THE EXPECTANCY EFFECTS OF CAFFEINE ON COGNITIVE PERFORMANCE

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A Thesis Submitted to the
University of North Carolina at Wilmington in Partial Fulfillment
of the Requirements for the Degree of
Master of Arts

Department of Psychology

2004

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TABLE OF CONTENTS

ABSTRACT ............................................................................................................................... vi

ACKNOWLEDGEMENTS ....................................................................................................... vi

DEDICATION .......................................................................................................................... vii

LIST OF FIGURES ................................................................................................................ viii

THE EFFECTS OF CAFFEINE ON COGNITIVE PERFORMANCE ........................................ 1

THE EFFECTS OF CAFFEINE ON CRITICAL FLICKER FUSION ........................................ 1

THE EFFECTS OF CAFFEINE ON REACTION TIME .............................................................. 2

THE EFFECTS OF CAFFEINE ON ATTENTION AND SUSTAINED ATTENTION ............... 4

THE EFFECTS OF CAFFEINE ON SHORT TERM MEMORY .................................................. 9

THE EFFECTS OF CAFFEINE ON VERBAL MEMORY ......................................................... 10

THE EFFECTS OF CAFFEINE ON MENTAL ROTATION ..................................................... 12

HYPOTHESIS .......................................................................................................................... 14

METHOD .................................................................................................................................. 15

Participants ............................................................................................................................. 15

MATERIALS ............................................................................................................................ 16

PROCEDURE ........................................................................................................................... 17

RESULTS .................................................................................................................................. 19

EXPERIMENT 1 ......................................................................................................................... 22

DISCUSSION ............................................................................................................................. 30

EXPERIMENT 2 ......................................................................................................................... 32

PROCEDURE ........................................................................................................................... 32

RESULTS (STUDY 2) ................................................................................................................. 33
ABSTRACT

Numerous studies have been conducted on caffeine and its stimulant effects. However, studies that have been conducted to examine the effects of caffeine on alertness and memory have produced conflicting results. Several factors may be critical in explaining these mixed results, one of them being dose level. Past research has shown that performance improved with low doses of caffeine but higher doses of caffeine hindered performance on mental rotation. The purpose of the present study was to test the effects of caffeine under conditions that are better controlled than previous studies to determine its dose-related effects on a mental rotation task and a paired-word verbal memory task. Low levels of caffeine were predicted to improve performance on the Mental Rotation and Verbal Short-Term Memory tasks and higher doses to produce a decrement in performance on these tasks. “Average” caffeine consumers were recruited with a screening survey. Subjects were administered caffeine in capsules (0mg/kg, 1mg/kg, 2mg/kg & 3mg/kg in capsules or 0mg/kg or 2mg/kg caffeine in a decaffeinated cup of coffee). Procedural variables were controlled for that many past studies have failed to control for, such as caffeine dose, participant’s weight, participant’s caffeine use frequency, participant’s drug use history, time of day effects, influence that food consumption may have on caffeine, gender effects and withdrawal effects.

The results showed that there were no significant differences in performance between the dose groups. But when a cup of coffee condition was added, performance for subjects given both decaffeinated coffee and caffeine coffee was significantly better, or showed a trend for better performance, on the mental rotation task and the paired-word task than did the capsule conditions. The results also agreed with
past research that males performed significantly better than females on the mental rotation and that females performed better on the task of verbal memory.
ACKNOWLEDGEMENTS

I would like to thank Dr. Robert Hakan for having the faith in me to allow me to develop and run my own study. His guidance along the way has not only made me a better researcher, but person. I would also like to thank Dr. Hakan for his endless patience and help with multiple revisions.

My thanks go to Dr. Len Lecci for his statistical guidance and Dr. Nora Noel for her help and encouragement along the way.

Special thanks go to Dan Barker, Zachary Bathon, Scott Walls, Nina Schneider, Justin Canfield and other friends that sat patiently and listened while I talked about theories in psychology and caffeine for hours.

I would also like to thank Jason Stockdale, Stephanie Williams, Beth Barrier and the other students that volunteered their valuable time to help me conduct my research. Without your time this would not have been possible.

Finally, I would like to thank Francis, Rebecca, Wilga and Ramona Lothes and the rest of my family for their emotional and economic support throughout my studies.
DEDICATION

I would like to dedicate this thesis to my parents John and Wilga Lothes, who have continually been there for me. If it was not for their continued support, encouragement and love I could have never made it this far.

THANK YOU
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Drug Screening Survey Scores for Reported Caffeine Use</td>
<td>21</td>
</tr>
<tr>
<td>2</td>
<td>MRT Results Across Caffeine Condition</td>
<td>23</td>
</tr>
<tr>
<td>3</td>
<td>MRT Results Across Caffeine Condition by Gender</td>
<td>25</td>
</tr>
<tr>
<td>4</td>
<td>MRT Results by Gender</td>
<td>26</td>
</tr>
<tr>
<td>5</td>
<td>PWA Results Across Caffeine Condition</td>
<td>27</td>
</tr>
<tr>
<td>6</td>
<td>MRT Results Across Caffeine Condition by Gender</td>
<td>28</td>
</tr>
<tr>
<td>7</td>
<td>MRT Results by Gender</td>
<td>29</td>
</tr>
</tbody>
</table>