

UNIVERSITI TEKNOLOGI MARA

**COMPARISON OF POSITIVE AND NEGATIVE
RANGES OF ACCOMMODATION AND
VERGENCE MEASURES BETWEEN LOW AND
MODERATE VISUAL COMPLAINTS BASED ON
REFRACTIVE ERROR GROUPS**

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JULY 2016

AUTHOR'S DECLARATION

I declare that the work in this study was considerably my own, and to the extent that any part of this work is not my own, I have indicate that it is not mine by fully acknowledgement in accordance with the standard referring practices of the discipline.

I hereby acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, University Teknologi Mara (UiTM) regulating the conduct of my study.

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ABSTRACT

COMPARISON OF POSITIVE AND NEGATIVE RANGES OF ACCOMMODATION AND VERGENCE MEASURES BETWEEN LOW AND MODERATE VISUAL COMPLAINTS BASED ON REFRACTIVE ERROR GROUPS

Background: In binocular viewing, the accommodation and vergence were interacted to each other to form a single clear image. However, the resulting mismatch between accommodation and vergence during prolonged near task could induce stress on our eyes called visual complaint or visual stress. Prolonged near related activities might precipitated more complaints. Uncorrected refractive error also contributed to visual discomfort. **Purpose:** To investigate the accommodation and vergence status with visual stress complaint. **Methods:** Fifty-two young adult subjects were included. Of the total sample, 28 (55.8%) were categorized in low visual complaint group and 24 (44.2%) were in moderate visual complaint group. The visual functions evaluated included refractive errors, relative accommodation and fusional vergences. The relative accommodation was measured by introducing +0.25DS for Negative Relative Accommodation (NRA) and -0.25DS for Positive Relative Accommodation (PRA). The fusional vergences were measured at distance (6 meters) and near (40 centimeters) by prism bar. **Results:** Negative fusional vergence at near was found significant in low complaint emmetropia rather than low complaint myopia. No significant different existed between the refractive errors and accommodation as well as in vergence. **Conclusion:** The amount of relative accommodation and fusional reserves did not relate to the visual complaint.

Keywords: Visual complaint, Refractive error, Relative Accommodation, Fusional Vergence.

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