**Reviewer's report**

**Title:** Effects of higher protein vs. higher fat snacks on appetite control, satiety, and eating initiation in healthy women

**Version:** 2  
**Date:** 19 August 2014

**Reviewer:** Kevin B Comerford

**Reviewer's report:**

**Major Compulsory Revisions**

None

**Minor Essential Revisions**

1) Need to standardize the way "high-fat" or "highfat" is written through the abstract and article. Either with a hyphen or without. Should also apply this rule to "high-protein" or "higher-protein" throughout the manuscript. It is currently written both ways.

2) The high-protein yogurt was the highest protein snack, but it is not mentioned that it is also the highest carbohydrate snack. This may be a factor in how it affects satiety, especially since the carbohydrates in the yogurt may have different satiety effects than the carbohydrate in the crackers. Might want to mention this somewhere...maybe as a study limitation.

3) In the discussion, you mention the effects of carbohydrate quality/simple sugar quantity on satiety. You did not mention the if there were also different types of fats (triglycerides and fatty acids) in the chocolate and crackers which might be of equal importance. You might want to also mention that the next steps in this kind of research could be to test the effects of different types of proteins to see how different proteins affect hunger and fullness (i.e. test the effects of protein quality on appetite and satiety). In the end, both the type and amount of all macronutrients will likely have some importance on satiety and health.

**Discretionary Revisions**

4) The "higher-protein yogurt" should probably just be called the "high-protein yogurt" since it is not being compared to any lower protein yogurt in this study.

5) The term "healthier snack" is used throughout the manuscript, but this is a rather ambiguous and subjective term and might be better replaced with the more objective term such as "nutrient-dense snack" or "higher-protein" snack.

6) In the first sentence of the background, you should give a location when discussing the "increase in number of eating occasion and rise in obesity." Mention if this is in the US or globally. Also, same thing goes for the third sentence in the background paragraph, mention if "Nearly one third of daily
intake........" is a statistics for the US or worldwide.

7) Sentences in the methods such as "In general, the yogurt was higher in protein and low in fat, whereas the crackers and chocolate were lower in protein and high in fat" would read better if you used consistent/similar terms throughout; such as "high" and "low" instead of "higher" and "low".

8) Might want to explain why exactly 236 mL of water was given. If this was mentioned in a previous protocol, then that should be referenced or explained.

9) Might want to give the calorie and macronutrient breakdown of the pizza pockets they were served. The calorie/nutrient content of the dinner may have effects on how much was consumed.

10) In the conclusion of the abstract, you should mention what is being compared to the yogurt. (i.e. "when compared to lower-protein, higher-fat snacks")

11) In the results section, when mentioning "hunger AUC", you might want to instead write "perceived hunger AUC" to be more technically accurate.

12) The acronym CHO was introduced in the abstract and discussion, but it was never properly introduced as carbohydrate (CHO).

13) In Figure 1, the lettering system is a little confusing since the lowercase letters "a" and "b" are used twice and mean different things. First they are used to denote perceived hunger (a), and fullness (b) in the line graphs; and then they are also used to denote significance in the neighboring bar graphs. May be best to use either capital letters, different letters or symbols to denote one or the other.

14) Might also want to note if there was any significance or not at any given time point (i.e. 90 min or 120 min for hunger, 90 min for fullness) in either of the graphs in Figure 1. There looks to be some possible significant differences at 90 min between yogurt and chocolate. The post-snack fullness AUC for chocolate also appears to be an interesting talking point since it was near zero.....apparently having very little effect on fullness for a high-fat, moderate carbohydrate snack.

Quality of written English: Acceptable

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

Declaration of competing interests:

I have received consulting fees from the California Dairy Research Foundation (CDRF), and several other industries and companies in the past year. However, I have no conflicts of interest.