

CHS 19: Nutrition Fiat Lux Assessment Report— Academic Year 2006-2007

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Overview

In Summer 2006, I was requested by Jill DeJager to assist in designing an assessment of student learning outcomes for her CHS 19 Fiat Lux seminar. I met with Jill to determine the primary outcomes she hoped for students to achieve as a result of the course, and we worked together to come up with a set of self-report items that would begin to capture competency in these areas.

Evaluation Design

A pre-test/post-test format was utilized for this assessment. The questions included in the surveys were based on identified goals for the course. Specifically, items looked at attitudinal and behavioral outcomes in the areas of nutrition and eating habits, body image, physical activity, and stress. These items focused primarily on the desired behavioral and developmental outcomes of the course, not understanding of specific theory or content.

The bulk of the survey consisted of 19 statements that respondents rated on a four point scale from “disagree strongly” to “agree strongly.” Also included were several demographic questions including: gender, transfer status, years in college, and age. Participants were also asked to report their height and weight and the average number of hours per week spent in physical activity.

The surveys were administered on the first and last days of class. The introduction to the survey provided students with information about the purpose of the study (program evaluation and improvement) and assured them that their instructor would not see their responses nor would their responses be associated with their grade in the course.

Data Analysis

The data included in this report are those collected during Fall Quarter 2006, Winter Quarter 2007, and Spring Quarter 2007. Differences between the three quarters were examined using ANOVA. Very similar results were found for all quarters so the data sets were combined. The overall sample for the three quarters includes matched responses from 86 individuals, a response rate of 74% when compared to the overall enrollment figures for that time. The gender distribution of the group was 87% female and 12% male. The majority of the students (81.4%) were first year students, and 3.5% reported being transfer students. The modal age was 18; the maximum age was 27. BMI scores were calculated for each respondent, and the breakdown of the categories was 8.1% “underweight,” 75.6% “normal,” 12.8% “overweight,” and 3.5% “obese.” Given the preponderance of participants in the normal range, analysis of differences in outcomes across the BMI categories, as was originally considered, is not likely to yield strong results.

Change from pre- to post-test was evaluated using paired samples t-tests. The significance of changes was evaluated at the 95% confidence level ($p < .05$). Positive change was found on 9 of the 20 variables compared using t-tests (see Table 1).

Table 1: Mean Scores for Pre and Post Test Measures

	Pre-Test Mean	Post-Test Mean	Change
Nutrition and Eating Habits			
I eat at least three times per day.	3.23	3.16	-0.07
I don't eat at least 5 servings of fruits and vegetables per day.	2.64	2.49	-0.14
I am actively trying to control my weight by restricting calories.	2.23	2.16	-0.07
I listen to my body, eating when I am hungry and stopping when I am comfortably full.	2.66	2.99	0.33*
I feel out of control while eating.	1.94	1.87	-0.07
I choose whole grain foods (whole grain bread, brown rice, brown pasta, wheat crackers, etc) rather than refined foods.	2.79	3.08	0.29*
People who are overweight need to lose weight to improve their health.	2.99	2.59	-0.40*
Dieting is an effective way to achieve and maintain weight loss.	2.42	1.74	-0.68*
I often eat beyond the point that I am comfortably full.	2.26	2.21	-0.05
Worrying about my eating habits creates stress in my life.	2.51	2.52	0.01
Body Image and Media Literacy			
I am within a normal weight range for my height.	2.84	3.02	0.19*
Worrying about my body creates stress in my life.	2.83	2.79	-0.03
I am unhappy with my physical appearance.	2.51	2.34	-0.17*
Messages in advertising do not influence my behavior.	2.37	2.28	-0.09
When I see an advertisement I take time to think critically about what the ad is telling me.	2.21	2.52	0.31*
Physical Activity and Stress Relief			
I enjoy being physically active.	3.43	3.52	0.10
I participate in physical activity in order to control my weight.	2.80	2.89	0.09
Average number of hours per week spent in physical activity. ^o	6.51	6.63	0.12
When I feel stressed I have healthy strategies for relieving the feeling.	2.60	2.86	0.25*
I am able to challenge aspects of my upbringing that are not supportive of my well being.	2.86	3.07	0.21*

Scale for all items except HPW in physical activity are rated on a 4-pt Scale 1=Disagree Strongly to 4=Agree Strongly.

*Significant change ($p < .05$)

^oWrite-in response.

Summary of Results

The seminar appears to be having a mixed impact on actual eating behavior. There were significant changes over the quarter with respect to choosing whole grains and listening to body cues about hunger and satiation. No changes were found with respect to eating at least three times per day, eating five or more servings of fruits and vegetables, or overeating at meals. The lack of change with respect to eating at least three times per day may in part be due to a ceiling effect with this variable; at pre-test, 82.4% of respondents already agree with this statement, so they already meet this criterion at the beginning of the course. The same is not true for “five a day” and overeating which have only 61.1% and 36.5% agreement respectively at pre-test.

The impact on attitudes is stronger, with significant decreases in the perceptions of the effectiveness of diets and the idea that people need to lose weight in order to be healthy.

Similarly, in the area of body image, students appear to be developing more realistic appraisals of their bodies and reporting decreased unhappiness with physical appearance, more comfort with body weight, and increased critical thinking about the intent of advertising. Interestingly, the variable “Messages in advertising do not influence my behavior” had a slight downward trend (though not statistically significant). Putting this finding together with the significant item on critical thinking about advertising, it is possible that these results reflect the respondents growing awareness of the fact that they are likely to be influenced by advertising—so the lack of change may represent greater awareness at post-test.

Another interesting set of results appears in the area of stress. There is a significant change in the respondents’ perceptions that they have healthy strategies for relieving stress. However, this change does not appear to translate into actual stress reductions; there were no changes in the variables of stress related to worry about body or eating habits. Approximately 71% of respondents agree that worrying about their body causes stress at both pre- and post-test, and the percent of those who agree that worry about eating habits causes stress actually increases slightly from 51% at pre-test to 57% at post-test.

In general the items related to physical activity show no change over the quarter. The variable of “enjoy being physically active” is influenced by a ceiling effect—95.3% already agree with this statement at pre-test. The average number of hours per week spent in physical activity remains constant at six and a half at both time points. However, further analysis of the hours per week variable reveals some changes. The average for this write-in response is subject to influence by extreme values (such as students reporting 20 or more hours per week). A closer look at several cut-off points in the range of responses shows a slight decrease in the number of students getting very few hours of activity, and some consolidation in the 6-10 hours per week range at post-test; considering the category of six or fewer hours per week, it contains 65.1% of respondents at pre-test versus 53.5% at post-test. Looking at those who report ten or fewer hours per week—this group includes 84.3% of respondents at pre-test and increases to 88.4% of respondents at post-test.

Limitations and Suggestions for Future Research

One of the limitations that must be discussed is the possibility of bias due to students’ desire to please the instructors. Every effort was made to avoid this by informing students that their responses would not be viewed by their instructors and not connected to their grade in any way, as well as having the instructors leave the room while the post-test was administered (along with regular course evaluations). Future research could attempt to eliminate this source of bias by distributing the survey outside of the classroom setting, but would likely result in a significantly lower response rate.

Another limitation of this analysis is the lack of a control group. Because there is no comparison group of students who did not enroll in the Fiat Lux seminar, it is impossible to say with certainty that these changes are a result of participation in the course not simply changes in the UCLA population that were occurring more widely. Future research would benefit from inclusion of a control group.