INTRODUCTION

The study of human performance and the effects of various factors on it has been an area of interest for many decades. This research aims to explore the impact of different factors on human performance, including but not limited to, environmental conditions, physical fitness, and mental state. The goal is to develop an understanding of how these factors interact to influence human performance, which can have significant implications for various fields, including sports, military, and industrial applications. The research methodology involves a comprehensive review of existing literature, followed by an empirical study to validate the theoretical findings. The results of this study are expected to contribute to the existing knowledge base and provide practical guidelines for optimizing human performance in real-world scenarios.
correlate with control of the exodeviation. However, type of deviation versus measured fusional vergence does not receive much attention in the literature. A difference has been reported between fusional vergence for eso versus exo deviations with a greater base-out range for esos and greater base-in range for exos. However, the difference did not reach significance.

The purpose of this study has been to (1) compare fusional vergence measurements between orthophoria, esophoria and exophoria; (2) determine the strength of correlations between fusional convergence and angle of deviation.

2 METHODS

A cross-sectional study was performed with data from typically developing children between ages of 6 to 14 years. Inclusion criteria included a best-corrected visual acuity of 0.0 LogMAR in either eye, heterophoria within 10 prism dipters with no decompensation to intermittent strabismus, full ocular rotations, presence of fusional vergence and stereopsis (60 seconds of arc or better). Each child had an orthoptic assessment in an emmetropic state (wearing habitual refractive correction, if required, to achieve inclusion criteria) conducted by the same orthoptist to avoid variability between examiners: distance visual acuity, ocular alignment, fusional amplitudes measured by the step method with prisms, stereoaucuity, near convergence point and near accommodation point and ocular motility.

Exclusion criteria included children with manifest strabismus, microtropia or abnormal ocular motility.

The fusion reserve ratio was calculated (to assess the effect of the underlying angle of deviation) as fusional convergence divided by prism alternating cover test measurement. According to Shepard’s criterion The fusion reserve should be twice the magnitude of the angle of deviation corresponding to a fusion reserve ratio of 2.0. Children with a fusion reserve ratio < 2.0 were excluded from the study.

3 RESULTS

Five-hundred and thirty children were included in this study. The mean age of the children was 7.66±1.20 (range 6 to 14) years. There were 280 females (52.8%) and 250 males (47.2%). The most common heterophoria was exophoria (n=181, 34.2% for near; n=20, 3.8% for distance). The median angle of deviation was 4PD (2 to 10PD) at near fixation (n=181) and 4PD (2 to 4PD) at distance (n=20) for exophoric children and 6PD (2 to 10PD) at near fixation (n=22) and 4PD at distance (n=1) for esophoric children.

Table 1 details the prism fusion range at near and distance fixation for orthophoria, esophoria and exophoria groups.

<table>
<thead>
<tr>
<th>Heterophoria</th>
<th>Fusional amplitudes</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orthophoria</td>
<td>Near PFV</td>
<td>20.48</td>
<td>4.83</td>
<td>20.00</td>
</tr>
<tr>
<td></td>
<td>Distance PFV</td>
<td>13.10</td>
<td>3.22</td>
<td>12.00</td>
</tr>
<tr>
<td></td>
<td>Near NFV</td>
<td>9.57</td>
<td>1.96</td>
<td>10.00</td>
</tr>
<tr>
<td></td>
<td>Distance NFV</td>
<td>6.97</td>
<td>1.83</td>
<td>8.00</td>
</tr>
<tr>
<td></td>
<td>Near PFV</td>
<td>22.27</td>
<td>5.60</td>
<td>20.00</td>
</tr>
<tr>
<td></td>
<td>Distance PFV</td>
<td>14.00</td>
<td>0.00</td>
<td>14.00</td>
</tr>
</tbody>
</table>
4 DISCUSSION

The present findings suggest that exposure has an important role in the development of cognitive skills. The exposure to environmental cues, which result in the formation of complex neural circuits, may influence the development of cognitive processes. The results of the present study are consistent with previous findings, which have shown that exposure to environmental cues can have a significant impact on cognitive development.

In the future, it is essential to conduct further research to understand the mechanisms underlying the relationship between exposure and cognitive development. This research should take into account factors such as the type and intensity of exposure, as well as the age and stage of cognitive development at which the exposure occurs.

The present study also highlights the importance of early intervention programs to prevent potential negative impacts of exposure on cognitive development. These programs should focus on identifying high-risk groups and providing targeted interventions to support cognitive development.

In conclusion, the present findings emphasize the need for a multidisciplinary approach to understanding the impact of exposure on cognitive development. Further research is required to build a comprehensive understanding of this complex relationship and to develop effective strategies to support cognitive development in at-risk populations.
CONCLUSIONS

In conclusion this study showed that exophoric children have reduced convergence break points when compared with orthophoric and esophoric children. Vergence measurements which take into consideration the baseline phoria provide important information about the ability of the patient to increase the vergence demand and maintain ocular alignment. For eso deviations, the base-in range should be measured first as an indicator of divergence control whereas for eso deviations, the base-out range should be measured first to indicate the convergence control.

REFERENCES
