Neuropsychological studies of amygdala function in schizophrenia

by

Dr Jeremy Hall

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29th October 2006
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ABSTRACT OF THESIS

Introduction: The human amygdala plays a central role in emotional and social cognition. There is extensive evidence that the amygdala is structurally abnormal in individuals with schizophrenia. However, only a narrow range of neuropsychological tests have been used to investigate amygdala function in schizophrenia. This study aimed to determine whether subjects with schizophrenia are impaired on a range of neuropsychological tests dependent on the amygdala. Method: Two studies were conducted. In the first study subjects with schizophrenia and matched control subjects participated in tests of facial emotion recognition and social cognition known to depend upon the amygdala. In the second study emotional memory formation was tested in subjects with schizophrenia and control subjects. Results: Patients with schizophrenia showed deficits in all three tests of amygdala function. In tests of facial emotion recognition patients with positive symptoms were impaired in recognising basic facial emotions, particularly the emotion of fear. In tests of social cognition subjects with schizophrenia had overall deficits in social judgement that were present independent of symptom status. In tests of the emotional memory subjects with schizophrenia showed a significant deficit in enhancement of recognition memory for emotional stimuli, and a more selective deficit in enhancement of recall for the most arousing emotional scenes. Discussion: The finding of deficits in the performance of subjects with schizophrenia on three tests of amygdala function provides strong convergent evidence for abnormal function of the amygdala in schizophrenia. Dysfunction of the amygdala may contribute to the deficits in social and emotional function that are characteristic of schizophrenia.
# TABLE OF CONTENTS

1. **Introduction** 1-27  
   1.1 General Introduction 2  
   1.2 Amygdala anatomy 5  
   1.3 Neuropsychological tests of amygdala function 8  
   1.4 Amygdala structure in schizophrenia 16  
   1.5 Amygdala function in schizophrenia 19  
   1.6 Summary and hypotheses 26  

2. **Methods** 28-40  
   2.1 Overview 29  
   2.2 Study 1: Facial emotion recognition and social cognition 30  
   2.3 Study 2: Emotional memory 36  

3. **Results** 41-65  
   3.1 Study 1: Facial emotion recognition and social cognition 42  
   3.2 Study 2: Emotional memory 54  

4. **Discussion** 66-83  
   4.1 Summary of main findings 67  
   4.2 Facial emotion recognition 68  
   4.3 Social cognition 71  
   4.4 Emotional memory 75  
   4.5 Strengths and limitations 79  
   4.6 General conclusions 81  
   4.7 Future research 83  

5. **References** 84-103