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Gene-environment interactions and depression

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To the Editor:

Dr Risch and colleagues¹ concluded that the results of a study² showing that the serotonin transporter gene (5-HTTLPR) genotype moderates the effect of stressful life events on the risk of depression could not be replicated in a meta-analysis of 14 studies. The authors pointed out the importance of replication studies before new findings are translated into clinical and health practices. We believe that it is also important to note that editorial practices of scientific journals may contribute to the lack of attention received by studies that fail to replicate original findings.

The original study² was published in 2003 in *Science*, a prominent journal with a very high impact factor that year.³ In the year following its publication, it was cited 110 times in sources indexed in the Web of Science citation report.⁴ In 2005, the first study that failed to replicate the original finding⁵ in a sample of 1091 participants was published in *Psychological Medicine*, a specialized journal with a relatively low impact factor. That study was cited 24 times in the following year.

We believe that unless editors actively encourage the submission of null findings, replication studies, and contradictory results alike, the premature uncritical adoption of new findings will continue to influence the way resources are allocated in research and clinical practice settings. Studies that do not replicate an important finding and that meet high methodological standards should be considered for publication by influential journals at the same level as the respective original reports. This will encourage researchers to conduct replication studies and to make primary data easily accessible.

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References

1. Risch N, Herrell R, Lehner T, et al. Interaction between the serotonin transporter gene (5-HTTLPR), stressful life events, and risk of depression: a meta-analysis. *JAMA*. 2009; 301(23):2462–2471. [PubMed: 19531786]
2. Caspi A, Sugden K, Moffitt TE, et al. Influence of life stress on depression: moderation by a polymorphism in the 5-HTT gene. *Science*. 2003; 301(5631):386–389. [PubMed: 12869766]
3. [Accessed July 1, 2009] ISI Web of Knowledge journal citation reports. <http://admin50-apps.isiknowledge.com/JCR/JCR> (restricted license access)
4. [Accessed July 1, 2009] ISI Web of Knowledge cited reference search. http://apps.isiknowledge.com/WOS_CitedReferenceSearch_input.do?product=WOS&SID=S2M5DKKj8LLpjoLiac&search_mode=CitedReferenceSearch (restricted license access)
5. Gillespie NA, Whitfield JB, Williams B, Heath AC, Martin NG. The relationship between stressful life events, the serotonin transporter (5-HTTLPR) genotype and major depression. *Psychol Med*. 2005; 35(1):101–111. [PubMed: 15842033]