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Visual Analysis in Air Traffic Control (ATC)

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A research report submitted to the Faculty of Humanities

University of the Witwatersrand

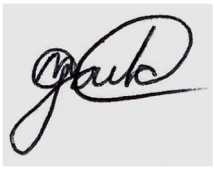
In partial fulfilment of the requirements for the degree of Masters of Arts by coursework and research report in Organisational Psychology

Submitted for examination March 2015

Declaration

I hereby declare that this research report if my own independent work and has not been presented for any degree at any other academic institution, or published in any form.

It is submitted in partial fulfilment of the requirements of Masters of Arts in Organisational Psychology at the University of the Witwatersrand.



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Signed by Megan Gould **Date**

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Abstract

Air Traffic Control (ATC) is responsible for ensuring that aircraft are managed in the safest and most efficient way possible. Air traffic controllers perform complex tasks, some of which involve the analysis of visual inputs. The primary aim of this study was to examine whether there is a relationship between visual analysis and performance during the first training course attended by aspiring controllers. The main sample consisted of fifty-one trainees. An additional twenty-five qualified controllers also completed the visual analysis exercises. Visual analysis was assessed using ScreenX and SAMAE's Scanning and Division of Attention exercises from Leaderware. The Core Content course reports were used as a measure of performance for trainees. Correlations and regressions were performed. The main results showed that the visual analysis scores were related to performance on ten of the fifteen subjects covered during the Core Content course and the overall course average. These findings have implications for the selection of trainees. Secondary analyses found significant differences in the visual analysis abilities of trainees and qualified controllers.

Key words: visual analysis, air traffic control, training, performance

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