Family study emphasizes distinct origins for bipolar disorder subtypes

A new study published in Biological Psychiatry looks at the potential genetic distinctions between bipolar I and bipolar II disorders

Philadelphia, January 10, 2018 – The most common subtypes of bipolar disorder, bipolar I and bipolar II, stem—at least in part—from different biological causes, according to a new study published in Biological Psychiatry. Despite genetic overlap between the two subtypes, each subtype tended to cluster within families, suggesting a distinction between bipolar disorders I and II.

The study, by Dr. Jie Song of the Department of Clinical Neuroscience, Karolinska Institutet, Sweden, and colleagues helps settle controversy over the relationship between bipolar I and bipolar II disorders. Although genetic similarities indicate overlap between the subtypes, the new findings emphasize different origins. According to Song, this is contrary to a common notion among many clinicians that bipolar II disorder is merely a milder form.

“We have tended to view the two forms of bipolar disorder as variants of the same clinical condition. However, this new study highlights important differences in the heritable risk for these two disorders,” said Dr. John Krystal, Editor of Biological Psychiatry.

The study is the first nationwide family study to explore the difference between the two main subtypes of bipolar disorder. Dr. Song and colleagues analyzed the occurrence of the bipolar disorder subtypes in families from the Swedish national registers. Although a strong genetic correlation between bipolar I and bipolar II disorder suggests that they are not completely different, the family occurrence for each subtype was stronger than co-occurrence between the subtypes, indicating that bipolar I and bipolar II disorders tend to “run” in families separately, rather than occurring together.

“Within the context of our emerging appreciation of polygenic risk, where gene variations are implicated in several disorders, the new findings point to only partial overlap in the risk mechanisms for these two forms of bipolar disorder,” said Dr. Krystal.

The study also provided some additional clues that bipolar I and II disorders have distinct origins. Only bipolar disorder II showed gender differences—the proportion of females to males was higher in bipolar disorder II but not bipolar disorder I. And bipolar I clustered together in families with schizophrenia, which was not apparent for bipolar disorder II.

“Hopefully, our findings increase awareness of the need for refined distinctions between subtypes of mood disorder,” said Dr. Song. The distinction between the subtypes also has implications for treatment strategies for patients. Dr. Song added that future research is warranted to characterize new biomarkers to improve treatment and prognosis.
Notes for editors

Copies of this paper are available to credentialed journalists upon request; please contact Rhiannon Bugno at Biol.Psych@UTSouthwestern.edu or +1 214 648 0880. Journalists wishing to interview the authors may contact Jie Song, Ph.D., at jie.song@ki.se.

The authors' affiliations and disclosures of financial and conflicts of interests are available in the article.

John H. Krystal, M.D., is Chairman of the Department of Psychiatry at the Yale University School of Medicine, Chief of Psychiatry at Yale-New Haven Hospital, and a research psychiatrist at the VA Connecticut Healthcare System. His disclosures of financial and conflicts of interests are available here.

About Biological Psychiatry
Biological Psychiatry is the official journal of the Society of Biological Psychiatry, whose purpose is to promote excellence in scientific research and education in fields that investigate the nature, causes, mechanisms and treatments of disorders of thought, emotion, or behavior. In accord with this mission, this peer-reviewed, rapid-publication, international journal publishes both basic and clinical contributions from all disciplines and research areas relevant to the pathophysiology and treatment of major psychiatric disorders.

The journal publishes novel results of original research which represent an important new lead or significant impact on the field, particularly those addressing genetic and environmental risk factors, neural circuitry and neurochemistry, and important new therapeutic approaches. Reviews and commentaries that focus on topics of current research and interest are also encouraged.

Biological Psychiatry is one of the most selective and highly cited journals in the field of psychiatric neuroscience. It is ranked 6th out of 142 Psychiatry titles and 10th out of 258 Neurosciences titles in the Journal Citations Reports® published by Thomson Reuters. The 2016 Impact Factor score for Biological Psychiatry is 11.412.

About Elsevier
Elsevier is a global information analytics business that helps institutions and professionals progress science, advance healthcare and improve performance for the benefit of humanity. Elsevier provides digital solutions and tools in the areas of strategic research management, R&D performance, clinical decision support, and professional education; including ScienceDirect, Scopus, Scival, ClinicalKey and Sherpath. Elsevier publishes over 2,500 digitized journals, including The Lancet and Cell, more than 35,000 e-book titles and many iconic reference works, including Gray's Anatomy. Elsevier is part of RELX Group, a global provider of information and analytics for professionals and business customers across industries. www.elsevier.com

Media contact
Rhiannon Bugno
Editorial Office, Biological Psychiatry