

OPEN

SUBJECT AREAS:
HUMAN BEHAVIOUR
BEHAVIOURAL GENETICS

Received
18 August 2014

Accepted
21 October 2014

Published
20 November 2014

Correspondence and
requests for materials
should be addressed to
X.Z. (xz104@pku.edu.
cn)

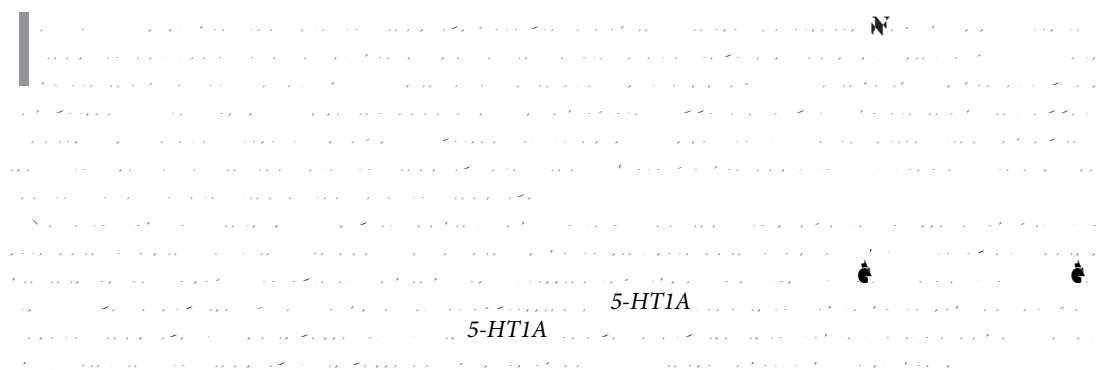
* These authors
contributed equally to
this work.

The association between romantic relationship status and 5-HT1A gene in young adults

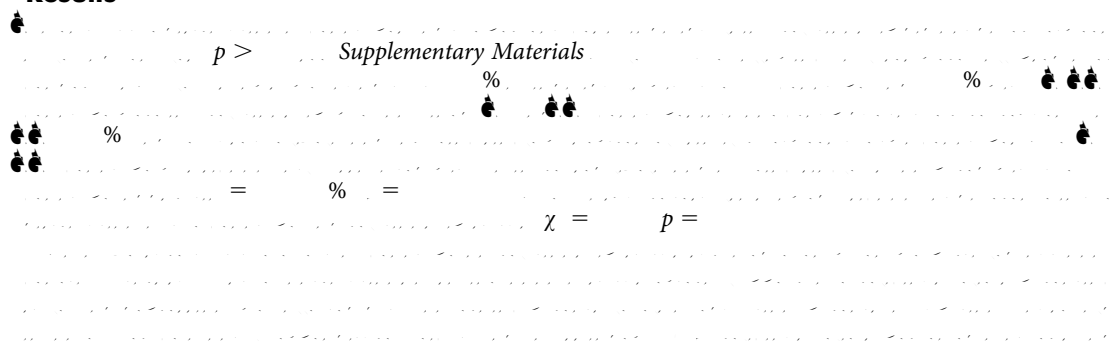
Jinting Liu^{1*}, Pingyuan Gong^{1,2*} & Xiaolin Zhou^{1,3,4}

¹Center for Brain and Cognitive Sciences and Department of Psychology, Peking University, Beijing 100871, China, ²Laboratory of Medical Molecular Biology, Henan University of Science and Technology, Luoyang 471003, China, ³Key Laboratory of Machine Perception (Ministry of Education), Peking University, Beijing 100871, China, ⁴PKU-IDG/McGovern Institute for Brain Research, Peking University, Beijing 100871, China.

What factors determine whether or not a young adult will fall in love? Sociological surveys and psychological studies have shown that non-genetic factors, such as socioeconomic status, external appearance, and personality attributes, are crucial components in romantic relationship formation. Here we demonstrate that genetic variants also contribute to romantic relationship formation. As love-related behaviors are associated with serotonin levels in the brain, this study investigated to what extent a polymorphism (C-1019G, rs6295) of 5-HT1A gene is related to relationship status in 579 Chinese Han people. We found that 50.4% of individuals with the CC genotype and 39.0% with CG/GG genotype were in romantic relationship. Logistic regression analysis indicated that the C-1019G polymorphism was significantly associated with the odds of being single both before and after controlling for socioeconomic status, external appearance, religious beliefs, parenting style, and depressive symptoms. These findings provide, for the first time, direct evidence for the genetic contribution to romantic relationship formation.



Results



	Genotype frequency			
	CC	CG	GG	Total
In a relationship	182 (50.4%)	72 (38.9%)	13 (39.4%)	267 (46.1%)
Single	179 (49.6%)	113 (61.1%)	20 (60.6%)	312 (53.9%)

Supplementary Materials

5-HT1A

5-HT1A

Supplementary Materials

Quant. Mark. Econ. 8

Pers. Relatsh. 17

J. Pers. Soc. Psychol. 93

Am. J. Psychiatry 155

Exp. Neurol. 68

J. Sex. Med. 9

Psychol. Med.

30

Pharmacol. Biochem. Behav. 39

Psychoneuroendocrinology 50

Underst.

Stat. Stat. Issues Psychol. Educ. Soc. Sci. 1

et al

J. Neural Transm. 110

et al

Eur. Arch. Psychiatry Clin. Neurosci. 263

Genotype	Predicted probability of being single (%)
CC	~50
CG/GG	~61

SCIENTIFIC REPORTS | 4 : 7049 | DOI: 10.1038/srep07049

Acknowledgments

Author contributions

Additional information

Supplementary information [Supplementary information](#)

Competing financial interests: The authors have nothing to disclose.

How to cite this article: <https://doi.org/10.1002/sci.202100001> Sci. Rep. 4

