

World Congress on

CLINICAL, PEDIATRIC AND NEURO OPHTHALMOLOGY

October 03-04, 2018 Osaka, Japan

Relationship between temperament and binocular vision for kindergarten children

Chien-Ju Lin, Pei-Ying Lin, Sheng Pei Yeh, Chiung-Ya Su, Kuo-Cheng Cheng and Ching-Ying
Chung Shun Medical University, Taiwan

Introduced & Purpose: Many clinical optometrists have indicated that binocular vision might be influence on children's behavior or performance, but is short of references for verifying. The purpose of this study was to investigate the relationship between temperament and binocular vision for kindergarten children.

Method: There were totally 32 healthy children age from 5 to 6 participated in the study, parents and school teachers were also included. Binocular examination included refractive errors, habitual distance and near visual acuity, dextrocularity or sinistrocularity, cover-uncover test, pupillary response, fixation, pursuit, saccades, stereoacuity, color vision, near point of accommodation and visual-motor integration (The Beery-Buktenica Developmental Test of Visual-Motor Integration, VMI). In addition, an questionnaire about children's health, nutrition, upbringing, sleep hours, leisure activities, TV and mobile or iPad use; attaching Temperament Assessment Battery for Children (TABC) were all asked to finish by parents and school teachers before binocular examination.

Result: There were 14 boys (43.8%) and 18 girls (56.3%), participants showed lower BMI index (n=28, 87.5%), high percent of irritable physique (n=18, 56.3%) and sleep inadequate (n=23, 71.9% under 8-9 hour). Most children were the eldest child in their families (n=25, 78.1%) and 10 of them (31.3%) were singleton. Binocular examinations indicated all participants had more or less refractive errors, 40.6% (n=13) children were myopic; 37.5% (n=12) were hyperopic; 84.4% (n=27) were astigmatic and 31.3% (n=10) were anisometropia. It was astonished that 8 (Distance VA) to 10 (Near VA) children had poor visual acuity, but only one child had been prescribed corrective lenses. 59.4% children were dextrocularity (n=19) and 40.6% were sinistrocularity (n=13). Most children had normal pupillary response (n=31, 96.9%); normal color vision (n=31, 96.9%); normal pursuit (n=32, 100%); fixation (n=30, 93.8%) and scaccades (n=31, 96.9%), but showed poor stereoacuity (n=5, 15.6%) and poor accommodation (n=13, 40.6%). Moreover, cover-uncover test detected above half children were phoria (eso n=3, 9.4%; exo n=15, 46.9%). Additionally, VIF (Variance Inflation Factor) values of linear regression analysis indicated that each variable is an independent factor. Processed foods stood out as the main factor for modulating children's activity level, other positive and negative modulating factors included phoria, TV, fast food, hyperopia and fixation (adjusted $X^2=0.764$); the modulating factors about children's adaptability and approach included habitual eye (adjusted $X^2=0.191$ and 0.126) and near visual acuity (adjusted $X^2=0.277$); quality of mood included processed foods, habitual eye, sleep, parents' education, BMI index, mobile phone use and premature (adjusted $X^2=0.895$); distractibility included myopia, processed foods, phoria (exo and exo) and TV (adjusted $X^2=0.827$); persistence included BMI index, sleep, accommodation and carnivorous (adjusted $X^2=0.487$).

Conclusion: The cross-sectional pattern of molding children's temperament might be the first study in Taiwan. It is still unknown if this pattern reflects longitudinal effects, as environment is generally diversified and complex. Some of these modulators may be due to the part of the learning process that requires attention or adaptability. It should be mentioned that binocular vision, especially hyperopia and fixation, habitual eye, near visual acuity, phoria (exo and exo) and accommodation might play the leading role in children's temperament cultivation and might have influence on their learning and social skill in the future.

Idioul.tw@gmail.com