

Negative social reaction to strabismus in school children ages 8-12 years

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PURPOSE	To investigate children's willingness to sit next to a child with noticeable exotropia as a measure of social alienation.
METHODS	This was a cross-sectional, mixed-design study. Children in primary grades 3-6 (8-12 years old) were asked to view 8 digitally modified images of exotropic or orthotropic children in classroom settings and rate their willingness to sit next to the child in each image.
RESULTS	A total of 157 children participated. A $4 \times 2 \times 2$ mixed-design analysis of variance revealed a significant main effect for primary level ($F [3, 151] = 4.06, P = .01, \text{partial } \eta^2 = .08$) and for image type, exotropic versus orthotropic, ($F [1, 151] = 108.45, P = .00, \text{partial } \eta^2 = .42$). The results of the main effects were qualified by a significant primary level X image type interaction ($F [3, 151] = 4.00, P = .01, \text{partial } \eta^2 = .08$). Children were less willing to sit next to a person with noticeable exotropia. Although this phenomenon was consistent across all primary levels, the magnitude of the effect diminished in strength for children in higher primary levels.
CONCLUSIONS	This study further strengthens existing evidence for strabismus-related prejudice that suggests that children with noticeable strabismus may be subjected to social alienation by other children. (J AAPOS 2011;15:238-240)



Children with conspicuous strabismus are perceived more negatively with respect to physical appearance, personality, and capability.¹⁻⁸ Very often, these children are embarrassed about their condition, have difficulty making eye contact, and have problems with self-esteem.⁹ Such negative impact appears to persist into adulthood and can adversely influence one's social skills,¹⁰ psychological health,^{11,12} and employability.^{4,13}

Although it is clear that strabismus is associated with negative psychosocial consequences, the authors of very few studies describe the specific behaviors other children display as a result of contact with peers who have noticeable strabismus. Lukman and colleagues⁸ investigated peer preference and toy sharing among children between 5 and 6 years of age and their peers with noticeable exotropia, demonstrating possible rejection and social alienation. The authors of other studies have demonstrated that children as young as 5 years of age are capable of negative reactions

toward peers with obvious strabismus.^{8,14} To address prejudice against individuals with strabismus, more studies are needed to identify the range of prejudicial behaviors children display toward peers with conspicuous strabismus. This study aims to clarify the degree of willingness of 8- to 12-year-old children to sit beside peers with noticeable exotropia.

Subjects and Methods

A total of 157 children attending a primary school in Kuala Lumpur were recruited to participate in this cross-sectional study. The children were between 8 and 12 years of age and were enrolled in the equivalent of grades 3-6 in the United States. At the time of study, no child was observed to have noticeable strabismus. Informed consent was obtained from the children's parents as well as the school principal. Ethical approval to conduct this study was granted by the ethical review board of the Department of Psychology at HELP University College.

All participants were shown 8 images of children between 5 and 12 years of age (Figure 1, e-Supplement 1, available at jaapos.org). These images were categorized into 2 sets, one consisting of 4 images of children ages 5-6 years, the other of 4 images of peers ages 7-12. In both sets there were 2 images of exotropic children and 2 images of orthotropic children. All images were generated from a combination of different facial parts taken from images of children between the ages of 5 and 12. We chose to create exotropic as opposed to esotropic images because exotropia is more prevalent than esotropia in the Malaysian population.¹⁵ Each image was shown to the entire class.

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