Reviewer’s report

Title: Cardiac Vagal Control and Theoretical Models of Co-occurring Depression and Anxiety: A Cross-sectional Psychophysiological Study of Community Elderly

Version: 1 Date: 13 January 2012

Reviewer: Cheryl Carmin

Reviewer’s report:

The authors of this study have addressed a very interesting question regarding the relationship between heart rate variability (HRV)/vagal tone and Watson and Clark’s tripartite model of depression and anxiety. While there is a substantial literature addressing the relationship between what the authors’ term cardiac vagal control (CVC) and depression, the anxiety literature is less abundant.

Major compulsory revisions:
There are a number of methodological considerations which detract from the study and must be addressed. The sample is composed of older, Chinese men. Over 75% of the subjects are over the age of 75. There is a well-documented relationship between HRV and age. Likewise, subjects’ medical conditions, other than those effecting cardiac rhythm, were not excluded. Conditions such as diabetes exert an influence on vagal tone as do medications, such as beta-blockers, which are often used to treat hypertension. A significant portion of the subjects have these conditions. The study would benefit from a closer examination of the exclusion criteria.

What is of similar concern is that the subjects’ scores on the primary measure, the Hospital Anxiety and Depression Scale (HADS) are low. While the authors acknowledge that the scores are too low to generalize to clinical populations, one could likewise argue that scoring in a normal range does not differentiate between depressed/nondepressed or anxious/nonanxious individuals and how their CVC may differ. The medians presented suggest a rather skewed distribution of scores.

Minor essential revision:
Typically, HRV assessments need to be edited for outliers. There is no mention of how the data were edited or cleaned.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the
statistics.

Declaration of competing interests:

I declare I have no competing interests.