The Effects of Health Consciousness and Familiarity with Direct to Consumer Advertising on Perceptions of Natural Dietary Supplements and Their Prescription Counterparts

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Introduction

Health Consciousness

- In a recent experimental study, health consciousness has been positively associated with attitudes towards dietary supplements (Royne, Fox, Deitz, & Gibson, 2014).
- Health Consciousness can be summed into five different categories; integration of health behavior, attention to one's health, health information seeking and usage, personal health responsibility and health motivation (Hong, 2009).
- Health consciousness remains and has the potential to direct large implications towards a variety of avenues including positive self-perceptions of health and wellbeing, day-to-day productivity as well as reveal the relationship between advertising and confirmation bias.

DTCA

- Direct to Consumer Advertising is a measure used to asses an individual's familiarity with advertising for prescription based medicines (Royne et al., 2014).

Hypotheses

- H1: Health Consciousness is positively related to consumer's attitudes towards dietary supplements.
- H2: Consumer attitudes toward supplements are positively associated with perceptions of the relative benefits/negatively associated with perceptions of relative risks of taking dietary supplements as compared to prescription medication counterpart.
- H3: There will be a positive association between greater familiarity with DTCA and those who choose prescription medicines as opposed to natural dietary supplements.

Methods

Participants

- Convenience sample
- 10 Eastern Connecticut State University Psychology students
- 70% female
- Mean age = 19.80 (*SD* = 1.687)
- 40% sophomore, 40% junior and 20% senior students for class rank
- Participation was voluntary as part of 2017 Summer Research Institute at Eastern Connecticut State University

Materials

- Semantic difference test items (2 surveys): Rate each Rx/Supplement as Useless/Useful, Beneficial/Harmful or Valuable/Worthless (Batra & Ahtola, 1991) {S1}; For each condition elect which is riskier and which had more benefits {S2}
- Likert scale (1 strongly disagree…5 strongly agree) items (2 surveys): 3 item Likert survey assessing familiarity with DTCA (Burton, Garretson & Velliquette, 1999) {S3}; 9 item Likert survey assessing health consciousness (Gould, 1988) {S4}

Study Design

Conditions investigated

- Depression, Pain and Immune Support
- Prescription/Generic (Rx) versus Natural Dietary Supplement for each of the three conditions were presented to participants

Procedure

- Participants (1) completed demographics survey, (2) looked at each of 6 Rx/Supplements individually, (3) rated each item individually, (4) compared Rx/Supplement per condition for risks and benefits, (5) completed DTCA familiarity survey, (6) completed Health Consciousness survey

Spearman Correlations

- [1]Those who rated Prozac as less desirable rated St. John's Wort as having more benefits. $r(8)=0.645$, $p=.044$
- [2]Those who rated Prozac as having more benefits deemed St. John's Wort as less desirable. $r(8)=-0.797$, $p=.006$
- [3]Those who rated Prozac as less desirable had a lower familiarity with DTCA. $r(8)=-0.700$, $p=.024$
- [4]Those who chose the natural option for depression perceived the natural option as having more benefits. $r(8)=0.848$, $p=.002$
- [5]Those who rated Tylenol as less desirable rated PainEze as having more benefits. $r(8)=1.000$, $p=.0001$
- [6]Those who rated Elderberry Zinc as riskier rated Airborne as having more benefits. $r(8)=-0.667$, $p=.035$
- [7]Those who rated Elderberry Zinc as less desirable are more likely to choose the Prescription option for Immune Support. $r(8)=-0.888$, $p=.001$
- [8]Those who rated PainEze as less desirable also rated Elderberry as having more risks. $r(8)=0.783$, $p=.007$
- [9]Those who chose the natural choice for Pain rated Elderberry as having more benefits for Immune Support as opposed to Airborne. $r(8)=0.976$, $p=.0001$

Results: Survey Data

Correlations

		FamiliaritywDTCAScore	Depression
FamiliaritywDTCAScore	Pearson Correlation	1	-.689*
	Sig. (2-tailed)		.028
	Sum of Squares and Cross-products	18.100	-7.700
	Covariance	2.011	-.856
	N	10	10
Depression	Pearson Correlation	-.689*	1
	Sig. (2-tailed)	.028	
	Sum of Squares and Cross-products	-7.700	6.900
	Covariance	-.856	.767
	N	10	10

*. Correlation is significant at the 0.05 level (2-tailed).

IBM SPSS 24

Correlations: OVER 40 SIGNIGICANT CORRELATIONS

Spearman Correlations in SPSS

Strong Negative Correlation

- Familiarity with DTCA (higher score equates higher familiarity) was associated with semantic rating difference for depression prescription and natural medicine. The semantic rating difference for each condition was summated and a winning choice was determined for each participant. Each condition was broken down into those who chose Rx, equal or natural with a rating 0,1 and 2 respectively. A higher rating indicates choosing the natural supplement.
- The semantic rating difference for each condition was summated and a winning choice was determined for each participant. For depression: 40% chose Rx, 30% rated equally and 30% chose the natural option. For pain and immune support: 60% chose Rx, 30% equal and 10% natural.
- A Pearson's correlation was run to determine if there was a relationship between choosing Rx or Natural Supplement and one's familiarity with DTCA. There was a strong negative correlation between being familiar with DTCA and choosing the natural medicine as opposed to the prescription counterpart. Those who are more familiar with DTCA are likely to choose the Rx as opposed to the natural dietary supplement. $r(8)=-.689$, $p<.05$

Hypotheses Results

- H1: No significant correlations were found between Health Consciousness and Consumer Attitudes towards dietary supplements. NS, p>.05
- H2: Significant positive correlation was found; positive attitude toward natural supplements is positively associated with perceptions of relative benefits and negatively associated with perceptions of relative risks of taking natural supplements as compared to prescription counterpart. ([1, 2, 4, 5, 7, 8])
- H3: Significant positive correlation exists between familiarity with DTCA and choosing non-natural medicine ([3])

Results: Health Conscious Decisions

- A Familiarity with DTCA and Health Consciousness Score was summated from respective Likert survey rating responses, higher scores indicate greater familiarity with DTCA and higher sense of Health Consciousness, vice versa.
- A strong negative correlation between DTCA familiarity and choosing the natural option indicates that for depression, people are more likely to choose the natural option with less DTCA familiarity.
- Preference for natural supplement was correlated with perceiving greater benefits in the natural option
- Those who rated one natural option as positive were more likely to rate another natural option as desirable

Discussion

Summary

- Greater resources for advertising held by larger pharmaceuticals correlate to increasing DTCA familiarity in people and therefore increasing the probability that they choose the generic/Rx brand/route as opposed to the natural dietary supplement option.
- Health consciousness and health related choices may be mediated by DTCA.

Limitations

- Small sample size
- Low sample diversity
- Low power
- External/internal validity

Future Directions

- Larger sample size
- Pre and Post Conditions using social/group interaction
- Examine more parameters of health consciousness and DTCA familiarity
- Run a mediation statistical analysis to investigate the relationship between consumer attitudes towards dietary supplements and how they may positively mediate effects of health consciousness with regard to DTCA familiarity

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Nutritional Knowledge and Self Perception of Health Corresponding with the Ability to Match Front of Package Images with the Equivalent Nutritional Facts.

Jordan Gardiner

Introduction

- Previous research suggests that people with higher nutritional knowledge have a better ability to select foods in which they understand the significance of each nutritional fact (Hawley, 2013).
- An ineffective food labelling system could be misleading, deceptive, or at the very least represent a lost opportunity to improve public health (Hawley, 2013).
- One central idea discussed by researchers has been the distinction between labelling the front and back of packages, where the more common complex nutrition table on the back of the product could be supplemented by a simplified label on the front that summarizes key information (Grunert & Wills, 2007).
- The value an individual consumer places on their own health determines the decisions they make while deciding on foods (Rustad & Smith, 2013).

Methods

Participants

- *N* = 10 students from Eastern Connecticut State University
  - 30% Male, 70% Female
  - 90% Caucasian, 10% Asian American
  - Mean Age: 20.1 (*SD* = 2.558)

Materials

- FOP & BOP Identify most nutritious questionnaire
- NHK Measure
  - 5- point Likert type scale
  - Higher scores showed more nutritional knowledge
- HVAEPI Scale
  - 7-point Likert type scale
  - Higher scores indicates that one has a higher self perceived level of health and places more value on overall health.

Procedure

- Distributed HVAEPI and NHK questionnaire.
- Distributed FOP/BOP matching task.
  - Participants were asked to identify healthiest choice based on FOPs and then BOPs
- Compared accuracy of matching to score on nutritional knowledge questionnaire

Hypothesis

It is hypothesized that people who score higher on HVAEPI and NHK will be able to better differentiate FOP labeling to the BOP nutrients, and therefore be more accurate on matching FOP/BOP based on healthiness.

Results

- IBM SPSS 24
- A Spearman *rho* correlation coefficient was calculated for the relationship between a subject's HVAEPI measure and NHK measure along with their ability to match front of food package labels with their corresponding nutritional facts
- An extremely weak correlation that was not significant was found (r (8) =-.093, p = .7999)
- HVAEPI and NHK measures did not relate to ability to match front of package food labels with their corresponding nutritional facts

Discussion

Summary

There was no relationship found between the participant's nutritional knowledge/value of health and their capability to match front of packages to the back of packages. The participants who scored highest on the HVAEPI and NHK questionnaires did not score the highest on the FOP/BOP matching task.

Limitations

- Small sample size
- Restricted amount of time available led to short questionnaires and matching tasks
- Insufficient variety of food products

Future Directions

- Larger sample size
- Adequate time would allow for larger self evaluation questionnaire and FOP/BOP matching task
- Provide a larger assortment of food products

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Perceptions of Health Based on Traffic Light Color-Coding on Nutrition Labels

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Introduction

- The effectiveness of traffic light color-coding on nutrition labels has been studied by other researchers and is generally found to be extremely influential in aiding consumers to make healthy choices (Schuldt, 2013;Trudel, Murray, Kim, & Chen, 2015).
- In separate experimental studies, it has been found that traffic light color coding has been more effective than other nutrition label formatting in encouraging consumers to purchase healthy products (Enax, Krajbich, & Weber, 2016).

Hypotheses

- H1: Individuals will rate the snack bar with the traffic light color-coded green dominant nutrition label as more healthy than the snack bar with the same label that is not color-coded.
- H2: Individuals will rate the snack bar with the traffic light color-coded red dominant nutrition label as less healthy than the snack bar with the same label that is not color-coded.

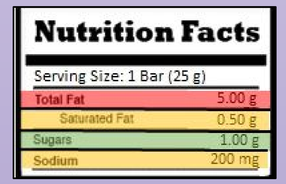
Method: Participants

- *N*=10 Eastern Connecticut State University psychology students
- 70% female (*n*=7), 30% male (*n*=3)
- 90.0% Caucasian (*n*=9), 10% Asian American (*n*=1)
- 40.0% sophomores (*n*=4), 40.0% juniors (*n*=4), 20.0% seniors (*n*=2)
- Mean age = 20.45 (*SD* = 2.69)

Method: Materials and Procedure

- **Materials:**
  - 9 pt Likert Scale of Nutrition (1 = Significantly Less Healthy, 9 = Significantly More Healthy)
- **Procedure:**
  - Participants rated snack bars based on nutrition labels compared to a typical snack bar

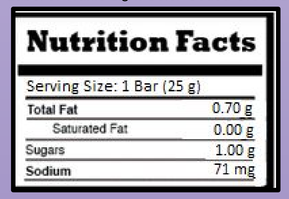
Label 1: No Coded Red Dominant



Label 2: Traffic Light Color- Coded, No Dominance

Label 3: Traffic Light Color-Coded Green Dominance

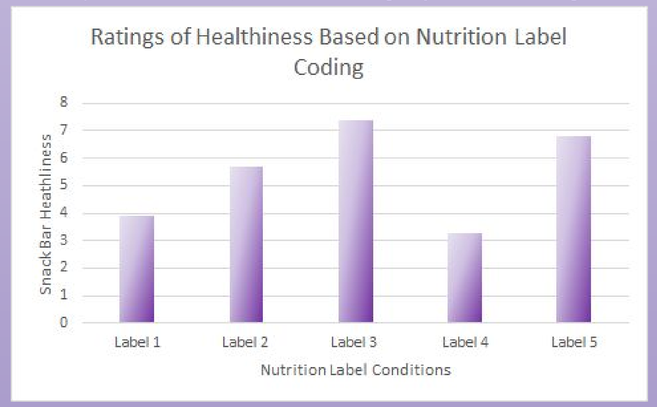
Label 4: Traffic Light Color-Coded Red Dominant



Label 5: No Coded Green Dominant

Text	LOW[8]	MEDIUM	HIGH	
Colour code	Green	Amber	Red	
			>25% of RIs	>30% of RIs
Fat	≤ 3.0g/100g	> 3.0g to ≤ 17.5g/100g	> 17.5g/100g	> 21g/portion
Saturates	≤ 1.5g/100g	> 1.5g to ≤ 5.0g/100g	> 5.0g/100g	> 6.0g/portion
(Total) Sugars	≤ 5.0g/100g	> 5.0g to ≤ 22.5g /100g	> 22.5g/100g	> 27g/portion
Salt	≤ 0.3g/100g	> 0.3g to ≤ 1.5g/100g	>1.5g/100g	>1.8g/portion

Department of Health, Food Standards Agency of the United Kingdom



Results

- IBM SPSS 24
- Mean Values: Label 1, *M* = 3.9 (*SD* = 0.56); Label 2, *M* = 5.7 (*SD* = 1.63); Label 3, *M* = 7.4 (*SD* = 0.84); Label 4, *M* = 3.3 (*SD* = 0.82); Label 5, *M* = 6.8 (*SD* = 0.78).
- A Wilcoxon test examined the results of the rating of perceived healthiness of the green dominant traffic color-coded label and the the same label that was not color coded.
  - A significant difference was found in the results ($Z = -2.121$, $p < 0.05$).
  - **Participants gave a healthier rating to the label with the traffic light color-coding.**
- A Wilcoxon test examined the results of the rating of perceived healthiness of the red dominant traffic color-coded label and the the same label that was not color coded.
  - No significant difference was found in the results ($Z = -1.730$, $p > 0.05$).
  - **The health rating that participants gave to the label with the traffic light color-coding was not significantly different than the health rating that they gave the same label without color-coding.** .

Discussion

- **Summary:**
- Participants rated the snack bar with the traffic light color-coded green dominant nutrition label as more healthy than the snack bar with the same label that is not color-coded.
- Participants rated the snack bar with the traffic light color-coded red dominant nutrition label as the same in terms of healthiness than the snack bar with the same label that is not color-coded.
- **Limitations**:
  - Small Sample Size
  - Lack of Diversity
  - Used back-facing labels
  - One type of food product
- **Future Directions:**
  - Larger sample size with a more diverse demographic.
  - Using front-facing labels instead of back-facing labels which is more realistic.
  - Use labels for a wider range of food products

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Subtle vs. Explicit Messages: Consumer Motivation and Consumer Food Choice

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Introduction

Different Types of Labels

- Past studies have indicated that the way in which nutritional information is presented affects consumers' food choice (Borgmeier & Westenhoefer, 2009).
  - Consumers make healthier food choices when nutritional information is presented as an absolute value (100g/ml), rather than as a portion size (Hieke & Newman, 2015).
  - Traffic light color coded labels allow consumers to directly evaluate the health quality of foods (Trudel, Murray, Kim, & Chen, 2015).
- It is not known which format best enables consumers to differentiate between healthy and unhealthy foods (Borgmeier & Westenhoefer, 2009).

Subtle vs. Explicit Messages

- An experimental design looked to determine the relationship between subtle and explicit messages and food choice.
  - It was found that more people chose a healthier snack when it was labeled with a subtle message as compared to an explicit message (Wagner, Howland, & Mann, 2015).
- No research has been conducted to explore this relationship with regard to consumer motivation.

Hypotheses

- H1: The majority of participants will choose an apple from the basket labeled with the subtle message as opposed to the baskets labeled with the control or explicit messages.
- H2: Participants whose food choice is strongly motivated by healthy eating will choose an apple from the basket labeled with the explicit message, as opposed to the baskets labeled with the control or subtle messages.

Control

Honey Crisp Apples

Developed at Eastern Connecticut State University in 1974

Connecticut's State Fruit

Subtle Message

Honey Crisp Apples

Developed at Eastern Connecticut State University in 1974

Connecticut's State Fruit

Explicit Message

Honey Crisp Apples

Developed at Eastern Connecticut State University in 1974

A Healthy Choice

Method: Participants

- *N*= 10 students from Eastern Connecticut State University
- 30% male (*n*=3), 70% female (*n*=7)
- 30% Sophomore (*n*=3), 50% Junior (*n*=5), 20% Senior (*n*=2)
- 90% Caucasian (*n*=9), 10% Asian American (*n*=1)
- Mean Age: 20.60 (*SD*=2.80)

Method: Materials

Healthy Food Choice Motivation Questionnaire
(Naughton, McCarthy, & McCarthy, 2015)

- Self report
- 7 statements regarding food choice
  - Rate each statement using a 7 point scale
    - 1=strongly disagree, 7=strongly agree
- The higher the score, the stronger the participant's motivation is to eat healthy.

Signs for Apples

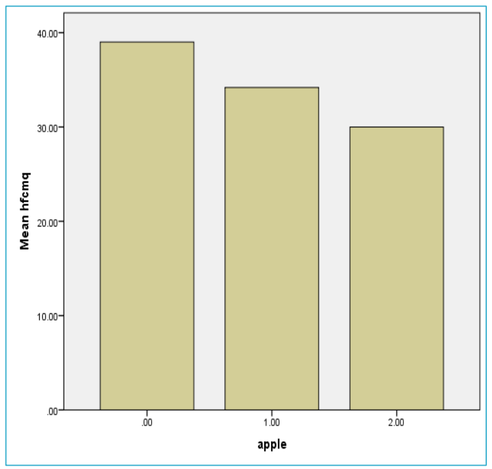
- Control, subtle, and explicit messages

Method: Procedure

- Three baskets of apples were presented to participants, each with different labels.
  - Control, subtle, or explicit
- Participants were asked to choose an apple from one of the baskets.
- Participants were then given the Healthy Food Choice Motivation Questionnaire.

Results

- IBM SPSS 24
- Mean values for Healthy Food Choice Motivation Questionnaire
  - Control: *M*=39.00 (*SD*=0)
  - Subtle: *M*=34.20 (*SD*=4.87)
  - Explicit: *M*=30.00 (*SD*=8.29)
- A Spearman *rho* correlation coefficient was calculated for the relationship between participants' apple choice and scores on the Healthy Food Choice Motivation Questionnaire.
- A medium negative correlation that was not significant was found ($r(8) = -.379$, $p = .280$). Apple choice is not related to scores on the questionnaire.



apple

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	control	1	10.0	10.0	10.0
	subtle	5	50.0	50.0	60.0
	explicit	4	40.0	40.0	100.0
	Total	10	100.0	100.0	

Discussion

Summary

- The majority of participants did not choose an apple from the basket labeled with the subtle message.
  - This number was nearly identical to the number of participants who chose an apple from the basket labeled with the explicit message.
- No relationship was found between apple choice and scores on the questionnaire.

Limitations

- Small sample size, all college students, majority female
- Used apples
- Food choice, not consumption

Future Research

- The effects of subtle and explicit messages on consumer food choice using various foods
  - Specifically unhealthy foods
- The effect of subtle and explicit messages on food consumption (Wagner, Howland, & Mann, 2015)

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The Relationships Between Health Consciousness, Color Preference and Perceived Healthiness

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Introduction

- Based off of previous research a correlation has been found between healthy foods and the color green (Schuldt, 2013).
- Further research has shown unhealthy foods and the color red are related (Rohr, Kahm, Koenigstorfer, Groeppel-Klein, & Wentura, 2015).
- Researchers found that green associated with positive situations and safety while red is seen in negative and dangerous situations (Mammarella, Di Domenico, Palumbo, & Fairfield, 2016).
- Participants who placed a high importance on good health perceived a green container as healthy (Schuldt, 2013).
- These same participants found a white container to be less healthy when compared to the green (Schuldt, 2013).

Hypothesis

- Participants who possess a higher health conscious are more likely to rate the contents of the green container as healthier as opposed to the red and blue containers.

Method: Participants

- *N*=10 Eastern Connecticut State University students.
- 20% male (*n*=2) and 80% female (*n*=8).
- 30% Sophomore (*n*=3), 50% Junior (*n*=5), 20% Senior (*n*=2).
- 100% Caucasian (*n*=10).
- Mean age: 20.6 (*SD*= 2.79).

Method: Materials

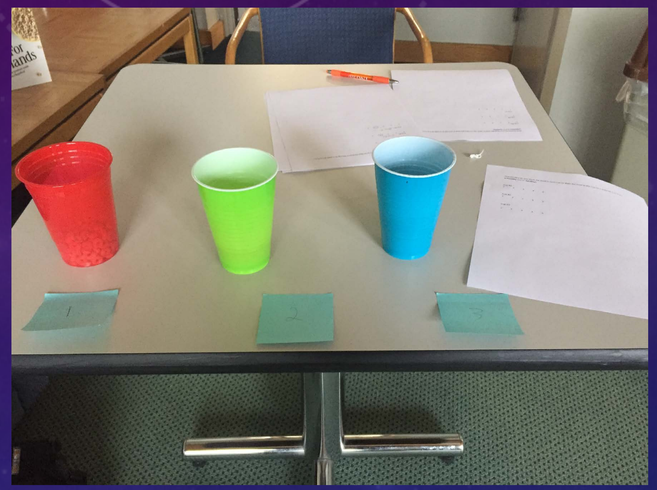
- Health Consciousness Scale (Hong, 2009).
- Five point Likert scale
- This scale utilizes a survey that has a variety of questions asking the participant about the integration of healthy behavior, psychological state, personal responsibility and motives for a healthy life style.
- Red, green and blue cups were used as containers for the cereal.
- Cheerios

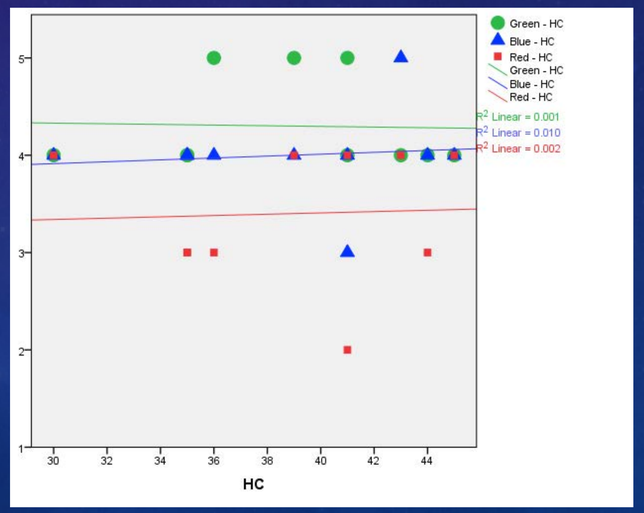
Method: Procedure

- Participants were presented with three cups filled with cereal labeled one, two and three (cups colors were red, green and blue).
- Participants were then asked to rate how healthy the contents of each container was on a scale of one to five (*1=unhealthy*, *5=healthy*).
- After rating each of the cups contents, the participants were required to fill out a Health Consciousness Survey.
- The order of the cups was switched for each participant.

Results

- IBM SPSS 24
- Mean Values:
- Red (Health Rating): *M*= 3.40 (*SD*=.70)
- Green(Health Rating): *M*= 4.30 (*SD*= .48)
- Blue (Health Rating): *M*= 4.00 (*SD*= .47)
- Health Consciousness: *M*= 38.90 (*SD*= 4.80)
- A Spearman's *rho* correlation was calculated.
- No correlation was found between red and health conscious (r_s(*N*=10)= .15, *p*>.05).
- No correlation was found between blue and health conscious (r_s(*N*=10)= .12, *p*>.05).
- No correlation was found between green and health conscious (r_s(*N=10)*= -.08, *p*>.05).
- A one-way repeated-measures ANOVA was calculated comparing the mean values of the red, blue and green containers:
- A significant effect was found (*F*(2,18)= .6, *p*<.05) and (*F*(2,18= .9, *p*<.05)





Discussion

- Participants possessing a higher health conscious did not pick the green container more frequently than the other colored container.
- There may be a slight relationship between the red colored container and unhealthy stereotypes. In 40% of the participants red was ranked the absolute lowest in perceived healthiness. In addition to this it was never ranked healthiest out of the three options.
- There was a correlation between color and health rating. When comparing the health rating means for each color, green was seen as the healthiest, while red was the unhealthiest.

Limitations

- Small sample size
- Scale is not finalized (Hong, 2009)
- Lack of variety for cup contents
- No neutral colored container used
- Presented cups all at once

Future Research

- Use a larger more representative sample
- Use a neutral color as the control
- Present two cups at a time (red vs green, green vs control, etc.)
- Use an updated scale
- Use different kinds of food for cup contents
- Have the participants eat the food

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The Effect of a Mindful Eating Exercise on the Enjoyment and Willingness to Eat Disliked Foods

Summer Research Institute 2017

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Introduction

- Mindful eating comes from mindfulness, a type of meditation that has become increasing popular in recent years. Mindful eating is an exercise that promotes full consciousness of what you are consuming. This includes being aware of the smell, texture, and taste of the food you are eating as well as the emotions and thoughts you are having while you eat. (Tran, 2013)

- In previous experiments, researchers have studied how the mindful raisin eating task has increased the expectations of liking foods. .(Hong, 2013; Hong, 2014)

- In a similar study, I have used the mindful raisin eating task to understand i participants become more open, or increase the liking, their least favorite food.

Hypothesis

- If the participants engage in the mindful raisin eating exercise, then they will report that they like their least favorite food more and becoming more willing to eat the food as compared to a control condition. This is because mindful eating promotes a sensory experience that may produce a higher appetite for all foods.

Method

- Participants-

-10 Eastern Connecticut State University Students
-36.4% Sophomore, 45.5% Junior, 18.2% Senior
-27.3% Male, 72.7% Female
-Mean age: 20.7
-9.1% Asian American, 91.9% Caucasian

- Materials-

-Raisins
-Survey; included 10 generally disliked foods with two questions proceeding each food, How much you like this food? How willing are you to eating it? participants rated these questions on a scale 1-5.
1 suggested that the hated the food or was not willing to eat that food at all 5 being the loved the food
-History of Raisins Article (Filippone, 2017)
-Mindful Raisin Eating (5min) (Ulffullf, 2016)

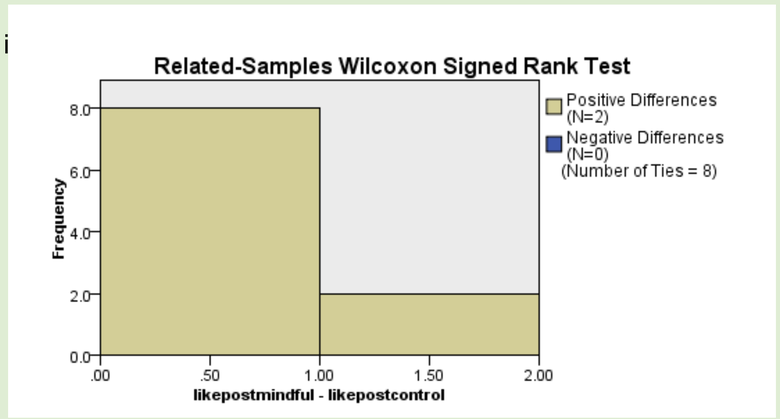
- Procedure-
- On the first day of collecting the data, the participants:

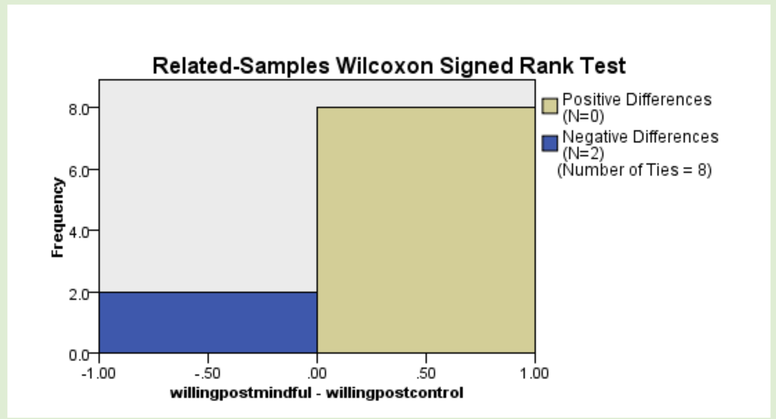
-Filled out a pre-survey
-Read the article about raisin history
-Then completed the post-survey

- On the second day of data collection, the participants:

-Filled out the same pre-survey
-Listened and followed the directions to the 5 min mindful raisin eating recording
-Then after filled out the post-survey

Results- Graph





Results

- IBM SPSS Statistics 24
- There was no significant change between the control post survey to the mindful post survey, when it was measuring the level of liking his or her least favorite food. (Z= 1.414, p›.05)
- Three was also no significant change between the control post survey to the mindful post survey, when it was measuring the participants willingness to eat his or her favorite food. (Z= -1.414, p›.05)
- (Like) Control post survey- Mindful post survey 20% of participants increased liking rate
- (Willing) Control post survey-Mindful post survey 20% of participants, decreased their willingness to eat their least favorite food

Discussion

- No relationship between liking and willing to eat and the mindful raisin eating task.
- My original hypothesis has not been supported by the data.
- The participants did not report any difference in liking or being more willing to try their least favorite food.
- It could be inferred that people's preferences rarely change when asked about a food they have strong feelings about .

Limitations

- Participants were not aware how mindful eating works
- The element of repetition
- Dislike raisins
- Small sample size

Future Direction

- Give only post survey
- Bugger sample size
- Pick a food most people like

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Effects of Familiarity on Food Preference and Beliefs About Food

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Tess Parker

Introduction

- Approximately one third of consumers report preferring name brand products over generic brand products (Friese, Wänke, & Plessner, 2006).
- Generic brands contain equal, if not better, quality ingredients than name brand products (Richardson, Jain, & Dick, 1996).
- Taste ratings are higher for more frequently advertised foods than similar foods with less frequent advertising (Harris & Bargh, 2009).
- Customers with higher familiarity of generic brand products are more likely to view them as higher quality products that have a better value for their price (Richardson, Jain, & Dick, 1996).
- Differences between ratings of generic brand food and name brand food is based more on perception and lack of familiarity rather than actual differences (Rosen, 1984).

Hypotheses

- More highly advertised and more familiar foods will be perceived as tasting better and being healthier than less advertised and unknown foods.
- More highly advertised food will be preferred regardless of participants' food values and the food values associated with the cereal

Method

Participants:

- *N*=10 Eastern Connecticut State University Students
- 30% Male (*n*=3) and 70% Female (*n*=7)
- 40% Sophomores (*n*=4), 40% Juniors (*n*=4), 20% Seniors (*n*=2).
- 90% Caucasian (*n*=9), 10% Asian American (*n*=1)
- Mean age: 20.5 (*SD*=2.84)

Materials:

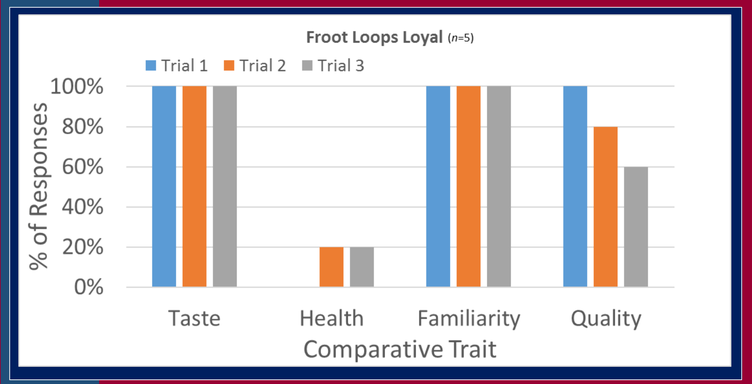
- Parental Influence Scale: 5 Point and 4 Point Likert Scale; higher score suggests more parental influence.
- Food Choice Value Scale (FCVS) : 5 Point Likert Scale where a higher score indicates more importance placed in that area when choosing food products.
- Froot Loops, Tootie Fruities, and Fruit Spins Cereal
- 3 different advertisements for Froot Loops
- iPhone 6s Plus used to show participants the advertisement for the name brand cereal

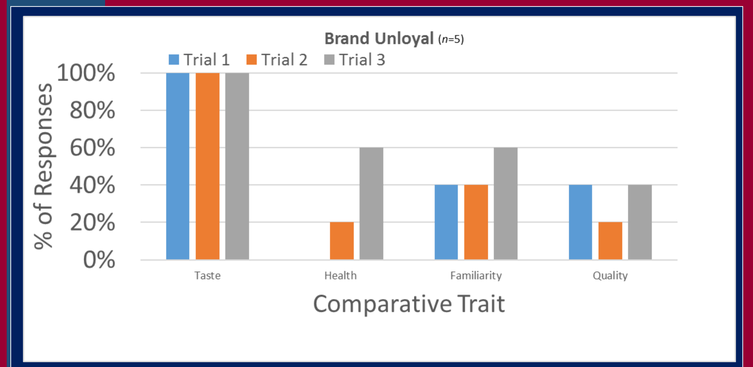
Procedure:

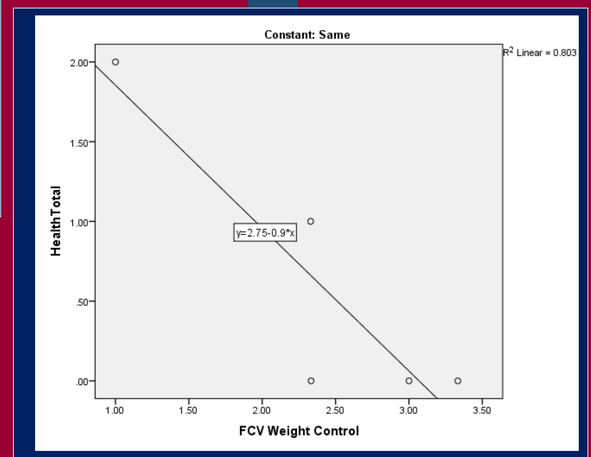
- Before each trial, participants were shown one of three different advertisement for the name brand cereal (Froot Loops)
- Participants were shown the two cereal types and were given them to eat and try, actual cereal varied by condition.
- Participants chose which cereal they preferred.
- Participants responded to the Parental Influence Scale, Food Choice Value Scale, and other relevant questions.

Conditions:

- Participants were first given two different cereals with their corresponding name
- Participants were then given two different cereals, but under the opposite name.
- Participants were given the same cereal but with the understanding that they were eating two different cereals, one name brand and one generic







Results

- IBM SPSS 24
- Pearson Correlations
- A strong, negative correlation that was significant was found between the FCVS factor of Weight Control and Health and brand loyal participants' comparative health rating between cereal options (*r*= - .896, *p*= 0.04).
- A moderate, negative correlation that was not significant was found between the FCVS factor of Safety and participants' comparative quality rating between cereals (*r* = - .513, *p=0.130*).

Discussion

Summary

- Participants who reported being more health conscious when choosing food were more likely to disregard their beliefs when choosing between a familiar name brand and generic brand (*r*= - .896, *p*= 0.04).
- Participants may potentially disregard their safety values of food in order to remain loyal to a name brand.

Limitations

- Froot Loops not a common food consumed by or advertised to this age demographic
- Froot Loops widely considered an unhealthy cereal, may skew participants' value of health when making food choices.
- Small sample size

Future Directions

- Different foods varying by type and relative health
- Different age groups
- Larger sample size

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The Effect of Social Facilitation on Meal Duration and Food Intake

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Introduction

- Social facilitation in terms of eating is the tendency for people to eat more and for longer when they are in a group versus alone (Herman, 2015).
- Social facilitation increases food consumption by significant amounts (Lumeng & Hillman, 2007).
- Studies by Bell and Pliner (2003) and Castro and Brewer (1991) found that meals last longer when there are more people present.

Hypotheses

- Participants who are in the presence of others will eat more than those who are alone
- Participants who are in the presence of others will eat for longer than those who are alone

Methods

Participants

- Convenience sample from ECSU
- *N*= 10
-70% female (*n* =7), 30% male (*n* =3)
-90% Caucasian (*n* =9), 10% Asian American (*n* =1)
- Mean age: 20.6 (*SD*= 2.79)

Measures

- Hunger and Satiety Rating Scale: Teddy the Bear (Bennett & Blissett, 2014)
  -Participants indicate which picture best describes their level of fullness
  -5 point Likert like scale ranging from 1= not full to 5= very full
- Meal duration
  -Participants are observed and their meal duration is timed in seconds
- Food intake
  -Amount of popcorn is weighed in grams before and after being exposed to the condition

Procedure

- Researcher weighed and recorded amount of popcorn in grams
- Participants entered room, either alone or with others depending on assigned condition
- Researcher administered fullness measure
- Researcher recorded meal duration behind two way mirror once meal was complete
- Researcher administered same fullness measure
- Researcher weighed and recorded amount of leftover popcorn in grams

Results

- IBM SPSS 24
- A Wilcoxon test was used for all calculations
- Meal duration
  -Alone condition: *Md*= 121s, range= 573s
  -Social condition: *Md*= 289s, range= 364s
  -Significance found, *Z*= -2.499, *p* =.012
- Food intake
  -Alone condition: *Md*= 6.45g. range= 34.6g
  -Social condition: *Md*= 17.1g, range= 38.8g
  -Significance found, *Z*= 2.09, *p*= .037
- Fullness prior to exposure
  -Alone condition: *Md*=4, range= 1
  -Social condition: *Md*= 3, range= 1
  -Significance found, *Z*= -2.81, *p*=.005

Discussion

Summary

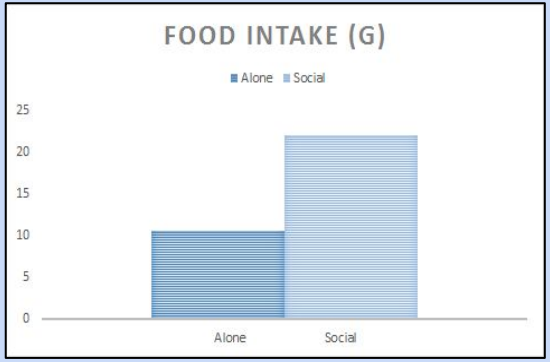
- There was a significant difference in food intake, meal duration, and fullness between the alone and social condition, supporting previous research.

Limitations

- Small sample size
- Demand characteristics
- Fullness

Future Directions

- Naturalistic observation, different settings
- Strangers v. family or friends
- Cultural differences
- Normal vs. novel food



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The Impact of Label Type on Perceived Healthiness and Label Comprehension

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Introduction

- Nutrition label use is correlated with healthier eating choices (Kim, Nayga, & Capps, 2001).
- Nutrition facts comprehension is not guaranteed even if label is used (Dharnit & Gupta, 2015).
- Increased label use positively correlated with label comprehension (Guthrie, Fox, Cleveland, & Welsh, 1995).
- More educated people use nutrition labels more (Drichoutis, Lazaridis, Nayga, Kapsokefalou, & Chryssochoidis, 2008).
- Limited research has been done on relationships between front of package (FOP) labels and back labels (Nutrition Facts) (Kim et al., 2001).

Hypotheses

- H1: The nutrition facts will have higher ratings of perceived healthiness compared to the FOP ratings
- H2: The nutrition facts labels will result in more successful determination of the healthier cereal than the FOP labels

Method

Participants

- *N=10* students from Eastern Connecticut State University
- 80% Female 20% Male
- 90% Caucasian 10% Asian American
- Ages ranged from 18-27, *M*=20.60 (*SD*=2.80)
- Class rank ranged from Sophomore to Senior, with majority of students being Juniors

Materials

- 9-point Likert Scale of perceived healthiness (9=most healthy, 1= least healthy) (Schuldt, 2013)
- Pictures of front of Marshmallow Mateys and Lucky Charms
- Nutrition labels manipulated slightly to make one clearly healthier than the other
    - The healthier cereal had more fiber, higher iron content, lower sodium content, and more potassium

Procedure

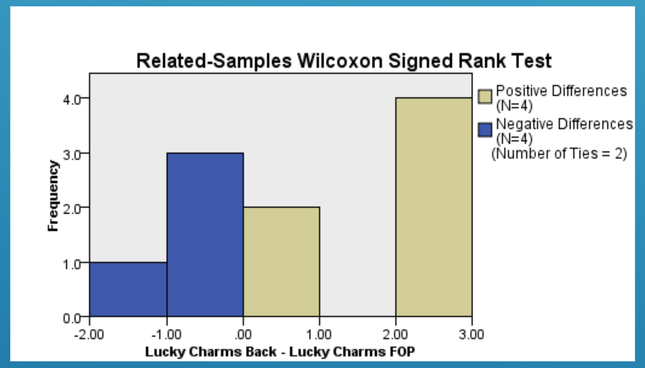
- Participants were presented with four labels of cereals
    - Two FOP pictures and then the two corresponding nutrition information tables
- Participants were asked to rank how healthy each was on the 9 point Likert Scale
- Participants were not made aware that the fronts of boxes corresponded to a back label

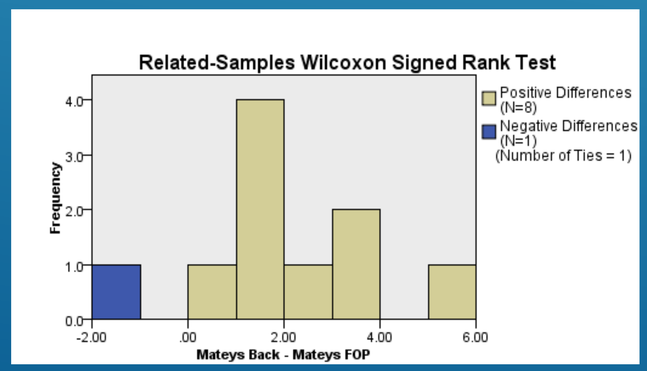
Amount Per Serving	Cereal	Fat Free Milk
Calories	110	150
Calories from Fat	10	10
	% Daily Value*	
Total Fat 1g*	2%	2%
Saturated Fat 0.5g	3%	3%
Trans Fat 0g		
Cholesterol 0mg	0%	0%
Sodium 135mg	6%	9%
Potassium 35mg	1%	7%
Total Carbohydrate 25g	8%	10%
Dietary Fiber 3g	11%	11%
Sugars 12g		
Other Carbohydrate 10g		
Protein 1g		
Vitamin A	10%	15%
Vitamin C	25%	25%
Calcium	0%	15%
Iron	25%	25%
Vitamin D	10%	25%
Thiamin	25%	30%
Riboflavin	25%	35%
Niacin	25%	25%
Vitamin B_6	25%	25%
Folic Acid	25%	25%
Vitamin B_{12}	25%	35%
Zinc	10%	15%

INGREDIENTS: SUGAR; WHOLE GRAIN CORN FLOUR; WHEAT FLOUR; WHOLE GRAIN OAT FLOUR; OAT FIBER; SOLUBLE CORN FIBER; PARTIALLY HYDROGENATED VEGETABLE OIL (ONE OR MORE OF: COCONUT, SOYBEAN AND/OR COTTONSEED OILS)†; SALT; SODIUM ASCORBATE AND ASCORBIC ACID (VITAMIN C); NIACINAMIDE; REDUCED IRON; NATURAL ORANGE, LEMON, CHERRY, RASPBERRY, BLUEBERRY, LIME AND OTHER NATURAL FLAVORS; RED #40; BLUE #2; TURMERIC COLOR; YELLOW #6; ZINC OXIDE; ANNATTO COLOR; BLUE #1; PYRIDOXINE HYDROCHLORIDE (VITAMIN B_6); RIBOFLAVIN (VITAMIN B_2); THIAMIN HYDROCHLORIDE (VITAMIN B_1); VITAMIN A PALMITATE; BHT (PRESERVATIVE); FOLIC ACID; VITAMIN D; VITAMIN B_{12}.
†LESS THAN 0.5g *TRANS* FAT PER SERVING.

Results: Perceived Healthiness

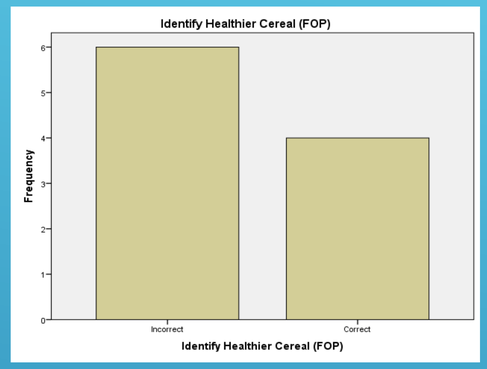
- Wilcoxon tests compared the rankings of each cereal's FOP label and Nutrition Facts
- Lucky Charms front and back labels had no significant difference (*Z*= .866, *p*>.05)
- Marshmallow Mateys' front and back labels had a significant difference *(Z*= 2.036, *p*<.05). Participants rated the cereal healthier when provided nutrition information than with the FOP label

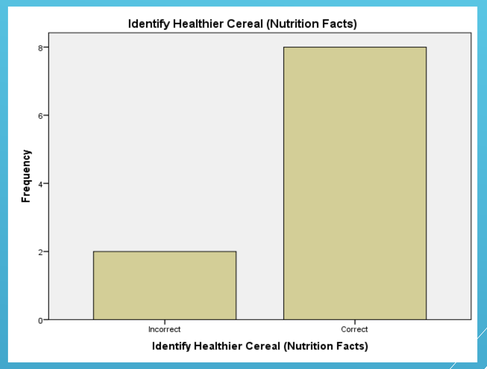




Results: Label Comprehension

- Participants were twice as likely to identify the healthier cereal as such when provided with the Nutrition Facts than the front of package (8 correct vs. 4 correct)





Discussion

Summary

- The Lucky Charms front vs. back label analysis did not support the hypothesis that nutrition labels would be rated healthier than FOP labels
- The Marshmallow Mateys front vs. back label analysis did support the hypothesis that nutrition labels would be rated healthier than FOP labels
- Nutrition labels allow consumers to make more accurate perceptions of healthiness of foods compared to FOP labels

Limitations

- Small sample size of only college psychology students as well as using a well known cereal (Lucky Charms) compared to one with less popularity (Marshmallow Mateys)
- Experiment was only done with cereal, not any other foods

Future Research

- Future research should examine other variables such as the sizes or colors of FOP labels, the nutrients in the nutrition facts that affect healthiness perceptions most for consumers, the food used, and using made-up cereals and labels to counter familiarity limitations
- Use a larger sample that is more representative of the entire population

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Effects of Store Brand vs. National Brand on Visual & Taste Preference

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Introduction

Store vs. National Brands

- Store brands emerged as a cheaper alternative to national brands (Martos-Partal, Gonzalez-Benito, & Fustinoni-Venturini, 2015).
- There are more store or "private" brands in the stores on the shelves now than ever before (Martos-Partal, Gonzalez-Benito, & Fustinoni-Venturini, 2015).
- Over time there has been a past history of store brands offering a lower quality and price for products compared to national brands (Wulf, Schroder, Goedertier, &Van Ossel, 2005).
- Store brands require retailers to take full responsibility for product introduction sourcing, advertising, promotions, etc. (Pauwells & Srinivasan, 2004).
- Consumers' preferences for national brands are strong, creating retail profitability, while store brands provide leverage to the retailers to improve their margins (Wulf et al., 2005).

Branding

- Branding is essential in America; a brand is what makes something identifiable and sellable (Dunn, Murphy & Skelly, 1986).
- There are perceived risks with branding including performance, financial and social risks (Dunn, Murphy & Skelly, 1986).

Taste:

- Taste is an effective measure in understanding a brand's position and overall strength (Wulf et al., 2005).
- Consumers tend to rely more on extrinsic cues such as a brand name when confronted with ambiguous product attributes (i.e. experience attributes) (Dunn, Murphy & Skelly, 1986).

Hypotheses

It is hypothesized that participants would select a National Brand lemonade when interacting with the lemonade packaging for 10 seconds each.

It is hypothesized that participants will select a National Brand during a blind taste test.

Method

Participants

- Convenience sample from Eastern Connecticut State University
- Demographics of Participants (N = 10)
  - 70% Female (n = 7) 30% Male (n = 3)
  - 40% Sophomore (n = 4), 50% Junior (n = 5), 10% Senior (n = 1)
  - 90% Caucasian (n = 9), 10% Asian American (n = 1)
  - Mean Age of 20.50 (SD = 2.84)
  - Age range of 18- to 27-years-old
- Within-Subjects Design

Measures

- **Multiple Stimulus Without Replacement (MSWO; DeLeon & Iwata, 1996)**
  - Visual & Taste Preference Assessment
- **Food Satisfaction - Adapted from Poor, Duhachek, & Krishnan (2013)**
  - 5 aspect questionnaire with a 9-point Likert Scale.
  - Higher scores indicate higher preference and ranking
- **Consumer Responses to Food Products Questionnaire (Fenko, Lotterman, & Galetzka, 2016)**
  - 30 items, measured on a 5-point Likert scale (1 = fully disagree, 5 = fully agree)
  - Higher score indicate higher thoughts on perceived lemonade products

Procedures:

- Participant entered a quiet room
- Presented participant with four different lemonades (See Figure 1)
  - National Brand: Tropicana and Minute Maid
  - Store Brand: Stop & Shop and Nature's Promise
- Conducted an MSWO after giving them 10 seconds of access to each bottle for visual preference
- Presented participant with Food Product Questionnaire
- Performed a blind taste assessment with four lemonades, (A, B, C, & D)
- After drinking a sample of each lemonade, conducted MSWO for taste preference
- Gave four Food Satisfaction Scale Surveys, one for each of the lemonades in order of MSWO taste rank

Figure 1

National Brands:
Minutes Maid & Tropicana

Store Brands:
Stop & Shop & Nature's Promise

Results

IBM SPSS 24

A one-way repeated-measures ANOVA was calculated comparing the participants taste preference between four different lemonades. No significant effect was found ($F(3,27) = .221$, $p > .05$).

A one-way repeated-measures ANOVA was calculated comparing the participants visual preference between four different lemonades. A significant effect was found ($F(3,27) = 5.151$, $p < .05$, partial $\eta^2 = .364$). In Table 1, post-hoc comparisons are shown.

Table 1

Mean and SD for Different Lemonades Based on Visual and Taste MSWO Preference Assessment

	Types of Lemonade			
Preference Tests	Stop & Shop	Tropicana	Nature's Promise	Minute Maid
Visual	3.4(SD = .69)^{ab}	1.9(SD = .99)^{ac}	1.8(SD = 1.03)^{b}	2.9(SD = .99)^{c}
Taste	2.4(SD = 1.07)	2.8(SD = 1.13)	2.4(SD = 1.17)	2.4(SD = 1.26)

Note: If two letters are the same, there is a significant difference between the Mean; $p<.05$.

Discussion

Summary:

- The National Brand Tropicana was preferred over the National Brand Minute Maid and the Store Brand, Stop & Shop, based on the the packaging and visual.
- The Store Brand, Nature's Promise was preferred over the Stop & Shop Store Brand.
- No difference in taste preference when a taste test was conducted.

Limitations:

- Small sample size
- Possible order of taste effects
- Flavors were carried over from each lemonade sample
- Different levels of preferences for lemonades

Future Research:

- Larger sample size
- Investigate participants past history with brands and brand equity
- Vary order of presentation of lemonades
- Nutritional content of various brands
- Qualitative data on selecting the brand more visually appealing

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