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# Incidence of colour blindness (colour defect) among Iranian primary school children

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Normal colour vision plays an important role for workers in many employment, and those with defective colour vision should not be employed on tasks requiring good colour discrimination (Taylor 1971).

Colour blindness is usually a congenital defect, but we know acquired colour blindness due to senil macular degeneration, retinal detachement, chorio — retinitis and progressive myopia.

No assessement of the incidence of colour blindness in Iranian childern has so far been made. The present study shows the incidence of colour defects among Iranian children.

## Material and Method

1243 primary school students (685 males and 558 females) were selected at random. Ishihara plates were used under daylight conditions and each of the children was shown the complete range of plates at the normal reading distance. In the case of obvious defectives who made many mistakes, the plates were shown once only. Not more than 5 seconds were allowed for the reading of a plate. Any error made and spontaneously corrected was scored as a correct responce. The children ranged in age from 7 to 14 years.

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## Results

The incidence of colour defects among Iranian primary school children is set out in Table I. Out of 1243 students examined, there were 17 colour defects (2,04 per cent. for males and 0,53 per cent. for females). of these individuals 0,48 per cent. were discovered to have complete colour defect and 0,88 per cent. incomplete colour defect. Under the heading complete colour defects the anomalous were seperated into the protanopia or complete red blindness (0,29 per cent. for males, and none was found in a sample of 558 girls) and deuteranopia or complete green blindness (0,44 per cnet, for males and 0,17 per cent. for females). Under the heading incomplete colour defects the anomalous were divided into the protanomalia or moderate red blindness (0,58 per cent. for males and 0,36 per cent. for females) and deuteranomalia or moderate green blindness (0,73 per cent. for males and none was found among 558 girls). The lowest frequencies in our investigation are for protanopia.

These students seemed blithely indifferent to their defects.

| Sex | Number of examined | Age | protanopia | | protanomalia | | deuteranopia | | deuteranomalia | | total | per cent. of total colour defects |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | No. | per cent. | No. | per cent. | No. | per cent. | No. | per cent. | | |
| Male | 685 | 7-14 | 2 | 0,29 | 4 | 0,58 | 3 | 0,44 | 5 | 0.73 | 14 | 2,04 |
| Female | 558 | 7-14 | — | — | 2 | 0,36 | 1 | 0,17 | — | — | 3 | 0,53 |
| | 1243 | | | | | | | | | | 17 | |

**Table I - Incidence of colour defects among primary school children in Iran**

## Discussion

Statistics on the incidence of colour blindness in children are few. We can compare our investigation to that of others.

Bhattacharya (1966) examined 130 Anglo — Indian children for colour blindness and found 8 colour blind (all males). Anomalies of colour vision in East Kentish children have been reported by Richs (1966), who examined 505 boys and 450 girls, of whom 17 boys (3,37 per cent.) were colour blind and no defective was found.

Dobson, Jackson, and Metcalfe (1967) investigated a local population on the Island of Ibiza, where 4,5 per cent. of the male population was colour blind.

## Summary

An investigation of the incidence of colour defects was made in primary school students. The children ranged in age from 7 to 14 years. The frequencies were 2,04 per cent. for males and 0,53 per cent. for females.

## Résumé

Une recherche est faite sur l'existance de perturbation de la vision des couleurs chez les écolires agés 7 — 14,nous avons observé une perturbation de 2,04 % chez les garcons et 0,53 % chez les filles.

## References

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