeks gestation
  - 50% of the infants were male

### Hypotheses

1. Maternal interpersonal security and relationship satisfaction would covary inversely with prenatal maternal emotional distress and positively influence perceptions of partner support, consistent with prior

research (Rini et al., 2006).

2. Higher ratings of prenatal partner support would predict lower maternal postpartum emotional distress, as indicated by symptoms of depression and anxiety when controlling for prenatal symptoms.
3. Partner support would mediate associations of relationship satisfaction and interpersonal security with postpartum outcomes.
4. Prenatal and postpartum maternal emotional distress would be associated with more distressed infant temperament.
5. Also tested was a set of hypotheses regarding indirect effects of support via reductions in maternal emotional distress based on past research (Davis et al., 2007) and direct, inverse effects of partner support on infant temperament.

### **Variables Measured, Instruments Used**

- Maternal interpersonal security (T1) -
  - a version of the Adult Attachment Scale (AAS; Collins & Read, 1990) that contained three subscales (five items each): comfort with closeness, comfort depending on others, and anxiety about being rejected by others
  - the Network Orientation Scale
- Relationship satisfaction (T1) - the Marital Adjustment Test (MAT; Locke & Wallace, 1959)
- Partner support (T2) -
  - the Social Support Effectiveness (SSE) interview
  - the Pregnancy-Specific Support Needs questionnaire created by author based on prior research (Collins et al., 1993)
- Maternal emotional distress (T1, P1) -
  - the State-Trait Anxiety Inventory (STAI; Spielberger, 1983)
  - the Center for Epidemiological Studies Depression Scale (CES-D; Santor & Coyne, 1997)
- Infant distress to novelty (P1) - modified version of the Infant Behavior Questionnaire (IBQ)

**Design**—Longitudinal, prospective

### **Findings**

1. Mothers who perceived stronger social support from their partners mid-pregnancy had lower emotional distress postpartum after controlling for their distress in early pregnancy, and their infants were reported to be less distressed in response to novelty.
2. Partner support mediated the effects of mothers' interpersonal security and relationship satisfaction on maternal and infant outcomes.
3. A high-quality, supportive partner relationship during pregnancy may contribute to improved maternal and infant well-being postpartum, indicating a potential role for partner relationships in mental health interventions, with possible benefits for infants as well.

### **Limitations**

- Self report: Future investigations may include data from both partners and additional temperament measures.
- Depression and anxiety measures were not diagnostic tools.

# Prepare for Pregnancy, Birth and Parenting

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## Feed with Love and Respect

**Much of the research related to feeding tended to focus on infancy, and much of that focused on the most vulnerable groups most likely to experience challenges in attaining and maintaining adequate nourishment for survival and growth.**

**Though the research related to feeding normally developing children is limited, it was clear that what API promotes is well-reflected in the feeding literature. Indeed, one of the papers presented not only links parenting and feeding but also places the entire feeding relationship inside the overall parent-child relationship. Papers also examined relationships between parenting, emotional eating, obesity and attachment quality. Almost every study noted a dearth of research in the area of feeding and called for more work to be done.**

# Breastfeeding and Its Relation to Maternal Sensitivity and Infant Attachment

[Tharner, A., Luijk, M. P., Raat, H., IJzendoorn, M. H., Bakermans-Kranenburg, M. J., Moll, H. A., ... & Tiemeier, H. \(2012\). Breastfeeding and Its Relation to Maternal Sensitivity and Infant Attachment. \*Journal of Developmental & Behavioral Pediatrics\*, 33\(5\), 396-404.](#)

**Breastfeeding for longer was associated with more maternal sensitivity, more attachment security, and less attachment disorganization, but bottle-feeding did not necessarily harm the mother-infant relationship.**

Sample, Objective, Variables Measured, Study Design

## Sample

- N: 675
- Subject Ages: Children 2 to 6 months old at T1, mean maternal age at intake was 32 years
- Location: Netherlands, Rotterdam
- SES: Not available
- Eligibility: Children born between February 2003 and August 2005 with two parents and four grandparents born in the Netherlands
- Additional:
  - White Dutch
  - 49.2% girls
  - 63.8% of the children were born with spontaneous deliveries
  - Average birth weight was 3517 g, 3.7% of children had a low birth weight (2,500 g or less)
  - Mean five-minute Apgar score was 9.6, and only 0.9% had a score at or below 7, which is considered pathological
  - Educational level was generally high - 35.7% of the mothers had completed education beyond the bachelor's degree

## Objectives

1. Investigation into whether breastfeeding duration during the first 6 months is associated with maternal sensitive responsiveness, attachment security and attachment disorganization in a large prospective birth cohort.
2. Examined the potential mediating or moderating roles of maternal sensitive responsiveness and maternal oxytocin receptor genotype.

## Variables Measured, Instruments Used

- Breastfeeding -
  - initiation data from delivery reports
  - continuation data from postal questionnaires at 2 and 6 months after birth
- Maternal sensitive responsiveness - observed using Ainsworth's rating scales
- Attachment security and disorganization - the Strange Situation Procedure
- OXTR Genotype - mothers were genotyped for polymorphisms in the oxytocin receptor gene, OXTR

**Design**—Cohort, prospective**Findings**

1. Longer duration of breastfeeding was associated with more maternal sensitive responsiveness, more attachment security and less attachment disorganization.
2. Longer duration of breastfeeding was not related to the risk of insecure-avoidant or insecure-resistant versus secure attachment classification but was predictive of a lower risk of disorganized versus secure attachment classification.
3. Maternal sensitive responsiveness did not mediate the associations.
4. Maternal oxytocin receptor genotype was not a significant moderator.
5. Breastfeeding initiation: About 10% of the mothers never initiated breastfeeding, about 22% started breastfeeding but stopped before the child was 2 months old, 36% continued beyond the second month but stopped before the child was 6 months old and 31% of the participating mothers breastfed their child for at least 6 months.
6. When the infant was 2 months old, 35% of the mothers were bottle-feeding the child, 18% were combining bottle-feeding and breastfeeding, and 47% exclusively breastfed.
7. Attachment classification distributions: 49.8% secure, 13.2% insecure-avoidant, 14.7% insecure-resistant and 22.4% disorganized.

**Limitations**

- Inability to make inferences about the causality of the associations of breastfeeding duration with maternal sensitive responsiveness, attachment security and attachment disorganization found in this study. For example, it may be that more sensitive women are more likely to breastfeed their child (and to continue breastfeeding to an older age) than less sensitive women. It has also been suggested that maternal personality characteristics account for the association between breastfeeding duration and maternal sensitivity, affecting both the decision to breastfeed (and continue to breastfeed) and maternal behavior toward the child. The continuation of breastfeeding may also be influenced by external factors, such as policy regarding maternity leave.
- This study population was relatively homogeneous: Only white Dutch women and children were eligible for this study, socioeconomic status (SES) was relatively high and the level of other risk factors, such as parental psychopathology, was low. This reduces the effect of potential confounders but may limit the generalizability of our results to Western low-risk populations.
- Even in dyads who never breastfed, maternal sensitive responsiveness was high and attachment disorganization scores were well below the clinical cutoff of 5. Categorical analysis revealed no differences in attachment classification. These results concur with earlier findings that although breastfeeding predicted better interactions between mothers and their 1-year-olds, bottle-feeding did not harm the infant-mother relationship.
- It cannot be concluded that there was a mediating role of maternal sensitivity between breastfeeding duration and attachment security from the findings, because maternal sensitivity was not related to attachment security in this study. This lack of an association between maternal sensitive responsiveness and attachment security was unexpected but not inconsistent with earlier findings. The somewhat unusual setting of the assessments used in this study (infant sitting on the mother's lap) might partly explain the lack of an association.

# Parenting Styles, Parental Response to Child Emotion, and Family Emotional Responsiveness are Related to Child Emotional Eating

*Topham, C. L., Hubbs-Tait, L., Rutledge, J. M., Page, M. C., Kennedy, T. S., Shriver, L. H., & Harrist, A. W. (2011). Parenting styles, parental response to child emotion, and family emotional responsiveness are related to child emotional eating. Appetite, 56(2), 261-264.*

**Child emotional eating is correlated with minimizing and non-reasoning, punitive parental responses, which are in line with authoritarian and permissive parenting styles but not authoritative styles.**

Sample, Hypothesis, Variables Measured, Study Design

## Sample

- N: 450
- Subject Ages: Children mean age of 7 years, female caregivers mean age of 34.3 years
- Location: Not available
- SES: Not available
- Additional:
  - 79.4% of the mothers were married
  - 77.6% of European American descent
  - 93.3% had completed secondary education, 35.4% had completed a college degree
  - 96% of the female caregivers were biological mothers

## Hypotheses

1. Authoritative parenting, family affective involvement and family affective responsiveness would be negatively related to child emotional eating.
2. Authoritarian parenting, permissive parenting and minimizing and punitive responses to child emotion would be positively related to child emotional eating.

## Variables Measured, Instruments Used

- Emotional eating - the Dutch Eating Behavior Questionnaire (DEBQ) utilizing the questionnaire format appropriate for young children
- Parenting styles - the Parenting Styles and Dimensions Questionnaire
- Minimizing and punitive responses to child emotion - the punitive and minimizing subscales of the Coping with Children's Negative Emotions Scale
- Family affective responsiveness and involvement - two subscales from the McMasters Family Assessment Device

**Design**—Cross sectional

## Findings

1. Child emotional eating was significantly negatively correlated with authoritative parenting style and family affective responsiveness, and significantly positively correlated with minimizing response.
2. Minimizing and punitive responses were significantly negatively correlated with affective responsiveness and involvement and with authoritative parenting style, and these response types were positively correlated with authoritarian and permissive parenting styles.
3. Affective responsiveness and involvement were significantly related to authoritative parenting style and significantly negatively related to authoritarian and permissive parenting styles.
4. Warmth and support and reasoning/induction were significantly correlated with child emotional eating but autonomy-granting was not.
5. Non-reasoning, punitive responses were related to child emotional eating but physical coercion and verbal hostility were not.

## Limitations

- Lack of father data and a cross-sectional design prevents the ability to draw conclusions or directions from the data.
- The DEBQ has not had significant use with young children and is a self-report measure; therefore, caution should be used when interpreting the results.

# Quality of Early Maternal-Child Relationship and Risk of Adolescent Obesity

[Anderson, S. E., Gooze, R. A., Lemeshow, S., & Whitaker, R. C. \(2012\). Quality of early maternal-child relationship and risk of adolescent obesity. \*Pediatrics\*, 129\(1\), 132-140.](#)

**Insecure attachment with low maternal sensitivity at ages 2 and 3 years was associated with teenage obesity.**

Sample, Hypothesis, Variables Measured, Study Design

## Sample

- N: 97
- Subject Ages: Birth to 12.0 and 15.9 years
- Location: United States, nine states
- SES: Diverse, based on the NICHD study of Early Child Care and Youth Development (SECCYD)
- Eligibility: Children included in the NICHD study
- Additional:
  - Exclusion criteria - maternal age less than 18, non-singleton birth, lack of English fluency, post-birth hospitalization of more than seven days or plans for adoption

## Hypothesis

1. Obesity in adolescents is related to the quality of the early maternal-child relationship.



## Variables Measured, Instruments Used

- Adolescent obesity - BMI
- Early maternal-child relationship quality - combined score from:
  - Direct observation at 15, 24, and 36 months
  - Attachment security - the Strange Situation
- Additional variables: Mother's educational attainment, racial ethnic group, birth weights, household size and income at 24 months, mother's weight and height when child was 15 years

**Design**—Longitudinal

## Findings

1. Low maternal sensitivity at 15, 24 and 36 months was associated with increased odds of adolescent obesity.
2. Insecure attachment was associated with increased odds of adolescent obesity at 24 months but not at 15 months and 36 months.
3. At 24 and 36 months, the combination of low maternal sensitivity and insecure attachment was associated with greater odds of adolescent obesity than was either on their own.

## Limitations

- Causality cannot be determined by observational studies.
- Measure of maternal obesity was only assessed when the children were teenagers but not when they were younger.
- Cannot exclude the possibility of selection bias

# Responsive Feeding and Child Undernutrition in Low-and Middle-Income Countries

[Bentley, M. E., Wasser, H. M., & Creed-Kanashiro, H. M. \(2011\). Responsive feeding and child undernutrition in low-and middle-income countries. \*The Journal of Nutrition\*, 141\(3\), 502-507.](#)

**Research on responsive feeding is promising, but more research is needed to define child outcomes.**

Sample, Objective, Study Design

## Sample

- N: 21
- Inclusion criteria: Published research papers that studied Responsive Feeding in relation to infants and young children in low- and middle-income countries. Studies included populations of children less than 36 months and were published within the past 10 years in the English language. All articles followed the UNICEF child nutrition framework and had an outcome of child growth, dietary intake, illness or eating behavior and included a measure of responsive feeding.

## Objective

1. To present the evolution of Responsive Feeding (RF) research in relation to infants and young children (IYC) in low- and middle-income countries (LAMI). This paper serves to compile the research in support of responsive feeding contributing to the growth of IYC in LAMI countries.

**Design**—Systematic literature review

## Findings

1. The research already done on responsive feeding (RF) is promising but extremely weak due to wide variety in study design and lack of consistency among definitions of RF.
2. None of the studies isolated for effects of RF and therefore cannot be utilized to reach conclusions on the effects of responsive feeding to child outcomes. Longitudinal studies and studies that isolate for the effects of RF are needed.

## Limitations

- This paper is limited in its ability to generalize due to the vast variety of definitions utilized in the individual studies of RF.
- The measures and variables looked at varied widely from study to study, making it difficult to determine any cross-study comparisons.

# Responsive Feeding is Embedded in a Theoretical Framework of Responsive Parenting

[\*Black, M. M., & Aboud, F. E. \(2011\). Responsive feeding is embedded in a theoretical framework of responsive parenting. The Journal of Nutrition, 141\(3\), 490-494.\*](#)

**While more research is needed, the benefits of responsive feeding on child nutrition and growth are expected to be as great as responsive parenting is to child outcome.**

Objective, Study Design

## Objective

1. To examine evidence for the practice and developmental benefits of responsive parenting with a view to providing a theoretical basis for responsive feeding.

**Design**—Descriptive literature review

## Findings

1. Children benefit from responsive parenting and are likely to benefit from a responsive feeding environment,

where their internal signals of hunger and satiety are recognized and met with prompt, emotionally supportive, contingent and developmentally appropriate responses.

2. The short-term benefits of responsive feeding are expected to be children's increasing attention to internal signals of hunger and satiety and to eating in a competent and responsible manner.
3. The long-term benefits of responsive parenting are enhanced psychosocial, cognitive and language competence, and the long-term benefits of responsive feeding are likely to include healthy nutrition and growth.
4. Research is needed to examine the short- and long-term impact of responsive feeding on children's growth and development.

## Feed with Love and Respect Additional References

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# Respond with Sensitivity

Caregiver sensitive responsiveness is considered a central characteristic in healthy parenting, parent-child relationships, and child development. Responsiveness itself is a component of sensitivity, and attachment literature is interested in the patterns of caregiver sensitivity and responsiveness that meet or fail to meet a child's need for a secure base.

Though sensitivity is generally associated with observational assessments of mothers and infants, researchers explore a variety of settings and caregivers. Evidence continues to demonstrate that sensitivity can be successfully promoted through a variety of caring behaviors that benefit children and families in nearly every circumstance. Because caregiver sensitivity is impacted by stress, emotions and even breastfeeding, we gain more insight about the influences on and the support of parental sensitivity from this research.

## Breastfeeding, Brain Activation to Own Infant Cry, and Maternal Sensitivity

[Kim, P., Feldman, R., Mayes, L. C., Eicher, V., Thompson, N., Leckman, J. F., & Swain, J. E. \(2011\). Breastfeeding, brain activation to own infant cry, and maternal sensitivity. \*Journal of Child Psychology and Psychiatry\*, 52\(8\), 907-915.](#)

**Breastfeeding changed the mother's brain, activating brain regions associated with empathy, greater maternal sensitivity, and mother-infant bonding.**

Sample, Hypothesis, Variables Measured, Study Design

### Sample

- N: 17
- Subject Ages: Infants 2 to 4 weeks postpartum
- Location: United States, New Haven, Connecticut
- SES: Not available
- Eligibility: Biological mothers with full-term, healthy infants
- Additional: All mothers were Caucasian and married or cohabiting

### Hypotheses

1. Brain regions related to maternal behaviors including the hypothalamus, midbrain, amygdala, striatum, cingulate cortex and prefrontal cortex would show greater activation in breastfeeding mothers relative to formula-feeding mothers in response to own baby-cry.
2. Breastfeeding mothers would show greater levels of maternal sensitivity at three months postpartum.
3. The level of brain activity in response to own baby-cry at the first month postpartum would be

associated with maternal sensitivity in dyadic interactions videotaped at three to four months postpartum.

### **Variables Measured, Instruments Used**

- Maternal brain activation in response to her own baby's cry versus control baby-cry one month postpartum - fMRI scanning
- Maternal sensitivity - videotaped in the home three to four months postpartum and coded with the Coding Interactive Behavior (CIB) Manual (Feldman, 1998)

### **Design—Descriptive**

### **Findings**

1. In the first postpartum month, breastfeeding mothers showed greater activations in the superior frontal gyrus, insula, precuneus, striatum and amygdala while listening to their own baby-cry as compared to formula-feeding mothers.
2. For both breastfeeding and formula-feeding mothers, greater activations in the right superior frontal gyrus and amygdala were associated with higher maternal sensitivity at three to four months postpartum.
3. Results suggest links between breastfeeding and greater response to infant cues in brain regions implicated in maternal-infant bonding and empathy during the early postpartum. Such brain activations may facilitate greater maternal sensitivity as infants enter their social world.
4. First evidence using brain imaging that breastfeeding at the first month postpartum has a significant link to both enhanced maternal brain responses to infant stimuli and maternal behaviors.

### **Limitations**

- Small sample
- Although infant cries from the two groups and the control infant cry were rated as having a similar level of emotional intensity by independent raters, because mothers selected samples of their own babies' cries by themselves, it is possible that one group of mothers may have selected cry samples that they perceived as being more emotionally salient.
- No measure for maternal sensitivity at two to four weeks postpartum when the brain responses to infant stimuli were assessed
- Because factors related to a mother's decision to breastfeed may also be associated with these parental outcomes, future research is needed to understand whether breastfeeding moderates the relationship between a mother's decision to breastfeed and neurological responses to her infant with pre- and post-intervention studies.
- More research is also required to examine whether the increase in brain response related to breastfeeding and the significant associations between early maternal brain responses and later parenting behaviors influence the infant's cognitive, social and emotional development.

# Predictors of Maternal Sensitivity to Infant Distress

[Leerkes, E. M. \(2010\). Predictors of maternal sensitivity to infant distress. \*Parenting: Science and Practice\*, 10\(3\), 219-239.](#)

**A mother's emotional goals predicted her sensitivity to infant distress more so than her own emotional reaction. In addition, her prenatal ability to detect an unfamiliar infant's distress was associated with more maternal sensitivity with her own infant.**

Sample, Hypothesis, Variables Measured, Study Design

## Sample

- N: 101
- Subject Ages: Mothers ages 15-37, mean maternal age 27.79 years
- Location: United States
- SES: \$6,000-\$190,000 annual income, mean \$65,000
- Eligibility: Primiparous mothers
- Additional:
  - Education ranged from less than a high school diploma to graduate degrees
  - 72% European American, 25% African American, 2% Asian American, 1% Latin American
  - 11 mothers were single mothers with no father involvement

## Hypotheses

1. Maternal detection of infant distress, empathy, infant-oriented emotion goals and emotion efficacy will correlate positively with maternal sensitivity, whereas negative maternal emotions will correlate negatively with maternal sensitivity.
2. Observed infant distress will interact with mothers' emotional and cognitive responses to infant distress to predict sensitivity during the arousing tasks.

## Variables Measured, Instruments Used

- Depressive symptoms, prenatal and postnatal - the Epidemiologic Studies-Depression Scale (CES-D; Radloff, 1977)
- Distress detection - interviews
- Mother emotions - interview
- Infant-oriented emotion goals - interview
- Efficacy - questionnaire was modeled after Teti & Gelfand's (1991) Maternal Self-Efficacy Scale, which has predicted sensitive maternal behavior in a number of studies (Hess, Teti & Hussey-Gardner, 2004; Teti & Gelfand)
- Behavioral coding -
  - the Observer 5.0 (Noldus Information Technology, Wageningen, Netherlands)
  - emotion-eliciting tasks adapted from Braungart-Rieker & Stifter (1996)
  - maternal sensitivity: observed

## Design—Cross-sectional

### Findings

1. Mothers' emotional and cognitive responses to infant distress predicted significant variation in maternal sensitivity to distress independently of one another and in conjunction with observed infant distress.
2. Mothers' emotional goals were the most consistent predictors of sensitivity to distress, followed by their emotional reactions to distress.
3. Mothers' prenatal negative emotions in response to crying were related to sensitivity to distress cues.
4. Both prenatal and postnatal negative emotions moderated the link between observed infant distress and total sensitivity.
5. Postnatal empathy, but not prenatal empathy, was positively associated with sensitivity to distress.
6. Accurate detection of the unfamiliar infants' distress during the prenatal period was positively related to sensitivity to distress.
7. Efficacy was the only predictor that was unrelated to sensitivity as a main effect or in conjunction with infant temperament.

### Limitations

- The majority of the participants in this study were high-functioning, non-minority adults and all were first-time mothers.
- The duration of infant distress was relatively brief, and some infants did not become distressed.
- Due to small sample size, infant-oriented and mother-oriented goals were combined even though they did not correlate significantly.

# The Relation Between Early Mother-Infant Skin-to-Skin Contact and Later Maternal Sensitivity in South African Mothers of Low Birth Weight Infants

[Bigelow, A. E., Littlejohn, M., Bergman, N., & McDonald, C. \(2010\). The relation between early mother-infant skin-to-skin contact and later maternal sensitivity in South African mothers of low birth weight infants. \*Infant Mental Health Journal\*, 31\(3\), 358-377.](#)

**Early mother-infant skin-to-skin contact predicted later maternal sensitivity.**

Sample, Hypothesis, Variables Measured, Study Design

### Sample

- N: 34 (12 mother–infant dyads)
- Subject Ages: Infants under 1 year
- Location: South Africa, Cape Town

- SES: Not available
- Eligibility: Infants born with low birth weight (1,385-2,199 g) in a large, public maternity hospital

## Hypotheses

1. Early mother-infant skin-to-skin contact (SSC) would correlate with subsequent scores of maternal sensitivity.
2. Early mother-infant SSC would be an independent predictor of later maternal sensitivity scores on these measures.
3. Examination of the amount of mother-infant SSC over the infants' early life to determine the consistency of the SSC infants received.

## Variables Measured, Instruments Used

- Amounts of SSC - hospital records and home interviews
- Maternal sensitivity - videotapes of mother-infant interactions in the home, scored on the:
  - Maternal Behavior Q-Sort (Pederson, Moran & Bento, 1999)
  - Maternal Behavior subscale of the Nursing Child Assessment Teaching Scale (Sumner & Spietz, 1994)

## Design—RCT

## Findings

1. Amount of (skin-to-skin contact) SSC in infants' first 24 hours correlated with amount of SSC through the first month.
2. Amount of SSC in infants' first 24 hours independently accounted for maternal sensitivity on both measures, indicating that early mother-infant SSC predicted subsequent maternal sensitivity.

## Limitations

- Small sample size: The number of dyads followed was small, and the age range of the infants at the time of the follow-up visit was large. The significant results obtained with the small sample suggest that the findings are robust; yet, whether early mother-infant SSC would be associated with later maternal sensitivity in a larger sample or with a more restricted age range of infants remains to be tested.
- Maternal report: With the exception of the amount of SSC documented in hospital records during the infants' first few days of life, the amount of SSC the mothers provided was collected from mothers' reports at the time of the follow-up visits; thus, these amounts were subject to subjective recall. However, mothers' reports of the SSC provided during the infants' first few days corroborated with the amount reported in hospital records, suggesting that the mothers' memories were accurate.
- Low generalizability: The dyads were from a high-risk population, which limits how the results can be generalized to other populations.



# Unequal in Opportunity, Equal in Process: Parental Sensitivity Promotes Positive Child Development in Ethnic Minority Families

[\*Mesman, J., van IJzendoorn, M. H., & Bakermans-Kranenburg, M. J. \(2012\). Unequal in opportunity, equal in process: Parental sensitivity promotes positive child development in ethnic minority families. Child Development Perspectives, 6\(3\), 239-250.\*](#)

**While low-income, ethnic-minority families displayed less sensitivity overall to their children, positive father involvement and close mother-father relationships were especially beneficial in the case of maternal risk.**

Sample, Objective, Study Design

## Sample

- N: 39 publications, 34 individual studies
- Locations:
  - United States, 27 studies;
  - Netherlands, six studies;
  - Canada, one study
- Search Method: Web of Science database Search conducted on January 12, 2011, using search terms: (cultur\* OR ethnic\* OR race OR racial OR minority OR minorities OR migrant OR immigrant OR Hispanic OR Latino OR Mexican OR African-American OR Chinese-American OR Asian OR Native American) AND (sensitiv\* OR responsive\* OR contingen\* OR synchron\* OR warmth OR “positive parenting” OR “maternal behavior”) AND (parent\* OR mother OR maternal OR father OR paternal) AND (child\* OR toddler OR preschool\* OR infant OR baby)
- Inclusion Criteria: The sample includes at least one ethnic minority group; the study targeted children zero to five years of age; sensitivity is measured through standardized observations: the sensitivity construct includes at least a measure of appropriate responsiveness; the article reports results on at least one of the following topics: a) comparison of sensitivity means between majority and minority groups; b) association between sensitivity and child outcomes separately for minorities.

## Objective

1. Systematic review of the literature on parental sensitivity and its outcomes in ethnic minority families to discern whether these assumptions are empirically valid

**Design**—Systematic literature review

## Findings

1. Ethnic minority parents display significantly lower levels of sensitivity to their young children than do majority families.
2. The evidence points toward a central role of social and economic stress in sensitivity differences between

majority and minority groups.

3. There is clear evidence for substantial covariation between minority status and low (socioeconomic status) SES in predicting lower parental sensitivity.
4. When controlled for SES, the link between minority status and sensitivity disappears.
5. Paternal sensitivity is related to positive social outcomes in ethnic minorities.
6. There is evidence that positive involvement by fathers and high mother-father relationship quality may buffer against the negative effects of maternal risk.

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## Use Nurturing Touch

Touch in the context of parenting appears to be a sparsely researched topic, which is interesting considering how critical nurturing touch is for a child's growth and development.

Nearly every study noted the lack of research, and two studies are simply observational in nature to identify normative parenting touch and trends over time. Viewing some of these studies together and even in relationship to research related to other Principles provides links to potentially interesting relationships. Mother-infant skin-to-skin contact (SSC) in the first week postpartum reduces mothers' self-reported depressive symptoms and physiological stress. In another study, we see that oxytocin increases in highly affectionate contact and breastfeeding, and though not presented here, breastfeeding is also related to attachment quality, oxytocin, and touch.

Many other questions arise as we consider the exciting possibilities for touch, and we hope that more research might restore and re-establish the importance of this simple yet overlooked aspect of parenting.

## A Longitudinal Investigation of Maternal Touching Across the First 6 Months of Life: Age and Context Effects

[Jean, A. D., Stack, D. M., & Fogel, A. \(2009\). A longitudinal investigation of maternal touching across the first 6 months of life: Age and context effects. Infant Behavior and Development, 32\(3\), 344-349.](#)

As infants grew older, mothers provided less nurturing touch, patting and stroking but more tickling and static touch.

Sample, Objective, Variables Measured, Study Design

## Sample

- N: 12 mothers and their full-term infants (eight male, four female)
- Subject Ages: Birth to 2 years
- Location: United States, a midwestern community
- SES: Middle class
- Eligibility: Not available
- Additional:
  - All mothers were over 21 years, had completed high school diplomas and beyond, and were from intact, middle-class families
  - 11 Caucasian, one African American

## Objective

1. To observe the overall duration of maternal touch and the types of touch employed by mothers across age (1, 3 and 5 1/2 months) and interaction context.

## Variables Measured, Instruments Used

- Maternal touch - the Caregiver Infant Touch Scale

**Design**—Descriptive longitudinal

## Findings

1. Mothers provided diverse tactile stimulation to their infants, varying from passive touch to active and stimulating behaviors.
2. The amount and type of touch that mothers provided changed with the infant's age and the interaction context.
3. Infant's age influenced duration and types of touch mothers utilized.
4. Across age, a decrease in nurturing touch, patting and stroking was observed.
5. As the infants aged, there was an increase in tickling and static touch.

## Limitations

- Small sample size
- Mother-infant interaction was only seen in two contexts and for five-minute periods.

# Effect of Mother/Infant Skin-to-Skin Contact on Postpartum Depressive Symptoms and Maternal Physiological Stress

[Bigelow, A., Power, M., MacLellan-Peters, J., Alex, M., & McDonald, C. \(2012\). Effect of Mother/Infant Skin-to-Skin Contact on Postpartum Depressive Symptoms and Maternal Physiological Stress. Journal of Obstetric, Gynecologic, & Neonatal Nursing, 41\(3\), 369-382](#)

**Skin-to-skin contact lessened the mother's stress and postpartum depression symptoms within the first month after childbirth.**

Sample, Hypothesis, Variables Measured, Study Design

## Sample

- N: 90
- Subject Ages: Mean maternal age was 29.4 years
- Location: Canada, perinatal clinics at two hospitals in a rural eastern area
- SES: Not available
- Eligibility: Mothers of full-term infants who had no medical problems, and the mothers who had no immediate postpartum complications
- Additional:
  - 42% with university degree, 39% had some university or postsecondary education, 16% had a high school diploma with no further education, 3% were without a high school diploma
  - 99% white/non-Hispanic
  - 49% first child, 29% had a previous child, 22% had two or more previous children
  - 77% of the mothers chose to initially breastfeed their infant

## Hypotheses

1. Mothers who engaged in skin-to-skin contact with their infants would have fewer depressive symptoms and have lower salivary cortisol than mothers who did not engage in skin-to-skin contact.

## Variables Measured, Instruments Used

- Depression -
  - the Edinburgh Postnatal Depression Scale
  - the Center for Epidemiological Studies Depression Scale
- Salivary cortisol - samples taken at infant age of 1 week and 1 month

**Design**—Longitudinal

## Findings

1. Mother/infant skin-to-skin contact lessened the mother's self-reported depressive symptoms and physiological



stress in the first postpartum weeks.

2. At the one-week visit, the mothers in the skin-to-skin contact group scored significantly lower on the depression scales than the control group. This trend continued at the one-month visit, but the difference was smaller.
3. By the two- and three-month visits, there were no differences in the two groups' scores on the depression scales.
4. Mothers in the skin-to-skin contact and control groups did not differ from one another in their salivary cortisol level at either of the test intervals.
5. Individually, the mothers in the skin-to-skin contact group saw a significant reduction in their own salivary cortisol levels between the one-week and one-month tests, indicating that skin-to-skin contact significantly reduced physiological stress in the mothers.

### Limitations

- Mothers were not randomized into control or skin-to-skin groups. Mothers were assigned to groups based on the hospital they delivered in.
- Study participants were self-selected, choosing whether or not to participate in the study at the time of their children's births.
- There were more mothers in the control group than the skin-to-skin group, and there was a greater number of mothers in the skin-to-skin group that did not meet the criteria for inclusion in the skin-to-skin group.
- Mothers in the study were from a homogeneous rural community. This limits the ability to generalize these results to more diverse or high-risk populations.
- There was a difference in maternal age between the control group and the skin-to-skin contact group.
- Skin-to-skin contact was based on mother's report.
- No test of bidirectional influences in the dyad

## Natural Variations in Maternal and Paternal Care are Associated with Systematic Changes in Oxytocin Following Parent-Infant Contact

[Feldman, R., Gordon, L., Schneiderman, L., Weisman, O., & Zagoory-Sharon, O. \(2010\). Natural variations in maternal and paternal care are associated with systematic changes in oxytocin following parent-infant contact. \*Psychoneuroendocrinology\*, 35\(8\), 1133-1141.](#)

**Oxytocin levels rise in both mothers and fathers who provide high levels of affectionate touch but not in parents who provide less nurturing touch.**

Sample, Hypothesis, Variables Measured, Study Design

### Sample

- N: 112 parents: 71 mothers, 41 fathers (not couples)
- Subject Ages: Parents of infants ages 4 to 6 months
- Location: Canada
- SES: Middle class

- Eligibility: Healthy parents and children
- Additional:
  - All parents completed at least 12 years of education
  - Mothers average age 28.7 years, completed 15.7 years of education
  - 81.3% were breastfeeding
  - Fathers average age 29.1 years, completed 15.5 years of education
  - Infants were born full-term, 96.3% were vaginal deliveries, average Apgar scores of 9.4

## Hypotheses

1. There will be no difference in the baseline levels of plasma and salivary oxytocin (OT) in mothers and fathers during the first months of parenting.
2. Mothers who provide high levels of affectionate contact, but not those showing low levels, will show an increase in OT levels following mother-infant contact.
3. Fathers who provide high levels of affectionate contact, but not those showing low levels, will show an increase in OT level following father-infant contact.

## Variables Measured, Instruments Used

- Oxytocin - ELISA kit
- Parent affectionate contact - the Coding of Parent Infant Interactions (Noldus, Netherlands)
- Parent stimulatory contact - the Coding of Parent Infant Interactions (Noldus, Netherlands)

## Design—Correlational

## Findings

1. Mothers and fathers show similar baseline levels of plasma and salivary oxytocin (OT).
2. Plasma and salivary OT are inter-related.
3. OT is individually stable across observations.
4. Maternal and paternal OT is differentially related to affectionate and stimulatory contact.
5. OT increases in high-affectionate contact mothers following mother-infant contact but not in low-affectionate contact mothers.
6. OT increases in high-stimulatory contact fathers following parent-infant contact but not in low-stimulatory contact fathers.

## Limitations

- The results do not imply causal relations, and the links may be accounted for by other variables.
- The medium-size correlation between plasma and salivary OT may point to a shared mechanism underlying the functioning of these two peripheral systems.
- Several studies have not found an OT increase following touch; thus, the conditions under which touch does or does not increase OT need further study.

# The Development of Maternal Touch Across the First Year of Life

[Ferber, S. G., Feldman, R., & Makhoul, I. R. \(2008\). The development of maternal touch across the first year of life. \*Early Human Development\*, 84\(6\), 363-370.](#)

**While maternal touch predicts mother-infant reciprocity, which is linked to positive child cognitive, language, and social-emotional development, the incidence of all forms of nurturing touch decrease through the infant's first year, especially after six months.**

Sample, Hypothesis, Variables Measured, Study Design

## Sample

- N: 131
- Subject Ages: 3, 6, 9 and 12 months
- Location: Israel, northern region
- SES: Middle class
- Eligibility: Healthy mother and infant
- Additional: Urban

## Hypothesis

1. Affectionate touch would be the most growth-promoting form of touch and would have the closest relations to mother-infant reciprocity as compared to all other forms of touch. Reciprocity was selected as an outcome variable due to the reported links between mother-infant reciprocity with the child's cognitive, linguistic and social-emotional outcomes.

## Variables Measured, Instruments Used

- Maternal touch - the Touch Scoring Instrument
- Maternal sensitivity and dyadic reciprocity - the Coding Interactive Behavior System

**Design**—Cross-sectional

## Findings

1. All forms of touch—affectionate, stimulating and instrumental touch—decreased across the first year of life.
2. There was a significant decrease in affectionate and stimulating touch between six and nine months.
3. Results showed that maternal affectionate touch was a significant predictor of dyadic reciprocity; affectionate touch explained unique variance in dyadic reciprocity above and beyond the effects of infant age, gender, birth order or ethnicity.

## Limitations

- This was a cross-sectional study rather than longitudinal; therefore the stability of touch behavior in individual

dyads was not studied or accounted for.

- Convenience sample
- The study is based on observing only one interaction among the dyads and therefore may not be truly representative of dyad reciprocity.
- Procedural differences in carrying out the study for the different age groups may pose some limitations on general conclusions.

# Touch for Socioemotional and Physical Well-Being: A Review

[\*Field, T. \(2010\). Touch for socioemotional and physical well-being: A review. Developmental Review, 30\(4\), 367-383.\*](#)

**Touch is needed for social-emotional and physical development and well-being. In addition, there are therapeutic benefits of massage.**

Sample, Objective, Study Design

## Sample

- N: Not available
- Search Method: Not available
- Inclusion Criteria: Studies published between 2001 and date of publication

## Objectives

1. To review:

- The role of touch in early development, including the effects of touch deprivation and touch aversion and the effects of touch on communication, emotions and personal relationships;
- The physiological and biochemical effects of touch;
- Massage therapy effects on various conditions including, prematurity, pain, attentiveness, depression and immune function;
- Virtual reality touch.

**Design**—Descriptive literature review

## Findings

1. Current research highlights the need for touch for socioemotional and physical development and well-being and the therapeutic benefits of massage.

# Use Nurturing Touch Additional References

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## Sponsors: Baby Bond and NFP



## Ensure Safe Sleep, Physically and Emotionally

Bowlby's ethologically-based attachment theory posited a biological rationale for our reliable fear and anxiety about being alone in the dark. Naturally this fear is heightened in our immobile and defenseless young children.

Current research prompts us to question the pervasive cultural pressure to distort our natural responses to these biological realities.

Three papers simply attempt to understand and describe the current state of "normal" child sleep patterns in different cultures and at different ages. One paper links melatonin to breastmilk, and another looks at father care and sleep patterns.

## Breastfeeding May Improve Nocturnal Sleep and Reduce Infantile Colic: Potential Role of Breast Milk Melatonin

[Engler, A. C., Hadash, A., Shehadeh, N., & Pillar, G. \(2012\). Breastfeeding may improve nocturnal sleep and reduce infantile colic: potential role of breast milk melatonin. European Journal of Pediatrics, 171\(4\), 729-732.](#)

**Exclusively breastfed infants had less colic and fussiness, and slept longer. Melatonin, which promotes sleep, available only in breastmilk, showed a clear relationship to infant sleep patterns.**

Sample, Hypothesis, Variables Measured, Study Design

### **Sample**

- N: 94
- Subject Ages: Infants ages 2 to 4 months
- Location: Not available
- SES: Not available
- Eligibility: Not available
- Additional:
  - Breastfeeding infants: Mean weight 5.36 kg; mean gestational age at birth of 39.2 weeks
  - Formula-fed infants: Mean weight 5.79 kg; mean gestational age at birth of 39.0 weeks

### **Hypotheses**

1. Maternal melatonin passes through milk to the infant, and as a result, the infant will have a better nocturnal sleep, earlier establishment of circadian rhythm and decreased incidents of infantile colic.
2. Melatonin has a relaxing effect on the gastrointestinal system and has a hypnotic effect.

### **Variables Measured, Instruments Used**

- Irritability/potential infantile colic and sleep characteristics - questionnaire
- Melatonin levels in breastmilk and formula - ELISA

### **Design—Descriptive**

### **Findings**

1. Exclusively breastfed infants had lower incidence of colic attacks, less severe levels of irritability and longer durations of sleep.
2. The breastfed infants had more fragmented sleep, but the overall duration of wakefulness at night was similar in both groups.
3. No melatonin was measured in formula. Melatonin showed a clear circadian curve in human milk.
4. There was a significant difference in the weight of formula-fed versus breastfed babies, with breastfed babies being significantly lighter.

### **Limitations**

- Sample is convenience, not random, so possible selection bias.
- Potential psychosocial bias, such as socioeconomic status, the family-unit composition, etc.
- Data based on self-report



# Childhood Sleep Duration and Associated Demographic Characteristics in an English Cohort

[\*Blair, P. S., Humphreys, J. S., Gringras, P., Taheri, S., Scott, N., Emond, A., ... & Fleming, P. J. \(2012\). Childhood sleep duration and associated demographic characteristics in an English cohort. Sleep, 35\(3\), 353-360.\*](#)

More research is needed to identify what is normal when it comes to child sleep. Some of what is known is that children need longer nighttime sleep until about 9 years old. By school age, most children sleep through the night, but children up to 3 1/2 years old continue to wake at least once. Low birth-weight and pre-term infants sleep more. Infants of younger mother sleep more. All infants sleep longer at night, wake multiple times at night, and sleep longer daytime naps than young children who mostly stop taking naps by 5 years old. Girls sleep longer than boys. Children with siblings sleep less.

Sample, Objective, Variables Measured, Study Design

## Sample

- N: 8,500
- Subject Ages: Not available
- Location: England, County of Avon (total population 940,000)
- SES: Not available
- Eligibility: Children born in 1991 and 1992
- Additional: Predominantly White population, urban and rural mix similar to the rest of the United Kingdom

## Objective

1. To examine sleep duration and patterns in a well-characterized, large, unselected cohort of children across early childhood.

## Variables Measured, Instruments Used

- Sleep duration - questionnaire

**Design**—Cohort, prospective longitudinal

## Findings

1. Currently available data do not allow the identification of what constitutes “normal” sleep duration for children at different ages. We have shown, in an unselected birth cohort, striking interindividual and intraindividual variation that may result in mislabeling of children with potential sleep disorders when their sleep is within the normal range. Clinicians and parents will benefit from more accurate estimations of normal ranges of sleep duration and sleep awakening in relationship to family characteristics.

2. There are specific demographic characteristics associated with sleep duration during childhood.
3. Total sleep time decreased from an average of 13.2 hours at 6 months to 9.8 hours at 11 years.
4. Nighttime sleep duration did not begin to decline until about 9 years.
5. By school age, most children slept through the night, but about half of children between 18 and 42 months were reported by their parents to wake at least once. Ten percent of infants woke more than three times per night, which decreased over time.
6. Average daytime sleep time at 6 months was 2.4 hours. This number was about 1.2 hours for those children who still took daytime naps, and only 2% of children took naps by age 5.
7. Girls consistently slept five to ten minutes longer than boys.
8. Low birthweight and pre-term infants slept longer.
9. Sleep duration was longer for infants of younger mothers and shorter for those of older mothers.
10. Children from lower SES families tended to go to bed later and rise later.
11. Older children from mothers with lower education tended to sleep slightly longer.
12. Children of non-White ethnicity slept less than White children, and their bedtimes were later.
13. Children in families with many other children slept less.

### Limitations

- A limitation of most longitudinal studies conducted over several years is that missing data and loss to follow-up are more likely to occur in the most socioeconomically deprived groups. This study is no different, but its large size means that, even with different rates of loss to follow-up, there is sufficient power to investigate effects in small groups. The number of children in the study fell from 11,478 at 6 months to 7,043 at age 11. The children lost to follow-up over time were mostly from lower socioeconomic status (SES) families with more vulnerable infants.
- Sleep duration at all time points was only available for 4,528 participants.
- Parent reporting of children's sleep tends to overestimate sleep duration.

## Cross Cultural Differences in Toddler and Infant Sleep

[Mindell, J. A., Sadeh, A., Wiegand, B., How, T. H., & Goh, D. Y. \(2010\). Cross-cultural differences in infant and toddler sleep. \*Sleep Medicine\*, 11\(3\), 274-280.](#)

**Child sleep problems are based more on culturally-influenced parental perceptions than actual biological reasons, and nighttime sleep issues tended to be perceived more problematic than daytime naps.**

Sample, Objective, Variables Measured, Study Design

### Sample

- N: 29,287
- Subject Ages: Birth to 36 months
- Location:
  - Predominantly Asian (P-A) countries and regions: China, Hong Kong, India, Indonesia, Korea, Japan, Malaysia, Philippines, Singapore, Taiwan, Thailand, Vietnam

- Predominantly Caucasian (P-C) countries: Australia, Canada, New Zealand, United Kingdom, United States
- SES: Variable
- Eligibility: Parents who completed the questionnaire
- Additional:
  - Urban samples
  - 48.1% boys
  - 89.7% mothers
  - 75.7% parents were between 25 and 35 years old
  - 83.7% parents had some college education
  - 52.1% parents were employed full-time
  - There were significant differences between P-A and P-C for birth order, sex, age of respondent, education of respondent and employment status.

## Objectives

1. To characterize sleep patterns, sleep behaviors and sleep problems in a large sample of children ages birth to 36 months in multiple P-A and P-C countries/regions.
2. To assess sleeping arrangements and parental perceptions of sleep problems in these young children.

## Variables Measured, Instruments Used

- Daytime and nighttime sleep patterns, sleep-related behaviors, sleeping arrangements (bed-sharing and room-sharing) and bedtime, child's behavior during the last two weeks - Brief Infant Sleep Survey questionnaire expanded, Internet-based

## Design—Cohort, cross-cultural

## Findings

1. Statistically significant cross-cultural differences were found in sleep patterns and problems.
2. Children in the predominantly Asian (P-A) countries were reported by their parents to sleep less, have later bedtimes, room-share, and be perceived as having more sleep problems than children in predominantly Caucasian (P-C) countries
3. Parentally defined sleep problems are clearly a universal issue. Parents in all 17 countries/regions reported significant sleep issues. Surprisingly, though, some of the largest country/region-based differences were how sleep was perceived as a problem by parents, ranging from a low of 10.1% in Vietnam to 75.9% in China.
4. Minimal differences were found for daytime sleep (naps), with all children in this study following the same maturational pattern in napping behaviors. These results indicate a strong biological contribution to daytime sleep, rather than what appears to be a stronger culturally based influence to nighttime sleep.

## Limitations

- Cohort has an above-average level of education and is primarily urban.
- This Internet survey did not prevent a person from participating more than once and could not ensure whether the participant had a child.
- Parents with concerns about a child's sleep may have been more likely to participate.
- Participants in Vietnam and Thailand completed the survey by paper and so may have responded differently or

have had different characteristics than those who completed the survey on the Internet.

- Parental reports of infant behavior are necessarily limited as they may be inaccurate. Terms such as “sleep problem” may differ across cultures.
- This study is broad in its geographic scope and does not provide information about the vast differences that might exist among subcultures and different ethnicities in a given country or region.

# Infant Sleep and Paternal Involvement in Infant Caregiving During the First 6 Months of Life

[Tikotzky, L., Sadeh, A., & Glickman-Gavrieli, T. \(2011\). \*Infant sleep and paternal involvement in infant caregiving during the first 6 months of life. Journal of Pediatric Psychology, 36\(1\), 36-46.\*](#)

**In solitary sleep arrangements, mothers were more involved in nighttime parenting than fathers, and breastfeeding was related to less father involvement. More father involvement early on predicted fewer night-wakings by 6 months.**

Sample, Hypothesis, Variables Measured, Study Design

## Sample

- N: 56 families
- Subject Ages: Children followed from birth to age 6 months
- Location: Israel
- SES: Upper-middle class
- Eligibility: Not available
- Additional:
  - 34 infant boys (61%)
  - Mean maternal age of 29.13 years (range 22–37) and average education was 16.15 years (range 12–22)
  - Mean paternal age of 31.3 (range 25–48) and average education was 16.03 years (range 12–22)
  - Mean number of rooms at home was 3.3 (range 2–6)
  - None of the mothers reported medical problems during delivery or following birth
  - None of the parents met the Israeli cutoff scores for psychopathology
  - Mean gestational age was 39.52 weeks and mean birth weight was 3.31 kg (range 2.3–4.2). All infants were healthy during the assessment period.
  - At the age of one month, all the infants were taken care of by their mother at home
  - At six months, 34% were completely home-reared with their mothers and 66% were in day care (babysitter or nursery)
  - At the age of 1 month, 93% of the infants were (fully or partially) nursed, whereas at the age of 6 months, 30.4% were still fully breastfeeding and 28.6% were partially breastfeeding

## Hypotheses

1. Mothers would be more involved in infant caregiving than fathers.
2. The involvement of fathers in the infant caregiving would increase over the first six months of life.
3. Higher involvement of fathers in overall and nighttime infant care would be associated with more

consolidated sleep after controlling for breastfeeding.

### Variables Measured, Instruments Used

- Assessment of parental involvement in infant care - the Parental Involvement Questionnaire
- Sleep assessment -
  - actigraphy
  - sleep diary
- Feeding -
  - general scale (formula-fed, partially breastfed, exclusively breastfed)
  - Soothing Scale (five-point Likert scale for frequency of using breastfeeding to soothe at night)

**Design**—Longitudinal

### Findings

1. Mothers were significantly more involved in putting the infant to sleep than fathers.
2. Breastfeeding was related to more frequent night-wakings, later sleep onset and less paternal involvement at bedtime.
3. Higher involvement of fathers at one month predicted a lower number of infant night-wakings at 6 months.
4. Higher paternal involvement in infant child care at 1 and 6 months was associated with shorter total sleep time at 6 months.
5. Higher paternal involvement in infant child care at 6 months was associated with later sleep onset.
6. There were no significant correlations between paternal involvement at bedtime and infant sleep.

### Limitations

- The parents in the study represented an upper-middle class socioeconomic status in Israel, limiting the generalization of these findings.
- All of the participants adopted solitary sleep arrangements.

## Normal Sleep Patterns in Infants and Children: A Systematic Review of Observational Studies

[Galland, B. C., Taylor, B. J., Elder, D. E., & Herbison, P. \(2012\). Normal sleep patterns in infants and children: A systematic review of observational studies. \*Sleep Medicine Reviews\*, 16\(3\), 213-222.](#)

**More research is needed to identify normal sleep patterns in breastfed versus bottle-fed infants, in toddlers, on weekdays versus weekends, and as related to gender and ethnic differences. What is known is that children sleep longer at night and experience fewer night-wakings and daytime naps as they develop.**

Sample, Objective, Study Design

### Sample

- N: 34 articles
- Search Method: An extensive literature search of five electronic databases was conducted: Ovid MEDLINE, Web of Science, CINAHL, Scopus, and PsycINFO. All databases were searched for relevant articles published from 1990 to 2010 in which the title, abstract or keywords included reference to sleep and infant (age 0 to 23 months), or preschool (age 2 to 5 years) or child (age 6 to 12 years), and diary or questionnaires or actigraphy. The search was limited to English-language articles. Titles and abstracts were examined to extract potentially relevant articles and subsequently examined in more depth for inclusion/exclusion criteria by the main author and the research assistant.
- Inclusion Criteria: Studies were required to fulfill the following criteria: a) original article; b) prospective cohort design; c) non-clinic studies; d) participants aged 0 to 12 years; e) sample was well-described (e.g., number of subjects, gender, recruitment criteria, etc.); f) include one or more of the following variables of interest: sleep duration, sleep latency, number of night wakings, longest sleep period, number of daytime sleeps; g) data for variables of interest were presented numerically with a measure of central tendency and variance.
- Exclusion Criteria: Studies were excluded if: a) case-control design was used; b) the work was published as a dissertation or abstract only; c) if more than one report from the same study was published, we included only the first publication with data meeting the inclusion/exclusion criteria.

## Objective

1. To provide a standard against which abnormal sleep patterns can be measured, to in turn inform policy and strategies for intervention and to contribute to and advance our knowledge regarding developmental patterns of sleep.

## Design—Meta analysis

## Findings

1. Sleep patterns show the following developmental trends for sleep: Duration decreases from 0 to 12 years, number of night-wakings decreases from 0 to 2 years, longest sleep period increases from 0 to 2 years, and number of daytime naps decreases up to age 2.
2. Sleep duration is the most commonly reported sleep variable. It has a wide range in infancy with the greatest rate of change occurring within the first 6 months of life.
3. Predominantly Asian countries report less sleep duration than non-Asian countries.
4. A clear omission from nearly all the infant studies is a breakdown of breastfeeding or bottle-feeding, well known to influence sleep patterns.
5. There are several aspects of sleep that have limited documentation: normal sleep patterns in the toddler age group, gender and ethnic differences, and weekday versus weekend differences across all age groups.
6. Studies publishing information on sleep patterns should present numerical data with measures of central tendency and variability so data can be incorporated into meta-analysis.

## Limitations

- The findings of this review need to be validated against parental reports matched to objective measures of the same sleep variables.
- More prospective, large-scale longitudinal studies, rather than cross-sectional studies, are required to provide richer sources of data to document developmental patterns of sleep.
- Research around cultural practices influencing sleep development is needed to provide culture-specific data.

- The gap in the literature around the toddler age group suggests this age needs to be targeted to better document normal sleep patterns before children's daytime routine is changed to fit school schedules.
- The significance of the lower and upper limits of our data as cut-offs for problematic sleep need to be assessed for clinical application.

# Patterns of Developmental Change in Infants' Nighttime Sleep Awakenings from 6 through 36 Months of Age

[Weinraub, M., Bender, R. H., Friedman, S. L., Susman, E. J., Knoke, B., Bradley, R., ... & Williams, J. \(2012\). Patterns of Developmental Change in Infants' Nighttime Sleep Awakenings from 6 through 36 Months of Age. \*Developmental Psychology\*, 48\(6\), 1511-1528.](#)

**Infants with night-wakings were more likely to be boys, be breastfed, have a difficult temperament, come from a large family, have a depressed mother, be in a single-parent home, and/or attend fewer hours of non-parental child care; however, this tendency for more night-wakings tended to resolve by 18 months.**

Sample, Hypothesis, Variables Measured, Study Design

## Sample

- N: 1,200
- Subject Ages: 6, 15, 24 and 36 months
- Location: United States, hospitals at 10 data collection sites
- SES: 24% ethnic minority, 11% of mothers did not complete high school, 14% single mothers (groups not mutually exclusive)
- Eligibility: Not available
- Additional: The sample was not designed to be nationally representative. However, the sample was similar to families in the census tract records and the nation as a whole on key demographic variables (household income and ethnicity).

## Objectives

1. Estimate the developmental trajectories of children's sleep awakenings.
2. Identify important variables associated with the developmental trajectories by examining relations of the trajectories with temperament, breastfeeding experiences, attachment security, health problems during infancy, and familial and environmental risk factors.
3. Examine individual differences in sleep awakenings at specific points across infancy.

## Variables Measured, Instruments Used

- Number of nights per week with sleep awakenings - standardized interview
- Sleep problems - the Child Behavior Checklist (CBCL 2-3; Achenbach, 1992)
- Gender and birth weight - interview
- Temperament - 39 items selected from the 55 items on the Infant Temperament Questionnaire (Medoff



Cooper, Carey, & McDevitt, 1993)

- Whether mother breastfeeds - mother report
- Attachment quality - the Strange Situation
- Child illnesses - mother report
- Maternal depression - the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977)
- Maternal sensitivity - semi-structured, videotaped, coded interactions
- Maternal health - mother report
- Spouse/partner in the home - mother report
- Poverty - mother report
- Child care - mother report

### **Design—Correlational**

### **Findings**

1. The two groups of children identified in this study appear to represent meaningful and distinct longitudinal patterns with regard to the developmental course of sleep.
2. Not only were the patterns of sleep awakenings empirically distinctive, but membership in the groups was predictable from child and family characteristics.
3. On average, the children who were “becoming sleepers” (defined by more frequent night awakenings), compared with “sleepers” (defined by little evidence of elevated sleep awakenings at any point from 6 months to 3 years), were more likely to be male, be breastfed, have a more difficult temperament, come from a large family, have a depressed mother, have a mother without a spouse or partner and/or be in child care for fewer hours.
4. Most of these differences resolved at 18 months.

### **Limitations**

- Reliance on maternal report
- Infants with many perceived awakenings may be perceived as having difficult temperaments.
- Restricted sample: All infants were healthy at birth, and there were no twins, low birth-weight or premature infants.
- Correlational study

## **Ensure Safe Sleep, Physically and Emotionally**

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## Provide Consistent and Loving Care

Providing consistent, loving care is about helping families negotiate separations in healthy ways as well as evaluating care conditions. Child care is one of the most central topics because of current economic pressures on families.

Center-type care in particular has raised many questions, and new findings from the NICHD Study of Early Child Care and Youth Development (SECCYD) indicate that long-term results can be a mixed bag. Surprising new evidence about the role of child temperament provides new perspectives about child care. Additionally, four care scenarios were identified and relate to child outcomes and help us understand care from a more encompassing, ecological perspective. We gain further information about the impact that longer-term parental separations and absences can have on children, and in cases where military parents are deployed, we clearly see the challenges as well as the potential for healthy repair with the right information and support.

## Differential Susceptibility to Parenting and Quality Child Care

[Pluess, M., & Belsky, J. \(2010\). Differential susceptibility to parenting and quality child care. Developmental Psychology, 46\(2\), 379-390.](#)

High-quality parenting was predictive of greater academic and social skills for all children, but particularly children with a difficult temperament. In addition, high-quality non-parental child care predicted fewer behavioral problems in children with difficult temperaments.

Sample, Hypothesis, Variables Measured, Study Design

## Sample

- N: 1,364
- Subject Ages: 1 month to sixth grade
- Location: United States, 10 locations
- SES: 21% had incomes no more than 200% of the poverty level
- Eligibility: Families completed a home interview when the infant was 1 month old
- Additional:
  - 26% of the mothers had no more than a high school education
  - 22% were minority
  - Substudy of the NICHD SECCYD

## Hypotheses

1. Infants with difficult temperaments are disproportionately affected by parenting and child care quality.
2. This study investigates the prospect that virtually all earlier analysis of child care quality effects using NICHD SECCYD data may have misestimated quality of care effect.

## Variables Measured, Instruments Used

- Difficult temperament - maternal report at six months with adapted version of the Infant Temperament Questionnaire
- Parenting quality at six to 54 months -
  - mother-child interactions were videotaped at six, 15, 24, 36 and 54 months and coded for composite mother sensitivity
  - the Home Observation for Measurement of the Environment at six, 15, 36 and 54 months
- Child care characteristics -
  - child care quality: observational assessments utilizing the Observational Record of the Caregiving Environment (ORCE) at five, 15, 24, 36 and 54 months
  - child care quantity: parent reports
  - child care types
- Covariates -
  - maternal, child, and family characteristics of early childhood
  - maternal, child, and family characteristics of early grades
- Child outcomes -
  - academic achievement
  - the Woodcock-Johnson Psycho-Educational Battery-Revised
  - the Social Skills Questionnaire
  - behavior problems: the Child Behavior Checklist Teacher Report Form
  - teacher-child conflict: the Student-Teacher Relationship Scale, Short Form
  - academic work habits: teachers completed a 19-item mock report card
  - socioemotional functioning: mock report card items came from the Teacher Checklist of Peer Relations

## Design—Longitudinal

## Findings

1. Temperament interacted with parenting quality on all three academic outcomes and on two of the five social adjustment outcomes: social skills and work habits.
2. Temperament interacted with child care quality on two social adjustment outcomes: behavior problems and teacher-child conflict.
3. Higher-quality parenting predicted greater reading, vocabulary, work habits, math and social skills for children who scored high as well as low on difficult temperament as infants. These parenting effects were strongest in children with histories of temperamental difficulty.
4. For children with histories of difficult temperament, greater quality of child care predicted fewer problems and less conflict.

### Limitations

- Study was not experimental, so all findings cannot be presumed to be causal.

## Do Effects of Early Child Care Extend to Age 15 Years? Results From the NICHD Study of Early Child Care and Youth Development

[Vandell, D. L., Belsky, J., Burchinal, M., Steinberg, L., & Vandergrift, N. \(2010\). Do effects of early child care extend to age 15 Years? Results from the NICHD Study of Early Child Care and Youth Development. Child Development, 81\(3\), 737-756.](#)

**While high-quality child care was predictive of greater pre-academic skills, children who spent more time in non-parental child care, especially in center-type care, tended to have more behavior problems that continued into adolescence.**

Sample, Hypothesis, Variables Measured, Study Design

### Sample

- N: 1,364
- Subject Ages: Birth to 4.5 years and 15 years
- Location: United States, 10 locations
- SES: 21% had incomes no greater than 200% of the poverty level
- Eligibility: Children at birth through age 4 1/2, to be followed up with as adolescents

### Hypotheses

1. Non-relative child care during the first 4 1/2 years of life predicts academic achievement and behaviors adjustment at age 15.
2. Links between early child care and adolescent outcomes are moderated by child gender or familial risk.

### Variables Measured, Instruments Used

- Child care characteristics - telephone and in-home interviews at three-month intervals until 36 months and four-month intervals until 4.5 years.
- Quality of care - the ORCE at intervals of 6, 15, 24, 36 and 54 months.



- Adolescent functioning -
  - cognitive academic achievement: the Woodcock-Johnson Psycho-Educational Battery-Revised
  - risk-taking: audio computer-assisted self-interview
  - impulsivity: eight-item questionnaire taken from the Weinberger Adjustment Inventory
  - externalizing problems: youth self report
- Maternal, child, family, and school controls -
  - maternal education, child gender, child race and ethnicity, the proportion of epochs throughout the 4 1/2 years that the mother reported a husband or partner was present, family income, maternal Peabody Picture Vocabulary Test Revised, maternal psychological adjustment, NEO Personality Inventory, maternal depressive symptoms: Center for Epidemiological Studies Depression Scale, early-parenting quality
- Child functioning in early and middle childhood -
  - cognitive academic achievement: WJ-R Letter-Word Identification & Broad Reading, applied problems and picture vocabulary
  - externalizing behaviors: the Teacher Report Form (TRF; Achenbach, 1991b) completed by teachers

### **Design—Longitudinal**

### **Findings**

1. At 4 1/2 years, higher quality care predicted higher levels of pre-academic skills and language, and more exposure to center-type care predicted better language and memory. Early child care quality continues to predict cognitive-academic achievement ten years after the child has left child care.
2. The cognitive academic benefits of child care quality found at 4 1/2 years carried through middle childhood and were associated with adolescent functioning.
3. At 4 1/2 years of age, children who were in child care for more hours a day and had more center-type care showed more externalizing behaviors. This remained true at age 15. Higher hours of care predicted reports by adolescents of greater risk-taking and impulsivity.

### **Limitations**

- Study design is correlational, not experimental; therefore, the analysis was a test of association, not causation.
- It is possible that excluded variables may account for the obtained effects.
- The study was not nationally representative.

## **Double Jeopardy: Poorer Social-Emotional Outcomes for Children in the NICHD SECCYD Experiencing Home and Child-Care Environments That Confer Risk**

[Watamura, S. E., Phillips, D. A., Morrissey, T. W., McCartney, K., & Bub, K. \(2011\). Double Jeopardy: Poorer Social-Emotional Outcomes for Children in the NICHD SECCYD Experiencing Home and Child-Care Environments That Confer Risk. \*Child Development\*, 82\(1\), 48-65.](#)

## **Regardless of the quality of non-parental child care, children from low-quality home environments had more behavioral problems and children from high-quality homes had fewer behavioral problems.**

Sample, Hypothesis, Variables Measured, Study Design

### **Sample**

- N: 771
- Subject Ages: 24, 36 and 54 months
- Location: United States
- SES: Higher income families, income-to-needs ratio of 4:1
- Eligibility: Children in non-maternal child care
- Additional: Subsample of families in the NICHD Study of Early Child Care and Youth Development

### **Hypotheses**

1. Children with both low-quality home and non-maternal care would exhibit more internalizing and externalizing problems, more disruptive behaviors and fewer pro-social behaviors than would children in any other group.
2. High-quality child care would bring children experiencing low-quality home environments into the range of children experiencing average-quality home environments.

### **Variables Measured, Instruments Used**

- Predictors -
  - parenting quality predictor scores: calculated from scores on the Home Observation for Measurement of the Environment (HOME) administered at 15, 36 and 54 months
  - maternal sensitivity: rated through videotaped interactions at 24, 36 and 54 months
  - quality of the child's primary non-maternal child care setting: using the ORCE from the original study by the NICHD ECCRN
- Child outcomes -
  - behavior problems and pro-social behavior: collected from mothers and primary caregivers
  - the Child Behavior Checklist
  - the Adaptive Social Behavior Inventory (ASBI)

### **Design—Longitudinal**

### **Findings**

1. Mothers who were characterized by low-quality HOME scores and low maternal sensitivity portrayed their children as having more internalizing and externalizing behavior problems and showing less pro-social behaviors than children in homes or child care programs in the middle of the quality distribution when their children were also in low-quality child care.
2. The mothers' ratings of behavior problems did not differ from the reference group when the children were experiencing low-quality home care and were in high-quality child care.
3. Caregivers reported fewer externalizing behaviors for children who experienced a home environment

categorized as high quality regardless of their child care settings.

## Limitations

- Non-experimental study design
- The sample over-represents children and families experiencing lower risk.
- The HOME assessment was not conducted at 24 months.

# Early Mother-Child Separation, Parenting, and Child Well-Being in Early Head Start Families

[Howard, K., Martin, A., Berlin, L. J., & Brooks-Gunn, J. \(2011\). Early mother-child separation, parenting, and child well-being in Early Head Start families. \*Attachment & Human Development\*, 13\(1\), 5-26.](#)

**While it is well known that traumatic or extended separations negatively impact child development, even week-long separations that occur within the first two years of life have lasting consequences on child behavior.**

Sample, Hypothesis, Variables Measured, Study Design

## Sample

- N: 3,001
- Subject Ages: 1/4 unborn; 1/4 ages 6 months or older; 1/2 birth to age 6 months
- Location: United States, 17 different Early Head Start program locations
- SES: Low income
- Eligibility: Children ages birth to 2, when children rely on physical proximity as the primary indicator of their mothers' availability

## Hypotheses

1. Early mother-child separation would be related to maternal behaviors such that children who experienced separation would have mothers who were generally less sensitive and positive toward their children at age 3 than children who did not experience separation.
2. Mother-child separation during the first two years of life would be negatively related to children's subsequent socioemotional and language development.
3. The effects of separation on children's development would persist such that effects observed at age 3 would still be evident at age 5.
4. Early mother-child separation would covary with measures of family and household instability during the child's first two years of life.

## Variables Measured, Instruments Used

- Early mother-child separation of one week or more in the previous year - author questionnaire
- Maternal parenting behaviors at child age 3 - three measures drawn from the Home Observation for Measurement of the Environment (HOME)
- Child outcomes at ages 3 and 5 -

- Aggressive behavior: the Child Behavior Checklist (CBCL)
- Negativity toward mother: author observational scale
- Receptive vocabulary: the Peabody Picture Vocabulary Test
- Early household instability - author questionnaire
- Baseline demographic characteristics - author questionnaire

**Design**—RCT, longitudinal

## Findings

Controlling for baseline family and maternal characteristics and indicators of family instability:

1. The occurrence of a mother-child separation of a week or longer within the first two years of life was related to higher levels of child negativity at age 3 and aggression at ages 3 and 5.
2. The effect of separation on child aggression at age 5 was mediated by aggression at age 3, suggesting that the effects of separation on children's aggressive behavior are early and persistent.
3. While it is known that traumatic or extended separations can negatively impact children's development, the present study suggests that even relatively minor separations of a week or more that occur within the first two years of life are not entirely without adverse consequences for children's development. Although more information is certainly required about the physical and emotional contexts that might buffer the effects of separations on children's development, it is clear that a mother's physical accessibility during the first years of life has important implications for supporting positive child development.

## Limitations

- Lack of information on caregiving arrangements during the separation
- Lack of information on the quality of care that the child received during the separation
- Future research should consider the examination of these additional characteristics in order to strengthen the causal interpretation about the role of separation in predicting children's behavior:
  - Infant characteristics, such as temperament
  - Maternal personality characteristics or emotional well-being during the prenatal period

# When a Parent Goes to War: Effects of Parental Deployment on Very Young Children and Implications for Intervention

[Paris, R., DeVoe, E. R., Ross, A. M., & Acker, M. L. \(2010\). When a parent goes to war: Effects of parental deployment on very young children and implications for intervention. \*American Journal of Orthopsychiatry\*, 80\(4\), 610-618.](#)

**Post-deployment programs that address parenting would be helpful, especially for families with children from birth through age 5, as this age group is particularly vulnerable to changes in attachment patterns.**

Objective, Study Design

## Objective

1. To review of what is known about the effects of the military deployment cycle on young children, including attachment patterns, intense emotions and behavioral changes and suggest an ecological approach for supporting military families with infants, toddlers and preschoolers.

## Design—Descriptive Literature Review

## Findings

1. Deployment may have negative effects on children between the ages of 0 to 5 years in military families.
2. Deployment could potentially create a developmental crisis and could impact attachment patterns, resulting in intense emotions or behavior changes.
3. An enormous number of young children in military families are dealing with the effects of deployment and post-deployment adjustment. In response, major resources should be directed at services that bolster the well-being of children and parents in military families.
4. Program elements that address service-member parents' ability to reintegrate upon returning from deployment may be especially helpful to children of all ages and young children in particular. These needs are even more urgent when a parent returns from war with mental health concerns that may complicate his or her efforts to cope with the simultaneous demands of recovery, reintegration, and parenting.
5. There is a need for development and adaptation of programs that are ecologically valid, relevant to the military culture and community-informed. Such approaches may reduce long-standing issues regarding stigma, fragmentation of services, and impediments to outreach that target military families.

# Provide Consistent and Loving Care Additional References

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## Practice Positive Discipline

The evidence on discipline continues to point to the healthiest child development when parents: adopt an authoritative parenting style; engage in monitoring; are sensitive, involved, responsive and warm; and avoid harsh punishment, control and indulgence.

Cross-cultural evidence finds relationships between harsh punishment, control and disruptive behavior. Other evidence finds a relationship between harsh punishment and permissive discipline. Parents who use power with their children might promote relationships characterized by their child's resentful opposition, depending on early attachment quality. Two papers find longer-term relationships that link discipline with adolescent behaviors and emerging adult adjustment. Evidence indicates that discipline style not only matters, but the impacts carry into later life.



# Early Attachment Organization Moderates the Parent-Child Mutually Coercive Pathway to Children's Antisocial Conduct

*Kochanska, G., Barry, R. A., Stellern, S. A., & O'Bleness, J. J. (2009). Early attachment organization moderates the parent-child mutually coercive pathway to children's antisocial conduct. Child Development, 80(4), 1288-1300.*

**Insecurely attached children showed more resentful opposition toward their mothers than did those with secure attachments.**

Sample, Hypothesis, Variables Measured, Study Design

## Sample

- N: 101
- Subject Ages: 7 months at recruit, followed until 67 months
- Location: United States, Iowa
- SES: Broad range of income and education
- Eligibility: Two-parent families with normally developing children
- Additional: 90% of mothers were white, 84% of fathers were white

## Hypotheses

1. The child's resentful opposition serves as a mechanism or mediator that accounts for links between parental power assertion and child future antisocial behavior.
2. The early history of the parent-child relationship, reflected in the child's attachment organization, moderates this mediational chain.

## Variables Measured, Instruments Used

- Children's attachment security at 15 months - Strange Situation with both mothers and fathers
- Mother's and father's power assertion in discipline contexts - 25 and 38 months coded contexts, in the lab during naturalist situations
- Children's resentful opposition at 52 months -
  - children's defiance: coded contexts in the lab during Do and Don't contexts
  - children's negative emotional tone in interactions with parents: negative affect was coded during naturalistic observations
  - children's unresponsiveness to parents: obtained by reversing the scores of the child responsiveness to parents coded during naturalistic observations
  - composite of children's resentful opposition: the three scores were intercorrelated, therefore standardizing and aggregating them into one score for children and mothers and one score for children and fathers
- Children's antisocial disruptive behavior problems at 67 months -
  - the Child Symptom Inventory
  - the Inventory of Callous-Unemotional Traits
  - the Macarthur Health Behavior Questionnaire

- the Composite of antisocial and disruptive behavior

## **Design—Longitudinal**

## **Findings**

1. For maternal and paternal use of power at 25 to 38 months, there was no effect of security.
2. For children's resentful opposition to mothers at 52 months, early security had a significant effect. Children who had been more insecure showed more resentful opposition than those who had been secure.
3. For children's resentful opposition to fathers at 52 months, there was no significant effect of early security.
4. For parental ratings of children's antisocial, disruptive behavior problems at 67 months, there were no effects of early security for either parent.
5. The effect of parental power assertion with mothers and fathers on child future resentful opposition to the mother was significant for insecurely attached children, but not for secure children.

## **Limitations**

- The participants were low-risk families where power assertion was generally low.
- Typical strategies coded as power assertive included mildly forceful tactics that rarely, if ever, escalated to harsh physical punishment or threats.
- Children's antisocial problems were also generally infrequent.
- The study was non-experimental, limiting the interpretations of the direction of the results.

# **From Parent to Child to Parent...: Paths In and Out of Problem Behavior**

[Bradley, R. H., & Corwyn, R. \(2012\). From parent to child to parent...: Paths in and out of problem behavior. Journal of Abnormal Child Psychology, 41\(4\), 1-15.](#)

**Maternal sensitivity, parental harshness, and productive activity affected child behavior, but child behavior problems influenced parenting choices more so than vice versa, from middle childhood onward.**

Sample, Hypothesis, Variables Measured, Study Design

## **Sample**

- N: 956 families
- Subject Ages: 15 years
- Location: 10 geographically separated sites from the NICHD data set
- SES: Higher mean household income (\$39,550 versus \$33,570), almost 22% of families had an income-to-needs ratio of less than 2.0
- Eligibility: All cases with a valid measure at age 15
- Additional:
  - 81.4% Caucasian, 12% African American

- 49.9% boys
- Participant families were:
  - Less likely to be of minority status (18.6% versus 21.8%)
  - More likely to consist of the biological mother living with her husband (79.1% versus 71.1%)
  - Parents were more likely to have attended college (72.1% versus 60.9%)

## Hypotheses

1. Reciprocal patterns of relations will emerge between externalizing behavior and the three aspects of parenting observed from infancy through adolescence, but the impact of parenting processes on externalizing behavior will diminish as children age.
2. Cumulative effect with externalizing behavior will become increasingly stable.
3. Maternal sensitivity during early and middle childhood will continue to exert an influence on externalizing behavior at age 15 via self-control, an alternative to the idea of a simple cumulative effect.
4. Self-control will serve to mediate relations between parenting and externalizing problems at age 15.
5. Monitoring at age 15 will show a negative relation to harshness at age 11 and externalizing at age 15.
6. Higher levels of productive activity at home at age 11 will show a negative relation to externalizing behavior via its connection with monitoring, as it reflects higher levels of trust and communication between parent and child.

## Variables Measured, Instruments Used

All assessments were taken at multiple age points to capture cumulative experience during particular developmental periods:

- Opportunity for productive activity - the Home Observation for Measurement of the Environment Inventory (Caldwell and Bradley, 1984) at 15 months, 36 months, third grade and fifth grade
- Parental harshness - the Home Observation for Measurement of the Environment Inventory (Caldwell & Bradley, 1984) items that tap expressions of anger, annoyance, physical punishment and intrusiveness to measure parental harshness
- Maternal sensitivity - coded videos of 15-minute semi-structured interactions in which the mother and child played in two or three age-appropriate activities
- Monitoring - mother report, 11-item questionnaire
- Self-control - the Social Skills Rating Scale (SSRS; Gresham & Elliot, 1990), Self-control subscale
- Externalizing behavior - the Child Behavior Checklist (Achenbach, 1992) mother and caregiver-teacher report form of the CBCL (Achenbach, 1997)

## Design—Longitudinal

## Findings

1. Maternal sensitivity, parental harshness and productive activity are related to externalizing problems, but patterns of relations change from early childhood to middle childhood to adolescence with evidence suggesting that externalizing behavior influences parenting more than the reverse from middle childhood onward.
2. Self-control measured during early adolescence partially mediated relations between maternal sensitivity and adolescent-reported externalizing behavior.
3. Parental monitoring during adolescence was also related to externalizing behavior at age 15. Monitoring

partially mediated the relation between externalizing behavior in early adolescence and externalizing at age 15.

## Limitations

- Few instances of harshness at the level of maltreatment and a limited measure of harshness
- About 30% attrition over the 15-year study
- Relatively small proportion of minority and high-risk families
- Missing data on measures, particularly teacher reports of externalizing behavior during early childhood
- Not all of the key variables were equally stable. Most notable is the modest stability in parental harshness.

# Inhibitory Control and Harsh Discipline as Predictors of Externalizing Problems in Young Children: A Comparative Study of US, Chinese, and Japanese Preschoolers

[Olson, S. L., Tardif, T. Z., Miller, A., Felt, B., Grabell, A. S., Kessler, D., ... & Hirabayashi, H. \(2011\). Inhibitory Control and Harsh Discipline as Predictors of Externalizing Problems in Young Children: A Comparative Study of US, Chinese, and Japanese Preschoolers. \*Journal of Abnormal Child Psychology\*, 39\(8\), 1163-1175.](#)

## Harsh discipline contributed to child behavior problems.

Sample, Hypothesis, Variables Measured, Study Design

### Sample

- N: 120
- Subject Ages: 4 years
- Location: United States; China; Japan
- SES: Various
- Eligibility: Full-time preschools at both university and community samples in each location
- Additional:
  - Beijing, China
    - Only two of the children (a pair of twins) were reported to have siblings
    - Parental education ranged from middle school to graduate-level training for both mothers and fathers
  - U.S. sample was collected in and around Ann Arbor, Michigan
    - Over half had one or more siblings
    - Parental education ranged from high school to graduate-level training for both mothers and fathers
  - Tokyo, Japan
    - Over half of the Japanese children had at least one sibling and 11 of the children had two siblings
    - Most parents reported being married
    - Parental education ranged from middle school to graduate-level training for both mothers and fathers

- Some demographic characteristics differed significantly between countries
  - Chinese parents were slightly younger than those in Japan
  - Maternal education was significantly greater in the United States than in Japan or China
  - There were no significant cross-national differences in paternal education
  - Relatively few Japanese mothers were employed
  - U.S. parents reported significantly higher levels of divorce or separation than those in the other two countries

## Hypotheses

1. Low levels of child inhibitory control would be associated with elevated levels of child externalizing problems in all three cultures.
2. Indices of parental harsh physical and emotional discipline would be associated with elevated externalizing scores in U.S. preschoolers, and it would be determined whether this association would generalize to Chinese and Japanese preschoolers.
3. The cross-cultural validity of integrative models would determine whether associations between parenting risk, child self-regulation difficulties and child externalizing combined in ways that reflected additive, interactional or mediational mechanisms.
4. Relationships between children's inhibitory control capabilities and early externalizing problems would be moderated by child gender within each country.

## Variables Measured, Instruments Used

- Child inhibitory control in the laboratory - composite of three Stroop-like switching tasks commonly used with preschoolers: the Grass/Snow Task, Luria's Hand Game and the Day/Night Stroop Task
- Maternal rating of inhibitory control - abbreviated version of Rothbart's Child Behavior Questionnaire (CBQ; Ahadi, et al., 1993)
- Nonverbal intelligence - the Block Design subscale of the Wechsler Preschool and Primary Scale of Intelligence, revised (WPPSI-R; Wechsler, 1989)
- Child externalizing problems - the Child Behavior Checklist/1.5-5
- Parenting behavior - Socialization of Moral Affect questionnaire-Preschool Parent (SOMA-PP; Denham, et al., 1997)

## Design—Correlational, cross-cultural

## Findings

1. Both child inhibitory control and maternal harsh discipline made significant contributions to child externalizing problems in all three countries.
2. Across countries, child inhibitory control and maternal harsh discipline made significant independent contributions to early externalizing problems, suggesting an additive model of association.
3. Our findings supported the cross-cultural generalizability of child inhibitory control and parental harsh punishment as key contributors to disruptive behavior in young children.

## Limitations

- Participants primarily were drawn from two-parent, middle-class families; thus, the findings may not generalize to children in other family constellations or families experiencing severe economic hardship.

- Samples were drawn from typically developing preschoolers, limiting generalizability to clinically referred populations of young children.
- The mediation model was based on theoretical evidence that supported the direction of effects from parenting behavior to child self-regulation. However, impulsive, disruptive child behavior often elicits upper limit controls and negative affect from parents (Sameroff, 2009). Empirical studies have shown that the early development of disruptive behavior reflects reciprocal relations between child and parent behaviors (e.g., Combs-Ronto, et al., 2009; Scaramella & Leve, 2004). Thus, the findings should not be used to draw causal inferences concerning the directionality of parent-child influences.
- Maternal report: Although laboratory measures of child inhibitory control were included, parenting behaviors and child externalizing problems were evaluated using maternal report. Incorporating other sources of information may prevent possible informant bias as well as provide a more detailed and comprehensive understanding of mothers' early contributions to children's disruptive behavior. Furthermore, investigating fathers' roles in these relations may lead to a richer pattern of findings (e.g., see Chang, et al., 2003).
- Over 50 different risk factors have been related to the development of child externalizing problems (Dodge & Pettit, 2003).

## Linking Maternal Warmth and Responsiveness to Children's Self-Regulation

[\*von Suchodoletz, A., Trommsdorff, G., & Heikamp, T. \(2011\). Linking Maternal Warmth and Responsiveness to Children's Self-regulation. Social Development, 20\(3\), 486-503.\*](#)

**While maternal warmth was predictive of better behavior regulation in the child overall, maternal responsiveness to child distress was specifically related to the child's internalization of rules of conduct.**

Sample, Hypothesis, Variables Measured, Study Design

### Sample

- N: 102
- Subject Ages: Kindergarten children
- Location: Germany, Konstanz
- SES: Middle class
- Eligibility: Parents of public kindergarten children who agreed to participate
- Additional:
  - All families were of a European cultural background
  - 80% of the children lived in a two-parent household
  - All mothers had at least 12 years of schooling

### Hypotheses

1. Maternal warmth will be positively related to the child's behavioral regulation.
2. Maternal responsiveness to distress would correlate positively with the child's internalization of rules of conduct.
3. Children's gender and effortful control would interact with parenting behavior in predicting self-

regulation skills.

### Variables Measured, Instruments Used

- Maternal warmth - the Child Rearing Practices Report-Q Sort
- Maternal responsiveness to distress - the Coping with Children's Negative Emotions Scale
- Behavior regulation - the Snack Delay task of the Laboratory Temperament Assessment Battery-Preschool Version
- Internalization of rules of conduct - Maternal Reports of Conscience Development
- Effortful control - the Children's Behavior Questionnaire

**Design**—Cross-sectional

### Findings

1. Maternal warmth was a significant predictor of higher levels of behavior regulation independent of any contribution of maternal responsiveness to distress.
2. Neither of the child variables (gender and effortful control) nor the mothers' level of education reached levels of significance in predicting the child's behavior regulation.
3. Maternal responsiveness and children's internalization of rules of conduct were significantly and positively associated, whereas maternal warmth was not a predictor. Girls showed higher levels of internalization than boys.
4. Mother's level of education did not reach significance for internalization of rules of conduct.

### Limitations

- Mothers in this study tended to show higher levels of warmth than in other studies, due to sample characteristics.
- Reliance on self-reports
- Cross-sectional data only
- Not socioeconomically diverse

## Parenting and Late Adolescent Emotional Adjustment: Mediating Effects of Discipline and Gender

[McKinney, C., Milone, M. C., & Renk, K. \(2011\). Parenting and late adolescent emotional adjustment: Mediating effects of discipline and gender. \*Child Psychiatry & Human Development\*, 42\(4\), 463-481.](#)

**Harsh discipline strategies were predictive of poor emotional adjustment in emerging adults, while positive discipline predicted healthy adjustment.**

Sample, Hypothesis, Variables Measured, Study Design

## Sample

- N: 526 - 163 males and 363 females
- Subject Ages: Mean 19.22 years
- Location: Not available
- SES: 63% reported a total parental income between \$30,000 and \$99,999, 26.4% reported total parental income in excess of \$100,000
- Eligibility: Individuals aged within the developmental time frame of emerging adulthood
- Additional:
  - Participants were enrolled in an introductory psychology course
  - 76.2% Caucasian, 9.7% Hispanic, 6.5% African American, 1.9% Asian, 3.6% other ethnic background

## Hypotheses

1. Perceived authoritative parenting will be related inversely with perceived harshness of discipline, whereas perceived authoritarian parenting will be related directly with perceived harshness of discipline.
2. Perceived authoritative parenting will be related inversely to poor emotional adjustment in emerging adults, and perceived authoritarian parenting and perceived harshness of discipline will be related directly to poor emotional adjustment in emerging adults.
3. Perceived discipline strategies will mediate the effect of perceived parenting styles and emerging adult emotional adjustment. That is, perceived parenting styles will share a significant relationship with emerging adult emotional adjustment independently, but this effect will be eliminated when examined in the context of perceived discipline strategies.

## Variables Measured, Instruments Used

- Parenting style -
  - items from the care and overprotection scale of the Parental Bonding Instrument
  - three subscales from the Parental Authority Questionnaire
- Discipline strategy - Conflict Tactics Scale, Parent-Child version
- Emotional adjustment -
  - the Rosenberg Self-Esteem Inventory
  - the Beck Depression Inventory
  - the Manifest Anxiety Scale

## Design—Correlational

## Finding

1. Perceived discipline strategies remain a significant predictor of emerging adults' emotional adjustment across all models, whereas perceived parenting styles remain a significant predictor for females only.

## Limitations

- Generalizability of the findings: Over 3/4 of participants were Caucasian.
- Very few participants reported backgrounds of low socioeconomic status.
- Sole reliance on the self-report of emerging adult participants



- Information regarding participant living status (e.g., at home, on campus, etc.) and amount of contact with parents was not collected.
- Correlational in nature: This study is unable to determine causation.
- Many other factors not studied here may influence emerging adults' emotional adjustment as well.

# Parenting and Trajectories of Children's Maladaptive Behaviors: A 12-year Prospective Community Study

[Luyckx, K., Tildesley, E. A., Soenens, B., Andrews, J. A., Hampson, S. E., Peterson, M., & Duriez, B. \(2011\). Parenting and trajectories of children's maladaptive behaviors: A 12-year prospective community study. \*Journal of Clinical Child & Adolescent Psychology\*, 40\(3\), 468-478.](#)

**Authoritative parenting—high on positive parenting and monitoring but low on inconsistent discipline—had the best long-term outcomes of all parenting styles.**

Sample, Hypothesis, Variables Measured, Study Design

## Sample

- N: 1,049
- Subject Ages: Grades 1-5 to Grades 6-12
- SES: Working-class community
- Eligibility: Children in the age range at recruitment
- Location: United States, Oregon
- Additional:
  - 86% Caucasian, 7% Hispanic, 1% Asian American, 6% mixed race/other
  - 7% of mothers and 11% of fathers had high school diploma, 71% of mothers and 66% of fathers had postsecondary education

## Hypotheses

1. Four parenting classes were expected: Authoritative (high on positive parenting (PP)/monitoring and low on inconsistent discipline (ID)); Indulgent (high on PP and ID; low on monitoring); Authoritarian (high on monitoring; low on PP and ID); and Uninvolved (high on ID; low on PP/monitoring).
2. Children in the authoritative class will have the lowest levels of internalizing symptoms, followed by children raised by parents in the indulgent and authoritarian classes. Uninvolved parenting would result in high internalizing symptoms and possible steep increases over time.
3. Substance abuse and antisocial behavior will be low for all, with increases in children with parents in the indulgent and uninvolved classes.

## Variables Measured, Instruments Used

- Parent behavior - the Alabama Parenting Questionnaire with three subscales: monitoring/supervision, inconsistent discipline and positive parenting
- Child cigarette and alcohol use - yearly questionnaire in grades 6-12

- Child antisocial behavior and internalizing symptoms - the Child Behavior Checklist, abbreviated version

### **Design—Longitudinal**

### **Findings**

1. Four parenting classes were defined as hypothesized.
2. Decreases in monitoring occurred for authoritarian and authoritative parents, with steeper decreases for the authoritarian than authoritative. The indulgent classes also showed a steep decrease in monitoring as might be expected.
3. These parenting styles were differentially related to changes in parent- and child-reported measures of children's alcohol and cigarette use, antisocial behavior and internalizing symptoms, with the authoritative parenting class being related to the most optimal long-term development.
4. Children of authoritative parents had better outcomes across the board, as is consistent with the literature.
5. Some of the disadvantages of non-authoritative parenting accumulated over time.
6. Children were twice as likely to have chemical/tobacco use if parents were uninvolved.
7. Boys of uninvolved parents were at greater risk for antisocial behavior.
8. There was greater prevalence of internalizing symptoms for children of authoritarian parents over time.

### **Limitations**

- Sample is almost exclusively white.
- Parents and children did not report on sample variables, reducing reliability.
- The single-item quality of the child-reported measurements constitutes a weakness.

## **The Relation of Harsh and Permissive Discipline with Child Disruptive Behaviors: Does Child Gender Make a Difference in an At-Risk Sample?**

*Parent, J., Forehand, R., Merchant, M. J., Edwards, M. C., Conners-Burrow, N. A., Long, N., & Jones, D. J. (2011). The Relation of Harsh and Permissive Discipline with Child Disruptive Behaviors: Does Child Gender Make a Difference in an At-Risk Sample?. Journal of Family Violence, 26(7), 527-533.*

**Permissive parenting intensified boys' behavioral problems, and harsh discipline was related to child behavioral problems regardless of gender, but parent education lessened child behavioral problems, particularly for girls.**

Sample, Hypothesis, Variables Measured, Study Design

### **Sample**

- N: 160
- Subject Ages: Parents of children ages 3 to 6 years
- Location: United States, Vermont and Arkansas

- SES: Not available
- Eligibility: Not available
- Additional:
  - 6.5% parents had less than high school education, 17.4% had a high school diploma, 76.1% had some college education
  - Recruited through Head Start

## Hypotheses

1. Parents' use of harsh discipline will be positively correlated with both boys' and girls' disruptive behavior.
2. Permissive discipline will be related to boys' disruptive behavior.
3. Higher levels of both harsh and permissive discipline will be positively correlated with higher levels of disruptive behavior.

## Variables Measured, Instruments Used

- Demographic questionnaire
- Dysfunctional discipline practices when faced with problem situations - two subscales from the Parenting Scale
- Child disruptive behaviors - the Eyberg Child Behavior Inventory

## Design—Cross-sectional

## Findings

1. Higher levels of permissive discipline were related to higher levels of harsh punishment.
2. Harsh discipline was significantly correlated with intensity of disruptive behavior in boys and girls, so that harsh discipline was related to more intense disruptive behavior.
3. Permissive parenting was significantly correlated with intensity of disruptive behavior in boys but not girls.
4. For boys, higher levels of permissive parenting were related to more intensive disruptive behaviors.
5. For girls, higher levels of parental education were related to less intense disruptive behaviors.
6. For boys, child age was significantly related to intensity of disruptive behavior.

## Limitations

- Data are cross-sectional, limiting conclusions about causality.
- Focus was on two ineffective discipline strategies. Many important strategies parents use were not examined.
- All of the data was based on parent reports.

# Practice Positive Discipline Additional References

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# Strive for Balance in Personal and Family Life

Balance is an expansive topic and can have many interpretations.

Working with the research most related to balance in parenting, informal and functional support was shown to be related to self-efficacy and postpartum depression. Certain types of social networking were shown to support parent well-being across several areas. Looking at parenting from the perspective of a newly empty nest provides an interesting vantage point from which to review the parenting experience, and it lends a fresh perspective to those of us who are still “in the trenches.” Ultimately, it might be argued that it’s our degree of neural flexibility that even allows us to work perpetually towards “balance” and positive change, so we’ve included an exciting review of the knowledge and limitations of neuroplasticity.

## First-Time Mothers: Social Support, Maternal Parental Self-Efficacy and Postnatal Depression

[Leahy-Warren, P., McCarthy, G., & Corcoran, P. \(2012\). First-time mothers: social support, maternal parental self-efficacy and postnatal depression. \*Journal of Clinical Nursing\*, 21\(3-4\), 388-397.](#)

Social support was associated with a new mother’s confidence, which was further related to less postpartum depression.

Sample, Objective, Variables Measured, Study Design

### Sample

- N: 410
- Subject Ages: Not available
- Location: Republic of Ireland, a large maternity unit
- SES: Not available
- Eligibility: First-time mother aged 18 years and over with a singleton baby and a medically uncomplicated pregnancy or baby full term at delivery; baby discharged with mother; English as first language; Caucasian.

### Objective

1. To examine the relationships between social support, maternal parental self-efficacy and postnatal depression in first-time mothers at six weeks post-delivery.

### Variables Measured, Instruments Used

- Social support - researcher-developed instrument
- Maternal parental self-efficacy - the Perceived Maternal Parental Self-Efficacy Tool (Barnes & Adamson-Macedo, 2007)
- Postnatal depression - the Edinburgh Postnatal Depression Scale (Cox, et al., 1987)

**Design**—Descriptive correlational

## Findings

1. The significance of family support in enhancing maternal parental self-efficacy and positively influencing mental health for first-time mothers at 6 weeks post-delivery: There was a significant association between informal social network (family and friends) support and maternal parental self-efficacy at 6 weeks post-delivery.
2. Significant relationships were found between: functional social support and postnatal depression; informal social support and postnatal depression; maternal parental self-efficacy and postnatal depression; and informal social support and maternal parental self-efficacy at 6 weeks post-delivery.

## Limitations

- As this was a quantitative study, mothers' in-depth perceptions and experiences of social support, maternal parental self-efficacy and postnatal depression have not been explored from their frame of reference.
- Non-random sample: A convenience sample was selected due to time constraints and in an effort to obtain a large number of respondents with consideration for tests of statistical significance. A random sample may have provided a group with differing support needs, maternal parental self-efficacy levels and rates of postnatal depression.

# New Mothers and Media Use: Associations Between Blogging, Social Networking, and Maternal Well-Being

[\*McDaniel, B. T., Coyne, S. M., & Holmes, E. K. \(2012\). New Mothers and Media Use: Associations Between Blogging, Social Networking, and Maternal Well-Being. Maternal and Child Health Journal, 16\(7\), 1509-1517.\*](#)

**Blogging, but not social networking, fulfilled a means of social support to new mothers, providing feelings of connectedness and well-being.**

Sample, Hypothesis, Variables Measured, Study Design

## Sample

- N: 157
- Subject Ages: Mothers 27.0 years, infants 7.9 months
- Location: Not available
- SES: Household income of less than \$50,000
- Eligibility: All mothers had access to the Internet in their home and a baby less than 18 months old who



was their first and only child

- Additional:
  - First marriage, married an average of 3.26 years
  - Most of the mothers:
    - Were White non-Hispanic
    - Had graduated from college
  - About half of the mothers worked, some working from home, with the average number of hours worked in a week of 12.18

## Hypotheses

1. New mothers will utilize the computer and Internet every day, with at least some of this time spent on social networking and blogging.
2. The majority of new mothers will report reasons for blogging that align with perceptions of social support, such as maintaining contact with family and friends.
3. Media social supports, such as blogging and social networking, will be associated with new mothers' abilities to stay connected with others in their social network and with stronger perceptions of social support (mesosystem).
4. Social support will be negatively related to mycrosystemic processes including parenting stress, marital conflict, and maternal depression and positively related with marital satisfaction. Decreased parenting stress is expected to be associated with decreased maternal depression and marital conflict. Marital conflict is expected to be negatively related to marital satisfaction.

## Variables Measured, Instruments Used

- Media use and daily life - author questionnaire
- Computer and Internet use - author questionnaire
- Reasons for blogging - measure developed by Lenhart and Fox
- Feelings of connectedness - author questionnaire
- Social support - the Relationships with Other People Scale
- Parenting stress - a 30-item, modified version of the 101-item Parenting Stress Index
- Marital conflict - select items from the RELATE assessment battery
- Marital satisfaction - the Quality of Marriage Index (QMI)
- Maternal depression - the Center for Epidemiological Studies Depression Scale

## Design—Correlational

## Findings

1. New mothers spent approximately three hours on the computer each day, with most of this time spent on the Internet—a significant proportion of time.
2. Findings suggested that frequency of blogging predicted feelings of connection to extended family and friends, which then predicted perceptions of social support.
3. This in turn predicted maternal well-being as measured by marital satisfaction, couple conflict, parenting stress and depression.
4. Conversely, unlike blogging, our results revealed that social networking was not associated with connectedness or social support.

## Limitations

- Paper is exploratory in nature: This is one of the first studies to examine first-time, new mothers' social media use, especially blogging and social networking, and the potential relationship between media use and maternal well-being.
- Correlational research cannot establish causation.
- Demonstrated effects may be reversed; for example, it may be that those mothers with stronger relationships tend to turn to blogging more to connect with extended family and friends. It is also possible that those with better well-being may be more or less likely to use media for social support.
- Sample was limited and consisted of mostly white, highly educated mothers.
- It is also important to note that blogging can be done in different domains. For example, some mothers may blog in order to connect with family and friends, while others may blog in order to connect with other parents on the Web. This study did not address this distinction.
- Measures of media use were limited (e.g., access to social media supports on the Internet via mobile phones and other devices was not examined).

# Parenting Style Trumps Work Role in Life Satisfaction of Midlife Women

[Kasimatis, M. D., & Guastello, D. D. \(2012\). Parenting Style Trumps Work Role in Life Satisfaction of Midlife Women. Journal of Articles in Support of the Null Hypotheses, 9\(1\), 52-60.](#)

**Parenting style determined mothers' midlife life satisfaction while mothers' work roles did not, and authoritative parenting styles were directly linked to midlife happiness.**

Sample, Hypothesis, Variables Measured, Study Design

## Sample

- N: 432
- Subject Ages: Mean maternal age of 49.6 years
- Location: Not available
- SES: Not available
- Eligibility: Mothers of undergraduate students from an upper Midwest college
- Additional: 96% Caucasian

## Hypotheses

1. Maternal work patterns would be significantly related to midlife life satisfaction.
2. Adopting an authoritative parenting style would be beneficial for mothers in terms of their self-reported life satisfaction.

## Variables Measured, Instruments Used

- Parenting style - the Parental Authority Questionnaire (Buri, 1991) revised
- Satisfaction with life - the Satisfaction with Life Scale (Diener, Emmons, Larson & Griffin, 1985)
- Work role and stress - author questionnaire

**Design—Descriptive****Findings**

1. Work role was found to be non-significant in relation to mothers' midlife satisfaction, whereas an authoritative parenting style was significantly correlated to this same variable.
2. Employed mothers did report being more stressed, especially when their children were younger, but maternal work role was not predictive of these women's life satisfaction in midlife.

**Limitations**

- Retrospective: Asking mothers to recall retrospectively their parenting styles is a potential limitation in this study. Certainly social desirability effects or other biases in memory could come into play.
- Non-random sample: Sample was overwhelmingly Caucasian and Christian, so generalizations must be made with caution.
- Results, while significant, accounted for a small amount of variance and thus should not be over-interpreted.

## **Social Influences on Neuroplasticity: Stress and Interventions to Promote Well-Being**

[\*Davidson, R. J., & McEwen, B. S. \(2012\). Social influences on neuroplasticity: stress and interventions to promote well-being. Nature Neuroscience, 15\(5\), 689-695.\*](#)

**More research is needed to explore brain plasticity in response to social influences. What is known is that stress affects humans and animals similarly in changing the activation and physical structure of different parts of the brain. It also appears that positive emotional qualities can be acquired through training of the mind.**

Objective, Study Design

**Objective**

1. To review of some key findings at the animal level that establish experience-induced structural brain plasticity in response to social influences

**Design—Descriptive literature review**

**Findings**

1. Evidence at the animal level:
  1. Several different mechanisms of plasticity, including dendritic and synaptic turnover and neurogenesis, have been identified.
  2. The animal and human evidence is consistent in demonstrating that many forms of stress promote

excessive growth in sectors of the amygdala, whereas effects in the hippocampus tend to be opposite.

3. Whether critical or sensitive periods exist for plasticity in response to social influences has not been thoroughly addressed and more systematic developmental studies are required. The reversibility of structural changes following alterations in social and emotional conditions has not been systematically examined.
2. Evidence at the human level:
  1. Research is beginning to document the effect of explicit interventions designed to decrease stress and promote pro-social behavior and well-being on brain structure and function. These studies are consistent with basic research in demonstrating increases in specific sectors of prefrontal activation and decreases in amygdala activation.
  2. These functional alterations are accompanied by structural changes that show increases in prefrontal volume and decreases in amygdala volume.
  3. The precise differences among the various interventions that have been developed for this general purpose have not been systematically studied, nor has the relation between functional and structural changes been carefully documented.
  4. It is apparent that both structural and functional connectivity between prefrontal regions and subcortical structures is extremely important for emotion regulation and that these connections represent important targets for plasticity-induced changes.
3. The studies on interventions explicitly designed to promote positive emotional qualities, such as kindness and mindfulness, imply that such qualities might best be regarded as the product of skills that can be enhanced through training, just as practice will improve musical performance and produce correlated regionally-specific anatomical changes.
4. Whether these interventions simply modulate the adverse effects of stress or whether they result in a profile of neurobehavioral functioning that is better than normal will require considerably more evidence, although the available evidence points toward the latter possibility.

## Social Support, Volunteering and Health Around the World: Cross-National Evidence From 139 Countries

[Kumar, S., Calvo, R., Avendano, M., Sivaramakrishnan, K., & Berkman, L. F. \(2012\). Social support, volunteering and health around the world: cross-national evidence from 139 countries. \*Social Science & Medicine\*, 74\(5\), 696-706.](#)

**Personal health was associated with social support, which included relationships with family and friends as well as volunteer opportunities.**

Sample, Hypothesis, Variables Measured, Study Design

### Sample

- N: 438,381 from the Gallup World Poll, which began in 2005 and collected data annually from representative samples in 154 countries, representing 95% of the world's adult population. From 2005 to 2009, the survey sampled around 1,000 individuals from each country, though samples differed depending on population size in each country. Not all countries were sampled each year, and until 2008, only 78 countries were sampled in all three waves. In contrast to previous international surveys, the

Gallup World Poll covered more poor countries in Sub-Saharan Africa and was nationally representative for a larger number of countries. For this study, the authors looked at data collected during 2005 to 2009.

- Subject Ages: 15 to 75 years
- Location: 154 countries
- SES: All
- Eligibility: Civilian, non-institutionalized population

## **Hypothesis**

1. Low- and middle-income countries' social connectedness and volunteering are more important to the health of individuals than in high-income countries.

## **Variables Measured, Instruments Used**

- Statistical computations were applied to the data set compiled from telephone surveys and face-to-face interviewing. Further details of the sampling frame are provided in the Gallup Annual Report (2008).

## **Design—Correlational**

## **Findings**

1. Associations of social support and volunteering with self-rated health are consistently positive across different cultural, economic and geographic settings. However, the magnitude of this association varies significantly.
2. The hypothesis that associations between health and social support will be stronger in non-Western countries as a result of their weaker social protection policies.
3. Results suggest no marked gender difference in the relationship between social capital and self-rated health.
4. Self-rated health was significantly associated with having social support from friends and relatives and volunteering. These associations are strikingly consistent across countries.
5. Results indicate that the link between social capital and health is not restricted to high-income countries but extends across many geographical regions regardless of their national income level.

## **Limitations**

- Data do not allow cross-national or cross-regional comparisons of absolute levels of self-rated health and social contacts.
- Measures in the Gallup survey are dichotomous. There was no examination of whether there was a “dose response” association between social capital measures and health.
- The use of single items instead of a multidimensional measure of both health and social support
- While it is tempting to interpret these findings as evidence of causality from social networks and volunteering to health, it is likely that at least part of the association observed reflects the impact of health on these two forms of social capital (reverse causation).
- The extent of comparability of measures of social capital across different cultures and regions would also limit the interpretation of our results.

# Strive for Balance in Personal and Family Life

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