Reviewer's report

Title: Genetic analyses of smoking initiation, persistence, quantity, and age-at-onset of cigarette regular use in Brazilian families: the Baependi Heart Study

Version: 2 Date: 8 November 2011

Reviewer: Terry M Therneau

Reviewer's report:

The paper is much improved, and should be acceptable with minor further work.

1. More care needs to be taken with age. Throughout the paper "age" is often used without qualification, and I don't know which is which. For example, in table 1 is is "age at interview", i.e., what the subject wrote on the form? In the analysis section it states that smoking initiation compared ever versus never, and persistence as current versus former. In table 3, what does "age" signify: age as in table 1, age at initiation, or something else? Is it the same in all 3 models? Age at initiation would be missing for the never smokers, but an important variable for the others.

If they are different, should you look at both age variables in the quantity model? For instance, subjects might in general cut down as they get older, so that higher "age at interview" is associated with smaller answers. The age at initiation effect might be the same direction or different.

I expect the authors know the answers to these, please also inform the readers.

2. There is carelessness that makes the paper harder to read. Some examples (but not all):

In defining polygenic heritability the individual level trait is "y" in the text and the Greek letter "gamma" in the formula.

The right hand portion of table 5 is cut off.

Page 5: "cigarette smoking exposure", not "exposition"

3. Minor: how were the confidence intervals for table 5 created? (An optional addition to the methods.)

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, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests