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February 8, 2011

Proposal—Student Consumption of Caffeine On Campus

A. Numerous health studies have demonstrated the damaging effects of excessive caffeine consumption on cardiac wellbeing in addition to psychological and mental health. Many people are concerned that students today consume large amounts of caffeine to keep up with their academic workload or enhance their performance in sports activities. We plan to survey student consumption of caffeine at Carnegie Mellon University, and the primary use of consumption – leisure, exercise, party, or late-night studying. We hope that the outcome of this survey may convince campus administrators to reconsider vending machines with caffeinated drinks, and replace them with healthier drinks. In addition, we believe that a route to bettering the health of students is to hinder unnecessary motivations for caffeine consumption. One way this can be done is by curtailing the largest coffee distributor, CulinArt, with a distribution tax or lobbying to place a price increase during late hours. We will therefore approach campus administrators with our results in order to (supported by the data) argue for efforts to curtail caffeine consumption on campus.

B. Planned Questions:
- How much caffeine do students consume on a daily basis?
- What is your primary motivation for consuming caffeine?
- What types of caffeine drinks are most prevalent (coffee, espresso, Red Bull, etc.)?
- How does caffeine consumption vary across college/major and year in school?
- Is there a correlation between caffeine consumption and GPA?
- Is there a correlation between caffeine consumption and the degree to which the student is involved in extracurricular activities?
- How often do you exercise in any given week?
- What is the relationship between amount of caffeine consumed and the amount of leisure time the student has?
- Are you consuming more or less caffeine than you are comfortable with?

C. Existing Research:
- Mayo Clinic "Caffeine": (http://www.mayoclinic.com/health/caffeine/NU00600)
    i. This article by the Mayo Clinic medical staff describes the numerous adverse health effects of excessive caffeine consumption. Further, the article provides guidelines for the specific amounts of caffeine which are harmful; this will be very useful in analyzing student feedback.
    ii. Found by Bassem.
- CSPI "Caffeine Content in Food and Drinks" (http://www.cspinet.org/new/cafchart.htm)
    i. This resource will be very helpful in identifying and translating various brands and drinks into actual milligrams of caffeine, so we can standardize our data.
    ii. Found by Christopher.

- The Standard Online "Caffeine Addiction Problem" (http://media.www.the-standard.org/media/storage/paper1059/news/2008/02/05/Features/The-Caffeine.Addiction.Problem-3189385.shtml)
    i. This article details the extent to which college students are addicted to caffeine. This type of survey is the impetus for our research.
    ii. Found by Prerna.
- TIME "Back to Campus" (http://www.time.com/time/specials/2007/article/0,28804,1651473_1651472_1651348,00.html)
    i. This is a resource detailing the effect of caffeine on student class performance.
    ii. Found by Abigail.
- CBSNEWS "Caffeine Withdrawal is Real" (http://www.cbsnews.com/stories/2004/09/30/health/webmd/main646620.shtml)
    i. This article investigates the realness of caffeine addiction and the symptoms of dependency for various purposes.
    ii. Found by Yong-Gyun Choi

D. Sampling Frame:
- Our sampling frame will be the C-book. The population that we plan to sample from is the people whose email addresses are listed in C-book.

E. Target Population:
- The target population is all Carnegie Mellon undergraduate students on the Pittsburgh campus. This is the population about whom we wish to make inferences.
- Students can opt-out of being included in C-book. Therefore, all undergraduates who opted to not be included in C-book will be in our target population but not in our sampling frame. This is a coverage issue.
- Errors:
    i. *Sampling Error*: An example of sampling error which could occur in our survey is sampling bias. This would occur if certain individuals in C-book had a smaller chance of selection than other students. Our solution to tackle this issue is to randomly select students from C-book.
    ii. *Non-Sampling Error:* An example of non-sampling error could occur in our survey if survey respondents were not representative of the larger population. For instance, if caffeine-consuming individuals are too busy on average to respond to the survey, this could lead to a unrepresentative result. One way to tackle this issue is to provide a neutral incentive such as entering survey respondents into raffle to win a $50 Amazon gift card.

F. Mode of Data Collection:
- The survey data would be collected as an anonymous Surveymonkey survey. We would compose the survey online and email it to our sample. The advantages of this method include anonymity, ease in data compilation and minimal time requirement on the part of the respondents so as to maximize response rate for busy students.

G. Variables:
- Caffeine Amount
- Caffeine Type

- Motivation for Consumption
- Activity Level (includes extracurricular activities and leisure time)
- College
- Year in School
- G.P.A.
- Exercise
- Caffeine consumption vs. comfort level