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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

