Personality Assessment and Ethnicity:
A New Zealand Study

A thesis presented in partial fulfilment of
the requirements for the degree of
Master of Arts in Psychology at Massey University, Palmerston North
New Zealand.

By Simon Cox
Department of Psychology
Massey University

2008
Abstract

Ethnic status is one of the most protected demographic groups in terms of test bias and discrimination in personnel selection, as such bias breaches many laws, morals, and ethical procedures. To date there has only been two published studies that have used New Zealand relevant ethnic groups when analysing whether personality measures used in pre-employment settings exhibit different mean scores. The present thesis performed a systematic evaluation on the impact of ethnicity on personality traits. The study examined the impact of ethnicity on NZ Army Officer applicant personality assessment scores measured by the EPQ-R and GPP-I. Four ethnic groups (NZ Europeans, Māori, Pasifika, and Asian) were analysed for mean trait score differences among ethnic groups, the stability of these differences across different personality inventories and models, the variance of personality traits, the impact of ethnicity on age and gender relationships with personality traits, and how these differences were related to employment selection outcomes.

The analyses revealed that ethnicity did have some impact on mean personality assessment scores used in the study. However, these were mostly small differences among ethnic groups. In addition, most of these differences found on the EPQ-R and the GPP-I were not consistent across inventories and models. There were no significant variance differences found on personality traits among ethnic groups. While initial analysis suggested that ethnicity did not influence the relationship between age and gender on personality assessment, further examination suggested that the relationship between gender and personality was impacted on by ethnicity. There were reassuring results found for New Zealand psychologists and HR specialists, as only two of the twelve traits analysed showed moderate differences on traits that were related to selection outcomes. However, for the NZ Army OSB selection process the findings in the present study indicate that the Lie scale on the EPQ-R and the Vigor trait on the GPP-I may need to be interpreted with caution for Asian and Pasifika groups. These results are discussed in terms of implications for personality theory, measurement, and the direction of future research.
Acknowledgements

To all those persons who, in special, and often quite different ways, have assisted me in this research, I extend my grateful thanks. In particular I am especially grateful to my supervisor, Dr Gus Haberman, who has offered continued support, inspiration and encouragement throughout this process. I would also like to thank the New Zealand Army Psychology group, particularly Major Helen Horn and Major Stephen Kearney, for allowing me access to New Zealand Army data and setting aside their time to help with research agendas. Finally, I would like to express my tremendous gratitude to both my mother and father and family as a whole who have provided me with great support, guidance, wisdom and love during the duration of this thesis.
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstract</td>
<td>ii</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>iii</td>
</tr>
<tr>
<td>Table of Contents</td>
<td>iv</td>
</tr>
<tr>
<td>List of Tables</td>
<td>vii</td>
</tr>
<tr>
<td>List of Figures</td>
<td>ix</td>
</tr>
<tr>
<td>1. Research Overview</td>
<td>1</td>
</tr>
<tr>
<td>1.1. Current Study</td>
<td>4</td>
</tr>
<tr>
<td>1.2. Overview</td>
<td>5</td>
</tr>
<tr>
<td>2. Personality Assessment and its Utility in Personnel Selection</td>
<td>6</td>
</tr>
<tr>
<td>2.1. Personality Assessment: An Overview</td>
<td>6</td>
</tr>
<tr>
<td>2.1.1. Theoretical Bases of Personality Assessment</td>
<td>6</td>
</tr>
<tr>
<td>2.1.2. Personality Assessment in Psychometrics</td>
<td>11</td>
</tr>
<tr>
<td>2.2. Personality Assessment in the Service of Human Resource Management Agendas</td>
<td>25</td>
</tr>
<tr>
<td>2.2.1. Personality Factors in Personnel Selection</td>
<td>26</td>
</tr>
<tr>
<td>2.2.2. Use of Personality Assessment in the Armed Forces</td>
<td>27</td>
</tr>
<tr>
<td>2.2.3. Ethical Issues</td>
<td>30</td>
</tr>
<tr>
<td>2.2.4. Legislative Issues</td>
<td>32</td>
</tr>
<tr>
<td>3. Personality and Ethnicity</td>
<td>34</td>
</tr>
<tr>
<td>3.1. Overview of Research History</td>
<td>36</td>
</tr>
<tr>
<td>3.1.1. Are Personality Traits Universal?</td>
<td>36</td>
</tr>
<tr>
<td>3.1.2. Is Personality Structure Universal?</td>
<td>37</td>
</tr>
<tr>
<td>3.2. Ethnic Group Differences on Element Personality Traits</td>
<td>38</td>
</tr>
<tr>
<td>3.2.1. Overseas Research</td>
<td>40</td>
</tr>
<tr>
<td>3.2.2. New Zealand Based Research</td>
<td>43</td>
</tr>
</tbody>
</table>
4. The Present Study ................................................................. 47

5. Methodology ........................................................................ 51
   5.1. Participants ................................................................. 51
   5.2. Measures ..................................................................... 52
      5.2.1. Eysenck Personality Questionnaire-Revised (EPQ-R) .... 52
      5.2.2. Gordon Personal Profile – Inventory (GPP-I) .......... 59
   5.3. Analysis ..................................................................... 63

6. Results ................................................................................. 67
   6.1. Log-linear transformation ............................................. 68
   6.2. Interrelationships between Personality Scales ............... 69
   6.3. Mean Ethnic Differences on Personality Scales ............... 77
      6.3.1. Ethnic Differences on Single Personality Traits ......... 77
      6.3.2 Overall Ethnic Differences on Personality Traits ......... 88
   6.4. Gender Differences on Personality Scales ..................... 91
   6.5. The Impact of Ethnic Status on Gender- and Age- relevant Patterns in Personality Assessment ......................... 92
   6.6. Job Offer ................................................................... 94

7. Discussion .............................................................................. 99
   7.1. Generalisation issues ................................................... 100
   7.2. Interrelationship among personality traits across ethnic groups ...... 102
      7.2.1. EPQ-R .............................................................. 103
      7.2.2. GPP-I .............................................................. 107
   7.3. Inter-group Differences regarding Personality Traits ........ 110
      7.3.1. EPQ-R .............................................................. 110
      7.3.2. GPP-I .............................................................. 113
      7.3.3. Overall Ethnic Differences on the EPQ-R and GPP-I .... 118
      7.3.4. Stability of Ethnic Difference on Personality Traits .... 119
   7.4. The Impact of Ethnic Status on Gender- and Age- relevant Patterns in Personality Assessment ......................... 121
      7.4.1 Variance of Personality Traits among Ethnic Groups .......... 122
      7.4.2 The Impact of Ethnic Status on Gender - and
Personality Assessment and Ethnicity: A New Zealand Study

7.5. Findings on Personality differences and their Utility in Personnel Selection

8. Limitations and Future Perspectives

8.1. Limitations

8.2. Future Research

9. Conclusion

References

Appendices

Appendix A: Application for Approval of Request to Embargo a Thesis
Appendix B: Letter from NZ Army for the Approval of data
Appendix C: Letter of Approval of Research from the Massey University Ethics Committee
## List of Tables

Table 2.1. Description of traits referred to in the FFM ..............................................................16  
Table 5.1. Mean age of different ethnic groups .........................................................................51  
Table 5.2. Mean age for males and females .............................................................................52  
Table 5.3. List of variables used in the present study .................................................................63  
Table 6.1.1. Descriptive values for the EPQ-R and GPP-I scales after Log-linear transformation .................................................................................................................................68  
Table 6.1.2. Descriptive values for the P and N scales of the EPQ-R and O scale of the GPP-I after log-linear transformation ........................................................................................................69  
Table 6.2.1. Correlation matrix for the EPQ-R scales ................................................................70  
Table 6.2.2. Correlation matrix for the GPP-I traits ..................................................................74  
Table 6.2.3. Correlation matrix among the EPQ-R traits and the GPP-I traits .........................76  
Table 6.3.1. T-test and d statistic values of scale scores for NZ European and Māori .............77  
Table 6.3.2. T-test and d statistic values of scale scores for NZ European and Pasifika ..........79  
Table 6.3.3. T-test and d statistic values of scale scores for NZ European and Asian .............83  
Table 6.3.4. T-test and d statistic values of scale scores for Māori and Pasifika .................86  
Table 6.3.5. T-test and d statistic values of scale scores for Māori and Asian .......................87  
Table 6.3.6. T-test and d statistic values of scale scores for Pasifika and Asians ....................88  
Table 6.3.7. Eigenvalue, canonical correlation, and Wilk’s lambda results for Māori-Pasifika group from Discriminant Analysis on the GPP-I .........................................................90  
Table 6.3.8. The Structure Matrix for Māori-Pasifika group from Discriminant Analysis on the GPP-I .........................................................................................................................90  
Table 6.3.9. Standardized Canonical Discriminant Function Coefficients for Māori-Pasifika group from Discriminant Analysis on the GPP-I .........................................................90  
Table 6.4.1. T-test and d statistic values of scale scores for Males and Females .......................92  
Table 6.5.1. T-test and d statistic values of scale scores between males and females for NZ European .........................................................................................................................94  
Table 6.5.2. T-test and d statistic values of scale scores between males and females for Māori .........................................................................................................................................95  
Table 6.6.1. Correlations between personality traits and Job offers .......................................97  
Table 6.6.2. T-test and D statistic values of scale scores for Job Offer ...................................98  
Table 7.1. Correlations among scales for 500 Men and 500 Women from the EPQ-R
Table 7.2. Correlation matrix between the EPI scales and the GPP-I scales from the GPP-I manual ...............................107

Table 7.3 Correlations among the GPP-I scales from the GPP-I manual ..........................109
List of Figures

Figure 2.1. Relationship of Extraversion/Introversion and Neuroticism/Stability to earlier personality schemes ................................................................. 23
Figure 5.1. Mean age of different ethnic groups .......................................................... 51
Figure 5.2. Mean age for males and females ............................................................... 52
Figure 5.3. List of variables used in the present study ..................................................... 63
Figure 6.1.1. Descriptive values for the EPQ-R and GPP-I scales after Log-linear transformation .......................................................... 68
Figure 6.1.2. Descriptive values for the P and N scales of the EPQ-R and O scale of the GPP-I after log-linear transformation ............................................... 69
Figure 6.2.1. Correlation matrix for the EPQ-R scales .................................................. 70
Figure 6.2.2. Correlation matrix for the GPP-I traits ................................................... 74
Figure 6.2.3. Correlation matrix among the EPQ-R traits and the GPP-I traits ............ 76
Figure 6.3.1. Comparison among Ethnic groups on Median and SD values for
Psychoticism on EPQ-R. ...................................................................................... 80
Figure 6.3.2. Comparison among Ethnic groups on Median and SD values for
Extraversion on EPQ-R. ...................................................................................... 80
Figure 6.3.3. Comparison among Ethnic groups on Median and SD values for
Neuroticism on EPQ-R ...................................................................................... 80
Figure 6.3.4. Comparison among Ethnic groups on Median and SD values for the Lie scale on the EPQ-R. ................................................................. 81
Figure 6.3.5. Comparison among Ethnic groups on Median and SD values for
Ascendancy on GPP-I ...................................................................................... 82
Figure 6.3.6. Comparison among Ethnic groups on Median and SD values for
Responsibility on GPP-I .................................................................................... 84
Figure 6.3.7. Comparison among Ethnic groups on Median and SD values for
Emotional Stability on GPP-I ........................................................................... 84
Figure 6.3.8. Comparison among Ethnic groups on Median and SD values for
Sociability on GPP-I .......................................................................................... 84
Figure 6.3.9. Comparison among Ethnic groups on Median and SD values for
Original Thinking on GPP-I ............................................................................. 85
Figure 6.3.10. Comparison among Ethnic groups on Median and SD values for Cautiousness on GPP-I. ...........................................................85
Figure 6.3.11. Comparison among Ethnic groups on Median and SD values for Personal Relations on GPP-I. .................................................85
Figure 6.3.12. Comparison among Ethnic groups on Median and SD values for Vigor on GPP-I. ........................................................................86