Reviewer’s report

Title: Assessment of the impact of the scanner-related factors on brain morphometry analysis with Brainvisa

Version: 1 Date: 19 May 2011

Reviewer: Xiao Han

Reviewer’s report:

The authors conducted a well-organized study on the reliability of using Brainvisa for brain morphometric measurements with respect to scanner-related factors. The authors also briefly analyzed possible causes that may affect the reliability of the software. The results reported here are helpful for other researchers currently using or planning to use the same software, since measurement reliability is an important consideration in the design of cross-sectional or longitudinal brain imaging studies.

The manuscript is overall well-written and easy to follow.

Minor Essential Revisions

There are a couple questions that may require further explanation or discussion:

1. The first question is that why the 3T group has better reliability (Fig. 4) for sulcal measurements but much poorer reliability for tissue segmentation (Table 3), comparing to the 1.5T group. Isn’t sulcal segmentation dependent on tissue segmentation? Thus, it seems poor tissue segmentation should lead to poor sulcal segmentation as well.

2. The second question is that if FAST is found to give better reliability for brain tissue segmentation, will it be better to replace the current tissue segmentation step of Brainvisa with the FAST method? Is that easy to achieve?

Discretionary Revisions

1. One suggestion is to extend the study to include data of subjects underwent both 1.5T and 3.0T scans in order to better understand the bias and reliability across field strengths.

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

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

I declare that I have no competing interests.