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# **ON THE ORIGIN OF COGNITIVE DISSONANCE**

**A thesis presented in partial fulfilment  
of the requirements for the degree of  
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For Navina, in gratitude  
for her loving support and confidence



## **Abstract**

Since Festinger (1957) published his monograph describing Cognitive Dissonance (CD), a wealth of research has led to a widely accepted understanding of its nature and effect on human behaviour. Holding two conflicting cognitions in mind simultaneously results in an aversive feeling which is alleviated when action is taken to resolve the conflict. In many ways, it acts like an aversive emotion though it is not widely regarded as one. Emotions are accepted as products of humanity's evolution over many millions of years. Despite its occasional designation as 'adaptive' and even rarer comparison to emotions, research establishing CD as a product of Darwinian selection pressures is still lacking. In this research, three main hypotheses based upon Darwinian considerations were developed which predicted differential sensitivity to contradictions according to semantic categories. Further minor predictions were made to test relative sensitivities within categories. Verification of the main hypotheses provides clear evidence for a Darwinian explanation for the existence of CD.

Two studies to test the hypotheses were based upon the contradiction paradigm. Over four hundred adults from university premises and shopping mall food courts volunteered to read short stories on a laptop computer screen. Half the stories contained a line contradicting an earlier one. These contradictory stories embraced nine semantic categories of contradiction. As participants successively pressed the space bar to display each story line, their response times were recorded. Predictions specified participants' relative sensitivities to each category of contradiction, indexed by the differential response times of contradictory lines.

Analyses of the response times of all participants combined and male and female participants separately produced confirmations of the main predictions, often with large effect sizes, and a mixture of confirmations and disconfirmations of the minor ones. Some interesting differences between male and female participants emerged for which tentative explanations are offered. The data were further analysed to verify the assumptions upon which the contradiction paradigm is based. In summary, it is claimed that this research establishes CD as a product of Darwinian evolution.





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## List of Abbreviations

|       |   |
|-------|---|
| ACC   | Anterior Cingulate Cortex                     |
| BAS   | Behavioural Approach System                   |
| BIS   | Behavioural Inhibition System                 |
| BP    | Before the Present                            |
| CAT   | Computer Aided Tomography                     |
| CD    | Cognitive Dissonance                          |
| DLFC  | Dorsolateral Frontal Cortex                   |
| DNA   | Deoxyribonucleic Acid                         |
| EEA   | Environment of Evolutionary Adaptation        |
| EEG   | Electro Encephalograph                        |
| fMRI  | Functional Magnetic Resonance Imaging         |
| kya   | Thousands of years ago                        |
| LFC   | Left Frontal Cortex                           |
| MMT   | Meaning Management Model                      |
| MRI   | Magnetic Resonance Imaging                    |
| mtDNA | Mitochondrial Deoxyribonucleic Acid           |
| mya   | Millions of years ago                         |
| PET   | Positron Emission Tomography                  |
| RFC   | Right Frontal Cortex                          |
| RT    | Response or Read Time                         |
| SRR   | Survival, Reproduction and Reputation related |
| SSSM  | Standard Social Science Model of the mind     |
| TMT   | Terror Management Theory                      |
| WM    | Working Memory                                |

