

How Does the Early Environment Affect Health Across the Lifespan?

Shelley E. Taylor
University of California, Los Angeles
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Risky Families

A harsh early family environment (marked by conflict, cold, non-nurturant behavior, and/or neglect) predicts adverse health outcomes in adulthood

Risky Families Questionnaire (Sample Items; 1 = Not at All, 4 = All the Time)

1. How often did a parent or other adult in the household make you feel that you were loved, supported, and cared for?
2. How often did a parent or other adult in the household swear at you, insult you, put you down, or act in a way that made you feel threatened?
3. How often did a parent or another adult in the household express physical affection for you, such as hugging or other physical gesture of warmth and affection?
4. How often did a parent or other adult in the household push, grab, shove, or slap you?
5. In your childhood, did you live with anyone who was a problem drinker or alcoholic, or who used street drugs?

Risky Families Questionnaire Cont. (1 = Not at All, 4 = All the Time)

6. Would you say that the household you grew up in was well-organized and well-managed?
7. How often would you say that a parent or other adult in the household behaved violently toward a family member or visitor in your home?
8. How often would you say there was quarreling, arguing, or shouting between your parents?
9. Would you say the household you grew up in was chaotic and disorganized?
10. How often would you say you were neglected while you were growing up, that is, left on your own to fend for yourself?

Why?

Why does the early environment affect health long into adulthood?

We focus on:

- Emotion Regulation and Social Skills
- Alterations in Biological Stress Regulatory Systems
- Neural regulation of stress responses
- Expression of genes related to stress

Effects on Socioemotional Skills

- Poor emotion regulation skills
- Poor social skills

Effects on Biological Systems that Regulate Stress

- ▣ Among men only, very harsh family environment is associated with elevated heart rate and blood pressure
- ▣ Harsh early environment is associated with an elevated flat trajectory of cortisol responses to stress

Why? Cont.

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Effects on Neural Regulation of Stress Responses in the Brain

Family Environment and Coping

- Children from risky families show
 - High levels of avoidant coping
 - Overly aggressive responses to stressors perceived by others to be only moderately challenging
 - Ineffective coping (Coping that does not reduce experienced stress)

Question: Any neural evidence for these processes?

How does the Brain Regulate Responses to Stress?

- Amygdala, tied to threat detection and fear responses
- RVL PFC (right ventrolateral prefrontal cortex), regulates amygdala responses to threat



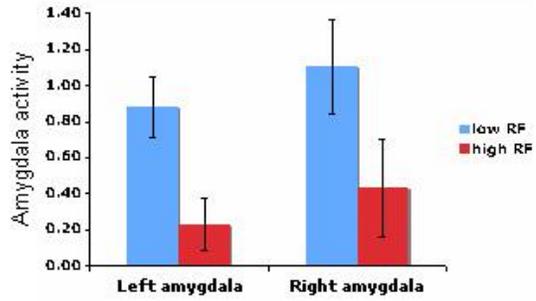
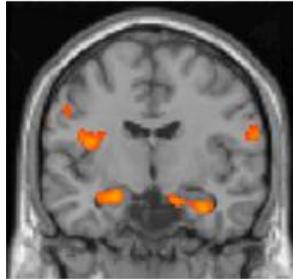
Observe Only



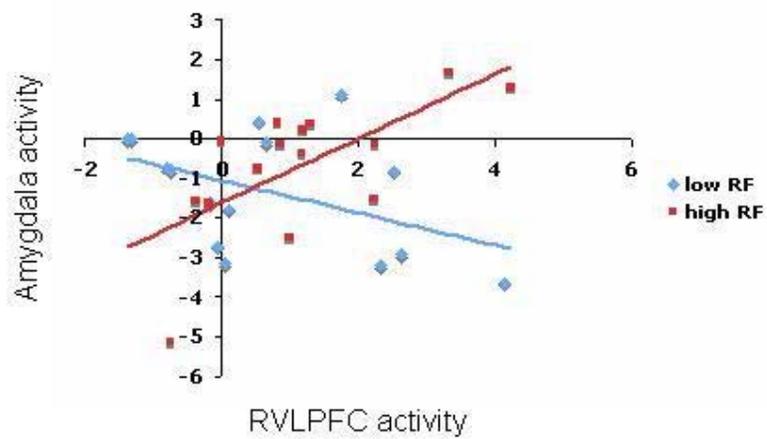
Label Emotions



Label Gender
(Control Task)



In the observation of faces, offspring from harsh environments show significantly lower amygdala activity, suggesting they are tuning out the stimuli



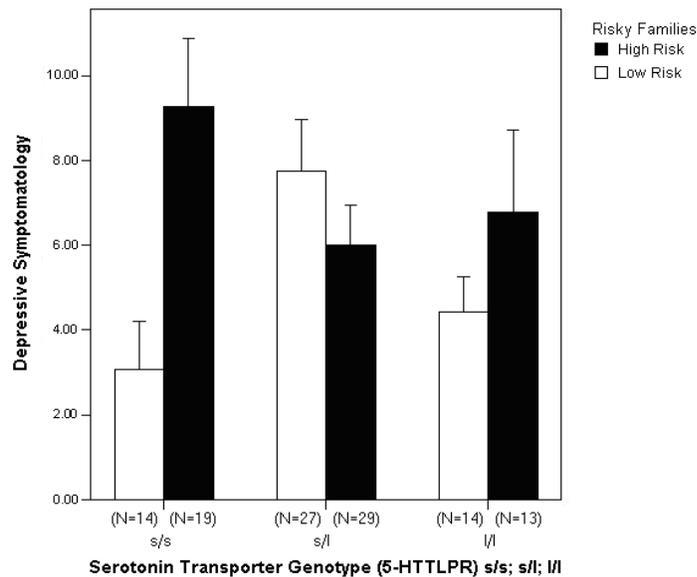
Conclusions

- ❑ Growing up in a risky family environment marked by harsh parenting has effects on neural processes involved in the regulation of responses to threat
- ❑ Offspring from risky families may not have emotion regulation skills for coping with stressful circumstances

Effects of Risky Families on the Expression of Genes Related to Stress

Does Early Environment Affect the Expression of Genes Related to Managing Threat?

- Background: people homozygous for the short allele (s/s) of the serotonin transporter gene (5-HTTLPR) are at increased risk for depression if exposed to early or current adversity



People homozygous for the short allele had greater depressive symptomatology if they had experienced early adversity but significantly less depressive symptomatology if a supportive early environment

Why does Early Environment Affect Health Across the Lifespan?

- ❑ Socioemotional skills: Nurturant early environment enables offspring to develop emotion regulation and social competence skills
- ❑ Biological stress responses: Over time, exaggerated stress responses may lead to cumulative changes in biological stress regulatory systems, contributing to adverse health outcomes.

Why does Early Environment Affect Health Across the Lifespan? Cont.

- ❑ Neural mechanisms: Early environment influences how the brain responds to stress
- ❑ Genetic expression: Early environment can influence the expression of genes related to stress responses.

Interventions with Families

- ❑ Parenting skills training
- ❑ Early detection of troubled families
- ❑ Family interventions

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Stress Interventions

- ❑ Identifying and monitoring stressors
- ❑ Identifying stress antecedents
- ❑ Avoiding negative self-talk
- ❑ Acquiring skills, such as reframing, time management
- ❑ Setting goals
- ❑ Positive self-talk

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Coping Interventions

- Mindfulness training
- Disclosure, Writing interventions
- Coping Effectiveness Training
 - Positive reappraisal
 - Relaxation skills
 - Cognitive-behavioral management skills
 - Diet, exercise
- Social Support