

Got Plastic? Examining Weber State University Students' Environmental Attitudes on Plastic Consumption

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BACKGROUND

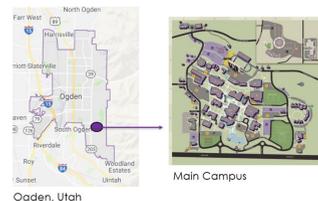
- Plastics have been a huge concern lately. A lot of what we throw away ultimately ends up in the ocean where it clutters and pollutes our ecosystems and horrifically causes adverse effects to marine life (Parker, 2013).
- It is evident that action must be taken in order to reduce our plastic consumption and ultimately our plastic waste.
- This has led some people to choose to use less plastic and adopt reusables (O'Donoghue, 2018) while others engage in recycling behaviors. Unfortunately, however, though there is a clear growing concern on environmental awareness, it is not always reflected in individuals' behaviors and in what they consume (Mohr, 2012; Heidebreder, Bablok, Drews, & Menzel, 2019), since only 9% of plastics get recycled (UNEP, 2018, p.18).
- This lack of recycling could be a result of China's ban on accepting the world's recycling as of 2018 (Freytas-Tamura, 2018), which has caused a halt in recycling and confusion on what is now considered recyclable (Rosengren, et al., 2019).
- Bottom-line:** There is an evident attitude-behavior gap between individuals' attitudes towards the harmful effects of plastic pollution and the behaviors they choose to engage in to remedy these effects.

PURPOSE & QUESTIONS

- Purpose:**
 - To study the relationship of environmental attitudes on plastic consumption behaviors of WSU college students to understand how these two variables directly influence each other.
 - To understand why there is an attitude-behavior gap with recycling at WSU.
- Research Questions:**
 - (a) What motivates people to buy or avoid plastics?
 - (b) Is there a positive association between environmental concern/knowledge and plastic consumption?
- Why?:**
 - Though there is a growing concern of environmental awareness, it is not always reflected in individuals' behaviors or their consumption.

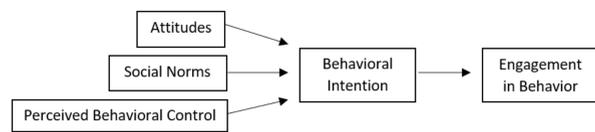
SETTING

- Study Area & Significance:**
 - Weber State University, Ogden, Utah
 - WSU has a campus goal to become Carbon Neutral by 2050 ("About us", n.d.)
 - Since 2007, their efforts saved \$13.6 Million (Bodine, personal communication (Nov 14th, 2019), and has made them 10 years ahead of their carbon goal.
 - However, according to their Climate Action Plan, their waste diversion efforts haven't been as successful with only 40% recycled in 2017 (Bodine, 2017 p. 20).
- Targeted Population & Significance:**
 - Weber State University students (population: 26,000)
 - Students are the largest population on campus (compared to Faculty and Staff) and therefore, they hold a greater significance



LITERATURE REVIEW

- Environmental attitudes** usually reflect in an increase in **pro-environmental behaviors** (Suki, 2015; Yadav, 2016; Park, 2018).
- Presence of an attitude-behavior gap where **environmental attitudes** do not determine **pro-environmental behaviors** (Redondo, 2017; Heidebreder, 2019).
- Theory of Planned Behavior (TPB) (Ajzen, 1991):**
 - Designed to help us understand the motivations of individual's intentions to engage in certain behaviors
 - Variables: Attitudes, Norms, and Perceived Behavioral Control (or Barriers).
 - These predict our likelihood of engaging in behaviors.



- Behaviors are complex and **behavior modification** requires certain strategies (Heberlein, 2012; Mohr, 2012).
- Gender differences** are found to play a role in determining that females participate in **pro-environmental behaviors** more than men (Eisler, 2003; Vicente-Molina, 2018).

METHODS

- A convergent mixed methods, cross-sectional online survey was designed through Qualtrics to collect both quantitative (closed-ended) & qualitative (open-ended) data to help determine the strength of correlation between the variables of environmental attitudes and pro-environmental behaviors. Specifically, the behaviors relating to plastic consumptive actions (like recycling or using reusable products/containers).

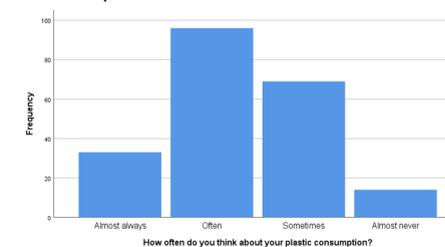
- Study Variables: (Nominal, Ordinal, and Interval data)**
- General demographic variables (Age, Ethnicity, and Gender).
- Theory of Planned Behavior (Environmental Attitudes, Norms of plastic reducing or other pro-environmental behaviors, and Perceived Control or barriers to such behaviors).
- Additionally for TPB, Environmental Knowledge and Environmental Concern (Yadav, 2016).
- Intentions and pro-environmental behaviors (the dependent variables): engaging in recycling, or choosing to use reusable products/containers to reduce plastic consumption.

- Distribution:**
 - To collect purposive—or non-probability sampling—a flyer was designed with the link to the online survey and was distributed across campus on bulletin boards and via email to WSU Department Chairs to help further spread the word to students.

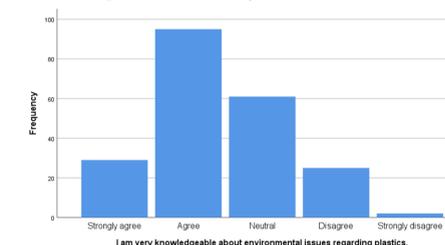
- Data Collection & Strategy for Statistical Analysis:**
 - Data was collected & analyzed through SPSS: Statistics software "Statistical Package for Social Sciences"
 - Closed-end questions:** analyzed through Descriptive Frequencies and Cross Tabulations
 - The method for identifying the mode – most numbers from the data – was used to interpret the descriptive statistics.
 - Open-ended questions:** analyzed through identifying key words and terms through collecting a summary of common and recurring themes.

DESCRIPTIVE FREQUENCIES

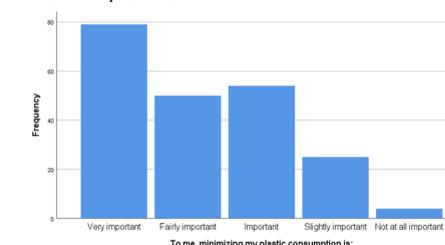
Bar Chart 3. Sample Environmental Concern



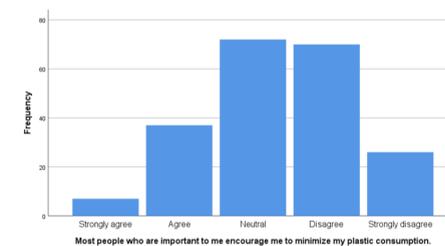
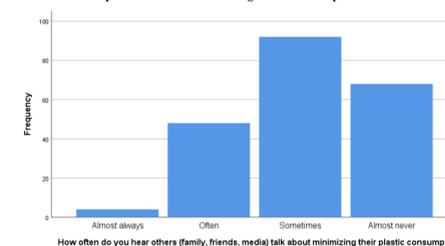
Bar Chart 4. Sample Environmental Knowledge



Bar Chart 5. Sample Environmental Attitude



Bar Charts 6. Sample Social Norms on Reducing Plastic Consumption



DATA / FINDINGS

- DISCLAIMER:** Statistical analysis cannot prove anything; it simply tells us that there is an either weak or strong correlation in the relationship between two variables. Causation can not be argued.
- Of the 240 respondents, only 212 were viable enough to analyze. The majority of the sample were female, Caucasian, in the age range of 18-24, and Senior-status college students. Weber State University students have moderately high environmental concern, are very knowledgeable about environmental issues in regards to plastics, and have high environmental attitudes. As far as social norms go, the majority of WSU students indicated low social information and pressures around them to influence their plastic consumption behaviors. Lastly, the majority of students indicated that they own reusable products, and recycle, and they engage in both of these pro-environmental behaviors generally frequently.
- Answers to Research Questions:**
 - (a) What motivates students to buy or avoid plastics?:** Gender, higher class standing, & stronger environmental concern, environmental knowledge & environmental attitudes.
 - (b) Is there a positive association between environmental concern/knowledge and plastic consumption?:** The data suggest that this is true for the most part.
- Did the measured variables in the Theory of Planned Behavior help predict this?:**
 - Environmental attitudes were applicable in this research study.
 - Not applicable for social norms in this research study.
 - Due to errors in the survey design, the variables of perceived behavioral control could not be analyzed.

CONCLUSION & RECOMMENDATIONS

- As plastics continue to pollute our natural environments, it is important to understand that human actions have environmental consequences, and that education alone is not enough to help motivate individuals' to adjust their behaviors to remedy such consequences.
- Proposed Solution for WSU:** The attitude-behavior gap with recycling at WSU could be due to barriers such as lack of knowledge, inconvenience, and China's ban. Policy changes on how we address/encourage plastic reduction on campus could remedy this (Mohr, 2012).
- Future Recommendations:** This study focused on a specific population in an educational institution and on reducing plastic consumption of students rather than an array of sustainable or pro-environmental behaviors such as diet, green purchasing, alternative transportation, or civic engagement, etc. Future researchers can learn from this student researcher's shortcomings and prepare similar studies to conduct on other students in the same education institution or at other educational institutions.

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