Reviewer’s report

Title: Acute effects of brewed cocoa consumption on attention, motivation to perform cognitive work and feelings of anxiety, energy and fatigue: A randomized, placebo-controlled crossover experiment

Version: 0 Date: 16 Sep 2016

Reviewer: Terri Paulson

Reviewer’s report:

An interesting area of research and a well-designed study. Well written but with a few grammatical and consistency errors.

Lines 7 & 65 Keywords differ

Introduction-good rational and well referenced supporting evidence

Line 174-randomized?

Line 177-add descriptor eg 'sweetener'

Line 179-why not match caffeine dose of Positive control and to cocoa/caffeine trial?

Line 190-use >

Line 193-use POMS acronym?

Check consistency of acronyms and that you use the journal recommendations

Line 208 and throughout-consistency of spaces around +/-

Line 219-Ibuprofen

Salivary caffeine-no measures immediately prior to to testing to determine caffeine concentrations (large inter-individual variability)? Add to limitations.

Add information on accuracy of salivary vs plasma/serum caffeine concentration measurements

Line 239-delete ,

Line 304-use hours acronym

Line 308-is it '0' once drink is fully consumed? Add detail please

Table 1-add brackets to units (mg)
I understand the practical reasons for using an absolute drink volume and therefore caffeine dose but please acknowledge the differences in mg/kgBM

Line 326-330-could use to assess day to day performance variability and a potential learning effect. Was there a learning effect?

Lines 335-336-could you assess influence of circadian rhythm?

Line 340-no hyphen needed

Table 2-this would be clearer as a schematic

Line 384-delete 's' in outcomes

Line 391-add definitions of small, moderate and large

Line 400-add ')

Lines 488-490-tidy sentence to reduce repetition of this study/that study

Line 517-an up regulation effect?

Line 550-the elderly or elderly persons

Line 550-but you saw changes earlier then 2-4 or 8 h?

Line 571-2-add 'in' motivation

Good acknowledgement of limitations

Table 4 & 5-can these all be reliably reported to 2 d.p?

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes
Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

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