

CORRESPONDENCE

To the Editor:

I read with great interest the recent Brief Communication by Marazziti *et al.* (29, 741–745), where they have reported alteration of platelet serotonin transporter in romantic love. It is extremely difficult to conduct research about phenomena like love, which does not have clear-cut definitions. Depending on the definition one uses, it is easy to create sampling bias and miss the confounding variables, which will lead to misleading results. I believe this study suffers from such a pitfall.

Marazziti *et al.* chose their sample from a group of young individuals who reported falling in love in the last 6 months, spent at least 4 hours a day thinking about their partner and finally did not have sexual intercourse. In the Discussion they defend their rule of ‘no intercourse’ by a definition borrowed from Stendhal who considered love as an unconsummated passion. I commend the authors for remaining romantics in this day and age. However, this definition will lead to two types of sampling bias.

First, despite of being in love and being in a relationship for an unspecified period, but sometime within last 6 months, none of the subjects had sexual relationship with their partner. We do not have any information on whether this is the normal behaviour in this sample’s cohort. Thus, this sample might well be a sample of procrastinators who are in love, rather than just subjects in love. Procrastination is a common obsessional behaviour both in clinical samples and general population. Procrastination has been proposed in its persistent form as a personality disorder, with features that include anxiety, avoidance and fear of evaluation ability (Ferrari, 1991). It is also reported that relatives of OCD patients have similar procrastination ratings to OCD patients (Ferrari & McCown, 1994). In this case, procrastination may well be a ‘soft’ expression of OCD genotype, which might carry similar physiological characteristics with full OCD phenotype, especially during high subclinical

symptomatology (i.e. ‘high procrastination’) states, like when a major decision needs to be taken. Further supporting evidence pointing to this type of possible sampling bias comes from a study cited by the authors, which reported a link between serotonin transporter and personality traits measured in scores for ‘Harm Avoidance’, and in this context ‘Worry and Pessimism’, ‘Fear of Uncertainty’ subscores (Lesch *et al.* 1996). These personality aspects are logically linked to procrastination. Therefore, it is quite possible that low serotonin transporter levels in this sample is a reflection of a ‘high procrastination’ state of otherwise clinically normal individuals. Finally, from my own experience, it is not unusual to see individuals of this type during ‘high procrastination’ states, as patients in out-patient settings, and these patients do respond well to a brief course of SSRI treatment.

Secondly, possible sampling bias may well be the result of the ‘unconsummated passion’ itself. Despite an existing relationship and obvious mutual attraction, unfulfilled and repressed sexual desire might well be the cause of continuous distress and an anxiety state, which is bound to be reflected in the serotonergic system. The authors report that six of the subjects had normal serotonin transporter levels 12–18 months after the initial measurement. It is not clear whether, by that time, they performed the inevitable sexual component of a love relationship or not. If it is the case, does this reflect a conflict resolution, and hence normalization of baseline anxiety levels?

With our new research tools, we are as eager as our predecessors at the turn of twentieth century to explore every aspect of the human psyche. I believe we need to be as careful as them in our definitions of phenomena we study. Dr Marazziti and colleagues have an interesting and provocative approach to an untouched phenomenon. However, until further confirmatory data, which controls for these confounding variables, is available, I think their results should be regarded with caution.

REFERENCES

- Ferrari, J. R. (1991). Compulsive procrastination: some self-reported characteristics. *Psychological Reports* **68**, 455–458.
- Ferrari, J. R. & McCown, W. (1994). Procrastination tendencies among obsessive-compulsives and their relatives. *Journal of Clinical Psychology* **50**, 162–167.
- Lesch, K. P., Bengel, D., Heils, A., Sabol, S. Z., Greenberg, B. D., Petri, S., Benjamin, J., Muller, C. R., Hamer, D. H. & Murphy, D. L. (1996). Association of anxiety-related traits with a polymorphism in the serotonin transporter gene regulatory region. *Science* **274**, 1527–1531.
- Marazziti, D., Akiskal, H. S., Rossi, A. & Cassano, G. B. (1999). Alteration of the platelet serotonin transporter in romantic love. *Psychological Medicine* **29**, 741–745.

CENK TEK

Address correspondence to:

Dr Cenk Tek
University of Maryland,
Department of Psychiatry,
Maryland Psychiatric Research Center,
PO Box 21247,
Baltimore, MD 21228,
USA.

The Authors reply:

We defined romantic love as we did and found what we reported. Obviously, every study has its limitations. We wonder if Dr Tek would suggest a better definition of romantic love, which could be used for purposes of research, such as the study that we carried out. We welcome studies by other investigators that would extend or refute our findings.

DONATELLA MARAZZITI AND
HAGOP S. AKISKAL

Dipartimento di Psichiatria, Neurobiologia,
Farmacologia et Biotecnologie,
University of Pisa,
via Roma 67,
56100 Pisa,
Italy.