

Assignment 4: Conjoint Analysis (Team)

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1. The attributes and levels we considered are listed in the following table:

Levels		
Protein Content	Natural (5g)	Synthetic (10g)
Dairy	Yes	Non-dairy product
Size	11 Oz. (330 ml)	16.9 Oz. (500 ml)

We were careful to ensure that the attributes did not overlap. The conjoint analysis was designed around attributes that would affect the final price, recipe, and packaging of the product.

2. The screenshot below shows the survey we administered.

[illegible]

The survey was preceded by the text:

“Our company is launching a new protein drink, for which we are trying to gather information about consumer preferences for different attributes of the beverage. Please provide us with your preferences with regards to the following:”

The survey was completed by **23** participants.

3. The average part-worths look like this:

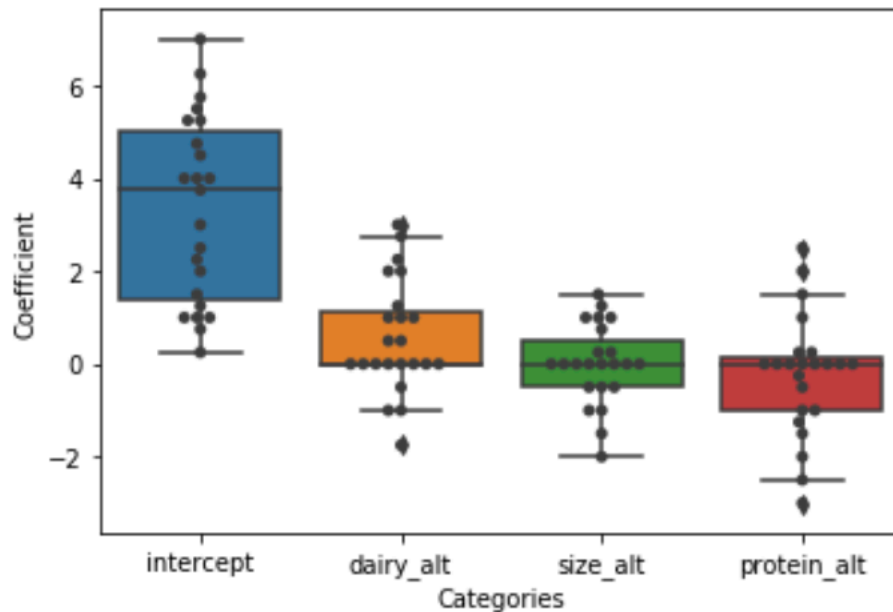
Partworths			Ideal Profile
Intercept		3.33	
Dairy	Yes	0.57	Dairy
	No	0.00	
Size	11 oz. (330 ml)	- 0.00	16.9 oz.
	16.9 oz. (500 ml)	0.00	
Protein	5g (Natural)	-0.24	Synthetic
	10g (Synthetic)	0.00	

The part-worth ranges and attribute importances look like this:

Attribute Importances		
Attribute	Range	Importance
Dairy	0.57	0.29
Size	0.00	0.34
Protein	0.24	0.37

The ideal product contains dairy, has a high synthetic protein content and is 16.9 oz. (larger).

4. The visualisation of the individual respondent coefficients and intercepts:



This figure shows that the highest (positive) coefficient belongs to the dairy option. With the intercept serving as the baseline, changing the product from *non-dairy* (which was our original product offering) to *dairy* would have a significant positive impact on the rating of the drink. Intuitively, this is probably because respondents do not trust a non-dairy protein beverage as it seems too artificial for them. On the other hand the difference in coefficient due to size is so negligible ($-1.96e-16$) that we listed it as -0.00 . There is a very marginal negative preference for smaller size, which is really not significant enough to discuss, but there is a case that can be made for people wanting more of the beverage to get a bang for their buck. As for protein content, we were surprised to find that our wording of the level did not really affect the outcome – we used the word ‘synthetic’ which often carries negative connotations, but as the negative coefficient shows, people still preferred it to the alternative (natural, low-protein). This goes to show that a higher protein content is important to respondents, but they are more comfortable with protein in a familiar (dairy) form. This is likely due to the strong association of protein with milk, whey, and cheeses rather than isolates and artificial drinks.

5. Our competitors had the following levels of the same attributes:

	Dairy	Size	Protein
My Product	Yes	16.9 oz.	Synthetic
Competitor 1	No	16.9 oz.	Synthetic
Competitor 2	Yes	11 oz.	Natural
Competitor 3	Yes	16.9 oz.	Natural

We used these combinations of levels mainly because we wanted to marginally vary every single attribute through the two levels and see which one would get the most market share. 2 of our 3 competitors were dairy products – if we are indeed considering adding dairy to our product to improve its reception, then we consider it important to measure ourselves against existing dairy-based health drinks. We also went for 16.9 oz. in 2 of the 3 competitors since larger sizes seem to be preferred by customers and we wanted to compare ourselves to other drinks that provide a substantial quantity. For protein, we looked at one synthetic option and two natural options, since the market for dairy-based protein drinks can obtain a higher protein content despite being natural.

The forecasted market share for the ideal product was 33.7% which was the highest market share in our group.

Our modified product changed the baseline ‘synthetic’ protein content to ‘natural’, since that had the highest relative importance. The change led to a fall in market share from 33.7% to 12.7%, a 21% drop. This can be explained by the fact that consumers want a drink that is high in protein and taking that away from them changes the entire purpose of the drink. Since our drink is not one to be consumed casually and is specifically targeted at post-workout recovery, it is no surprise that protein content is important and changing that would lead to a significant drop in market share.