Response to reviewer request

We acknowledge the reviewer’s comments regarding *priori* power testing and while best practice is to estimate effect size based off similar study designs and outcome variables, in practice this is not always possible. The best we could do was estimate group effects based off historical TUG data, and extrapolate the effect size for our ANOVA model.

Our effect size (f) of 0.4 was estimated based on analysis of normative TUG data presented by Nolan et al. (2010). In this study, the mean (SD) differences between the young (30-39 yr, n=22) and pooled elderly (50-69 yr, n=43) scores were 5.01 (0.6) and 5.86 (1.1), respectively. Comparison of this data indicated a Cohen’s D of 0.81. According to Cohen (1988) if the statistical model being used is a univariate ANOVA with two groups, and the number of observations in each group is equal, then the standardized range of population means, Cohen's d, is given by: d = 2\*f. Conversely, Cohen’s f can therefore be calculated as: f = d/2. For the purposes of our *priori* testing, we therefore input Cohen’s f = (0.81/2). We have included the following line (in red) to our re-submitted manuscript in order to clarify further.

An *a priori* power test was conducted for expected outcomes with a Type 1 error probability of 0.05, a power of 0.85 and a projected effect size 0.4. Effect size was estimated based on age-related normative data for TUG tasks presented by Nolan et al. (2010). This analysis indicated that n=20 per group would provide a statistical power of 85% (G\*Power v3.0.10 free software; Institute of Experimental Psychology, Heinrich Heine University, Dusseldorf, Germany).

REFERENCES:

Nolan M, Nitz J, Choy NL, Illing S. Age-related changes in musculoskeletal function, balance and mobility measures in men aged 30-80 years. Aging Male 13:194-201, 2010. Added to reference list and all citations updated to correspond to current reference list.

Cohen J. Statistical power analysis for the behavioural sciences, 2nd ed., pp. 286, Lawrence Erlbaum Associates, NJ. USA 1988.

NOTE: In reference list and in test Nolan et al. has been inserted as reference 31 and all references previously numbered 31 onwards have been incremented by 1 in both text and reference listing.