

James & Esther King Biomedical Research Program

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Psychology
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2011 Program
New Investigator Research
(3-year project)

Project Title: Serotonergic Function and Impulsive Responding in Treatment-Seeking Smokers

Project Summary: Smoking cessation is the most important behavior change a person can make. Smokers often have problems regulating their emotions, which lower their chances of quitting. Low serotonergic function (SF) relates to less control over emotion. Also, childhood maltreatment may create a web of implicit negative associations in memory. No previous research has examined whether low SF combines with early adversity to reduce the odds of quitting smoking. This study will examine relationships between the serotonin transporter gene, early adversity, and smoking cessation. Treatment-seeking adult smokers (N = 80) will receive 8 sessions of cognitive behavioral therapy for cessation, plus nicotine patch therapy. Participants will complete measures of smoking history, early childhood adversity, and genotyping for the 5HTTLPR polymorphism, an SF marker; they will also complete a cognitive task assessing control over emotional material. We expect that (a) adverse early experience will combine with the S genotype (marking low SF) to show impulsive responses to emotion; (b) adverse experience will combine with the S genotype showing deficits in control over emotional material; and (c) poor cognitive control over emotions will reduce smoking cessation, made worse by emotional challenges while quitting. This study will be the first to link genetics and cognitive patterns to smoking cessation. Findings will be relevant to tailoring interventions based on genotype, and reducing smoking and related diseases.