**IRB Application Revision Review**

I have read over the reviews of my IRB application and have made all the necessary changes to comply with the reviewers’ requests. The changes I made include the following:

1. I added a statement in my consent form that says my study and survey involve no risks or benefits in bold just after the statement “your participation is voluntary.”
2. I included the best estimate I could give for the date and length of time my survey will be live in the second paragraph, last line. The length of time my survey is live is largely dependent on the timing of my IRB approval, and I am very dearly dependent on the approval sooner rather than later.
3. I have listed my IRB application number at the top of my consent form just beneath the title so that it is in plain view for the reviewers and the participants.
4. I added the statement, “I fully understand the consent form and its contents,” to my acceptance statement, “I agree to participate in the Macronutrient and Exercise Survey and am at least 18 years of age,” so that only one click is necessary for the participant to either agree to participate or exit the survey prompt.
5. I added a sentence to the bottom of the consent form just before the terms of acceptance that states that the participant should print a copy of the consent form for his/her records.

With regard to reviewer #2, I have created a document highlighting my study purpose and methods with as much brevity as possible. This document takes the place of my originally submitted proposal document and provides all the relevant information about my study, the type of participation I require from human subjects, and what I intend to do with the information.

I thank you for reviewing my proposal and welcome any questions or concerns. I hope these changes prove satisfactory and that I may begin my study as soon as possible.

**Macronutrient analysis in Western diets compared to modern hunter-gatherer and Paleolithic diet concentrations**

**Introduction**

The purpose of this investigation is to study the dietary composition of Western athletic and non-athletic people. While research and ethnography show large differences between Paleolithic and modern Western diets, strenuous physical activity should impact the dietary needs of a body enduring high amounts of physiological stress. Therefore, it is of interest to learn whether exercise impacts Western dietary consumption to better resemble the macronutrient ratio of Paleolithic and hunter-gatherer diets: 38% protein, 39% fat, and 23% carbohydrate (Cordain L. 2000; Kaplan 2000; Cordain 2005). If there is a correspondence between athletic diets and Paleolithic diets, then implications can be made about bodily stress caused by physical exertion and that there is a biological ideal or preference for a certain macronutrient ratio.

*Self Reported Dietary Recall and Exercise Survey:*

To conduct my study in the absence of NDSR validated recall methods, I will instead use self-reported diet and exercise patterns of a targeted Western population. The information will be gathered using a web-based survey created and hosted through mrInterview software available through Texas State University. Survey distribution will entail advertising the survey URL through multiple media, which include undergraduate classes at Texas State University and online athletics groups. The survey will initially be tested on a small sample of undergraduates in ANTH 53741 (Primate Cognition). This pilot study will allow me to check for both question comprehension and approximate time burden for taking the survey. Following the pilot study and any adjustments that need to be made, the survey will go live for 2 weeks. I have enlisted the support and co-operation of Dr. Trey Hutton and Dr. Michael Hobbs, faculty members in the Health and Recreation department, who have agreed to administer the survey to approximately 300 Texas State undergraduate students, offering extra credit as an incentive for completing the survey.

Access to the online survey through mrInterview will be during a limited period of time in May 2009. For any willing participants after the expiration of mrInterview hosting, I will obtain a valid email address and send a Microsoft Word or PDF copy of the survey through email attachment that can be easily completed and returned to me. These survey questions will be identical to those in the original survey, however they will be in a different file format.

*Cost:*

The mrInterview program requires a weekly $50 fee for posting the survey and an additional cost of $.35 per respondent. At this time I anticipate a two-week posting time for the survey. Other costs incurred will be marginal paper and printing costs for the advertising flyers.

*Nutrient analysis:*

I will use the online USDA food database, *What’s In The Foods You Eat* *Search Tool*, 3.0 found at: <http://www.ars.usda.gov/main/site_main.htm?modecode=12354500>

in order to parse the macronutrient contents of reported foods. This database will not require the purchase of additional software and is free for public use. The database is a compilation of the nutrient content of over 6,000 foods, including brand name foods, menu items of major fast food centers and restaurants. By using the search function, I can query the database for all types of foods containing or comprised of one particular food item. Upon choosing the desired food, the database will ask for portion sizes and then display the nutrient profile of the selection. The profile includes carbohydrates, proteins and fats in grams and trace minerals in milligrams. Energy is also displayed in kilocalories and kilojoules. I will record the macronutrient profile of carbohydrates, proteins and fats for each food recorded in each respondent’s survey and then determine the total percentage of macronutrients in the individual’s daily diet.

*Physical activity analysis:*

I will estimate survey participants’ total energy expenditure (TEE) over their resting metabolic rate (RMR) and compare the ratio to that of hunter-gatherer values. I will calculate RMR based on the regression equation from Durnin and Passmore (1967) with body mass information provided by the survey. The regression table provides body metabolic rates per minute, so I can multiple the total number of minutes each person spends at rest by their energy consumption per minute to find a portion of their total energy expenditure.

To determine the remaining TEE from physical activity, I will quantify how much time each person spends at rest, low activity, moderate activity, and high intensity activity from the survey responses and multiply each time by the energy expense values given by Durnin and Passmore (pages 31 and 84) and adapted in Leslie et al. (1984). The TEE is the sum of the energy expended for each category of activity. The TEE divided by the RMR gives a ratio of physical activity that is comparable to values given for ancestral hominins, extant primates, and averages for modern groups of humans including hunter-gatherers and office workers (Pearson 1990; Leonard WR 1992; Cordain L. 1998).