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News Alert
FOR IMMEDIATE RELEASE

Face Blindness Is a Common Hereditary Disorder

In the first study to examine whether the inability to recognize faces can be inherited, researchers found that it is in fact a common disorder that runs in families and is one of the most frequent disorders apparently controlled by a defect in a single gene. The study was published online June 30, 2006 in *American Journal of Medical Genetics Part A*, and is available via *Wiley InterScience* at http://www.interscience.wiley.com/ajmg.

Prosopagnosia (PA) or face blindness is characterized by the inability to differentiate faces, except for the most familiar ones such as members of one's family. It can be caused by brain injury, but cases where the disorder appears to run in families have also been reported. In the first systematic study of hereditary prosopagnosia (HPA), researchers led by Ingo Kennerknecht, M.D. of the Institute of Human Genetics at the University of Muenster in Germany, recruited 689 subjects from local secondary schools and a medical school and administered a questionnaire to identify those with suspected HPA. They found 17 cases of the disorder, and of the 14 subjects who consented to further interfamilial testing, all of them had at least one first degree relative who also had it.

"Nearly all affected persons report a problem in deciding immediately whether a face is known," the authors state. Subjects report uncertainty in social situations and the inability to visualize the faces of close relatives or recall mental images of trees, leaves, or birds. They generally have difficulty following TV programs or movies because they cannot tell similar actors apart. All of the PA subjects revealed that they used up to three different strategies for overcoming the disorder. In the compensation strategy, subjects attempt to recognize people by other characteristics such as voice, gait, clothing or hair color. In the explanation strategy, subjects have a ready set of excuses as to why they can't recognize someone, such as being deep in thought or needing new glasses. In the avoidance strategy, subjects try to avoid situations where they might be unable to recognize faces, such as large functions or crowded places.

Because of the compensation strategies that those with PA learn to utilize at an early age, many of them do not realize that it is an actual disorder or even realize that other members of their family have it. "This could explain why this kind of cognitive impairment is largely unknown to lay persons or even to physicians other than neurologists and psychiatrists," the authors state, adding that there are no established diagnostic tools for PA.

While face recognition is strongly affected in HPA, the processing of other facial information, such as gender, age, and emotional expression is generally intact. This suggests that facial information and these other characteristics are processed independently of one another.

Furthermore, HPA is one of the few cognitive functions or dysfunctions that has only one symptom and is inherited, the authors note.

"Neurophysiological studies of people with this highly selective dysfunction might fundamentally improve our understanding of face recognition," the authors conclude. "As soon as gene mapping/mutation mapping will be successful, the genotype/phenotype correlations should widen our knowledge of the development of higher cerebral functions."

Article**:** "First Report of Prevalence of Non-Syndromic Hereditary Prosopagnosia (HPA)," Ingo Kennerknecht, Thomas Grueter, Brigitte Welling, Sebastian Wentzek, Jürgen Horst, Steve Edwards, Martina Grueter, *American Journal of Medical Genetics Part A*; Published Online: June 30, 2006 (DOI: 10.1002/ajmg.a.31343).