BMI, Quality of Life, and Lifestyle Patterns

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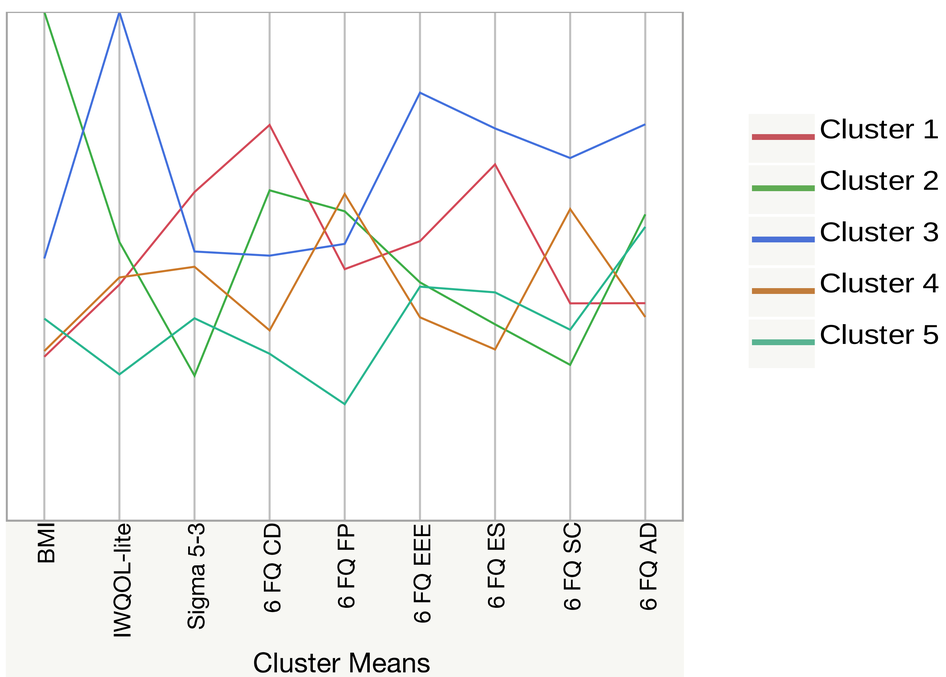
Body Mass Index (BMI) has been shown to relate to indices of both quality of life (REFS) as well as healthful lifestyles. For example, Hunot et al. (2016) showed that high BMI related to 'food approach' while low BMI related to 'food avoidance' measures. Furthermore, Kushner et al. (2016) showed that a measure of unhealthful behavioral, cognitive, and affective lifestyle (6-FQ) related to quality of life (IWOQL-lite). We sought to identify different lifestyle patterns using hierarchical cluster analysis.

BMI Groups. The high BMI group scored higher on the IWQOL-lite (poorer quality of life) than the average group ($t(38)=2.36$, $p=.02$). BMI groups did not differ on the 6-FQ overall but did show differences on the subscales. Pearson correlations between BMI and IWQOL-lite and 6-FQ were low ($r=.23$ & $.15$, respectively).

Hierarchical Cluster Analysis. Five clusters provided the best solution and maximized variable communality when using BMI, 6-FQ subscales, IWQOL-lite and Sigma 5-3 variables as shown in Figure 1.



40 UWM students were given the 6-FQ:

- Convenient Diner (CD: meal structure, planning and healthy eating)
- Fast Pacer (FP: time management, prioritization in self-care and effect of stress)
- Easily Enticed Eater (EEE: food temptation and regulation)
- Exercise Struggler (ES: physical activity and inactivity)
- Self-Critic (SC: body dissatisfaction and body image disparagement)
- All-or-Nothing Doer (AD: dichotomous thinking or lack of moderation). Higher scores indicate a more unhealthful lifestyle.

IWQOL-lite yielded a single overall score with higher scores indicating poorer quality of life.

Implicit Association Test utilized a measure of variability in implicit weight self-concept (Sigma 5-3)

BMI based upon height and weight measured in session.

Participants were divided into a high BMI (>24) and low BMI (<25) groups.

Cluster	Count	BMI	IWQOL-lite	Sigma 5-3	6 FQ CD	6 FQ FP	6 FQ EEE	6 FQ ES	6 FQ SC	6 FQ AD
1	10.00	22.80*	43.90*	-10.99*	11.00*	6.30*	9.40*	5.00*	3.50*	4.10*
2	3.00	43.67^	48.33^	-101.96*^	9.00*^	7.33*	8.33^	1.67*	2.33*^	5.67*^
3	4.00	28.75^~	72.25^	-40.41*^	7.00^~	6.75*	13.25^	5.75^	6.25^~	7.25*^
4	14.00	23.14~	44.64^	-48.04^	4.71~	7.64*	7.43^	1.14^	5.29~	3.86^
5	9.00	25.11~	34.56~	-73.51^	4.00~	3.89^	8.22^	2.33^	3.00~	5.44^

Results have several implications:

Univariate relationships between BMI and quality of life and lifestyle variables were low, suggesting that more complex relationships may exist since present results are at odds with past findings

Cluster analysis was useful to demonstrate more complex relationships between BMI and quality of life and lifestyle variables.

A slightly high BMI was associated with the best scores in quality of life and healthy lifestyle factors, and this group accounted for 22.5% of the sample.

The two normal BMI groups composed the highest number of participants in this sample (60%) and represented two distinct groups. The lowest BMI group (23) had an average quality of life rating and the most consistent implicit weight self-concept but rated themselves as convenient diners who were easily tempted by food and struggled to exercise. In contrast, the second group (also BMI=23) was also average on quality of life but rated poorly on stress management/self-soothing and body dissatisfaction.

The two groups with a high BMI had the fewest participants of the sample, comprising only 17.5% of the sample. The groups with the highest BMI (44) had an average quality of life rating and were lowest in body dissatisfaction and did not rate themselves as being easily tempted by food or struggling to exercise. They rate moderately high but not highest in convenient dining and fast paced lifestyle and lacking moderation. The other high BMI group (28) had by far the worst rating in quality of life and rated themselves worst as being easily tempted by food, having great struggles with exercise, being highly dissatisfied with their body, and lacking moderation.

A college sample is likely not representative of the population as a whole, and a community sample would be ideal to represent adult relationships between BMI and quality of life and lifestyle patterns.