

年少時のスポーツビジョンの個人差は生得的か， 運動経験に起因するか

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Are Individual Differences in Sport Vision in Childhood Innate or Resulting from Experience in Sport?

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ABSTRACT

Two experiments were carried out to clarify the cause of individual differences in visual functions of elementary school children.

1st Experiment:

DVA (dynamic visual acuity) and Momentary vision were measured in 110 male and female children aged 8 and 9. The measurements were then analyzed in term of their relationship with the subjects' physique, locomotive ability, liking or disliking for sports, and daily sport habits.

A significant difference was revealed in DVA was shown between the group with higher performance and one with lower performance in both male and female subjects. Similarly, significant difference was found in Momentary vision in either sex.

The males, the group with higher DVA was found to possess better physique and locomotive ability and tend to like sports. In the case of the females, DVA was not

related to physique and was apparently not related to sports, either.

2nd Experiment:

DVA, Eye movement and Functional visual field were examined in the group of children and their parents. The result of analysis showed that there was no significant correlation in any of these visual functions between the children and their parents.

The results of 2 experiments suggest the followings:

- 1) While there are great individual differences in DVA and Momentary vision among both male and female 3rd graders.
- 2) In the male and female subjects, the DVA and Momentary vision is related locomotive ability and liking or disliking for sports.
- 3) There is no correlation between children and their parents in DVA, Eye movement and Functional visual field.

Therefore, it may be concluded that the superiority/inferiority in these visual functions is not innate.

要 旨

年少時のスポーツビジョンの個人差の要因を明らかにするために2つの実験を行った。実験1では小学3年生の男女を対象にしてDVA動体視力と瞬間視を測定し、体格、運動能力、日常の運動習慣から検討した。DVA動体視力と瞬間視には相関がなく、これらは異なる機序による視機能であり、個人内でも異なる発達をするものと考えられた。またDVA動体視力には性差があったが、瞬間視にはなく、瞬間視の性差はこの時点では未分化であった。

実験2では7歳～12歳の少年野球群と一般児童のDVA動体視力、眼球運動、有効視野を比較した。少年野球群はいずれの項目でも一般群よりすぐれている傾向があった。また生得的要因として、子供とその両親のDVA動体視力、眼球運動、有効視野を測定し重相関分析したが、いずれの項目も子供と親との間に有意な関係がなかった。

スポーツビジョンの個人差をもたらす要因とし

て、日常の運動の多少があり、運動習慣を通してDVA動体視力などが発達し、豊富な経験でより発達するものと考えられる。身体の発育がよいこと、および生得的な要因はないものと結論した。