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# Perceptions of Corporate Social Responsibility of Prominent Fast Food Establishments by University Students 

Carissa J. Morgan ${ }^{\text {a }}$, S. R. Dominick ${ }^{\text {b }}$, Nicole J. Olynk Widmar ${ }^{\oplus^{\text {c }}}$, Elizabeth A. Yeager ${ }^{\text {d }}$ and Candace C. Croney ${ }^{\text {e }}$<br>${ }^{\text {a, b }}$ Graduate Research Assistant, ${ }^{\text {c }}$ Associate Professor, Department of Agricultural Economics, Purdue University, 403 West State Street West Lafayette, IN, 47907, USA<br>${ }^{(1}$ Phone: +1 765-494-2567. Email: nwidmar@purdue.edu<br>${ }^{\text {d }}$ Department of Agricultural Economics, Kansas State University, 342 Waters Hall, Manhattan, KS, 66506, USA<br>${ }^{\mathrm{e}}$ Associate Professor, Department of Comparative Pathobiology, Purdue University, 625 Harrison Street, West Lafayette, IN, 47907, USA


#### Abstract

Corporate social responsibility (CSR) can affect the way customers perceive a company and can influence product differentiation. This study assesses university students’ perceptions of CSR across eleven prominent fast food restaurants. A total of 550 students responded to in-person surveys administered on the campus of Purdue University. Chipotle and Panera Bread were perceived to be the most socially responsible out of the fast food restaurants studied, receiving mean preference shares of $31 \%$ and $30 \%$, respectively.


Keywords: consumer behavior, consumption patterns, corporate social responsibility, fast food perceptions

[^0]
## Introduction

Food expenditures by consumers away from home are increasing in the United States (BLS 2016; USDA 2016). At the same time, consumers are increasingly demanding more (attributes) from their food, and fast food restaurants have been moving to meet growing demand for social responsibility (Morgan et al. 2016). The European Commission suggested that corporate social responsibility (CSR) is "a concept defining how companies integrate social and environmental concerns in their business operation and how they interact with stakeholders on a voluntary basis," (Manning 2013, 9). A company with the ability to differentiate their products via CSR initiatives or in other ways may be able to attract customers when price competition is high. For example, in a study conducted on restaurant location and competition, Thomadsen (2007) found that McDonald's and Burger King offer lower prices when the restaurants are closer together, but set higher prices as the distance between the individual restaurant locations increases. Price advantages can be gained with two miles to two and one-half miles between the chains, but there is a limit to the increased distance before the restaurant is removed from the target market (Thomadsen 2007). In response to intense price competition, one avenue of product differentiation and competitive advantage could be each chain's CSR initiatives.

Young consumers and university students have the persistent reputation of being avid consumers of fast food. Fryar and Ervin (2013) reported that approximately 15\% of caloric intake for young adults came from fast food, whereas, for adults aged forty to fifty-nine, the caloric intake is only $10.5 \%$. Consumption of food away from home is largest, in terms of share of expenditures, for the segment of the population which is eighteen-twenty-five years of age (BLS 2016). A study done at Michigan State University in 1999 found that $40.4 \%$ of the students surveyed went to a fast food restaurant three to four times a week, while $25.8 \%$ went more than five times (Knutson 2000). In 2005, a study done at a Midwestern university found that $95.1 \%$ of the freshman/sophomore undergraduate students surveyed and $91.9 \%$ of the junior/senior undergraduate students surveyed reported eating out at fast food restaurants five to eight times a week (Driskell, Kim, and Goeble 2005). Kurkowski et al. (2006), in a study of Vermont residents, found that college students ate fast food $70 \%$ more often than non-enrolled adults in the same community. Dingman et al. (2014), in a study at a Southeastern university, found that $23 \%$ of the meals consumed by students were from fast food restaurants. Thus, there is considerable evidence in support of the notion that college students are regular consumers of fast food.

Many universities have popular fast food options available on or near the campus, making fast food abundant and accessible for students. For example, Alfred State College, with about 3,700 enrolled students, is proximate to locations for a number of fast food options, including McDonald’s, Subway, and Dunkin’ Donuts (Alfred State 2016). Texas A\&M University, with a total enrollment of about 64,500 students, has locations for Chick-fil-A and Starbucks, among others, on campus (Texas A\&M 2016). A study at Michigan State University reported that the campus had restaurants for McDonald's, Subway, Burger King, Taco Bell, and Wendy's on campus, while Arby's and KFC were across the street from campus (Knutson 2000). While the precise offerings may differ, the availability of fast food near (or on) university campuses in the United States is generally quite high. Purdue University, the location of this study, has abundant fast food on or near campus, as well as multiple locations for the same restaurant chains in
various locations around campus. Easy access to fast food options clearly appears to be a part of the university experience for many students.

There is generally little research focused on the consumer base of 'university students' and their expectations about CSR, let alone CSR practiced by fast food restaurants. One study of English and Scottish university students found that, for McDonald's and KFC, respondents were aware that each company had CSR initiatives (Schröder and McEachern 2005). The students were most knowledgeable about each company's food quality initiatives, $55 \%$, and $34 \%$, respectively, and their awareness for all CSR initiatives was higher for McDonald's than for KFC (Schröder and McEachern 2005). These university students also had expectations for fast food companies overall; $82 \%$ expected companies to have CSR initiatives for healthy eating, $73 \%$ for animal welfare, and 69\% for community activities (Schröder and McEachern 2005).

The objective of this analysis, then, was to investigate university students' perceptions of CSR for fast food restaurants. This study also aimed to investigate the relationships between student demographics and their relative perceptions of the CSR of fast food restaurants. Improved understanding of these relationships has the potential to improve decision-making and targeted marketing by restaurants, especially those located in college towns. Restaurants may use this information to help determine what CSR initiatives to pursue and how to communicate those initiatives to the students most likely to value them.

## Materials and Methods

In August 2016, a single-page paper survey was distributed to university students on the Purdue University's campus ${ }^{1}$. Graduate student researchers collected data over four consecutive days during the first week of classes in the Fall of 2015. Collection occurred each day for three, twohour time blocks ${ }^{2}$. Five locations around campus were targeted specifically for being resting areas (or areas where students were sitting or stationary) near high traffic zones ${ }^{3}$.

Respondents were asked general demographic questions such as their gender, relationship status, and region and/or country of origin. In addition, respondents were asked questions more specific to the university setting, such as which college they attended at Purdue University, their current academic year, and whether the respondent was living on or off campus. The survey also prompted respondents about their food consumption habits, including if they had a campus meal plan, their estimated weekly food expenditure, and the number of monthly restaurant visits they made.

## Methodology

The methodology used in this analysis, best-worst scaling (BWS), forced participants to make tradeoffs among multiple fast food restaurants over multiple choice occasions or scenarios.

[^1]BWS is also called maximum difference scaling, as the outcome represents the maximum difference between a respondent's most preferred option and their least preferred option (Louviere 1993). The method of BWS was developed by Jordan Louviere in the late 1980s, although it was not published until the early 1990s. The BWS methodology builds on Thurstone’s (1927) Method of Paired Comparison (MPC), although it is more general and allows for more attribute selections (Erdem, Rigby, and Wossink 2012).

BWS originates in random utility theory, a well-tested theory of human decision-making (McFadden 1974). Other BWS research has used different terms to elicit a tradeoff between attributes. Terms such as "most" and "least" important were used by Lusk and Briggeman (2009) to examine food values, while Wolf and Tonsor (2013) investigated the "best" and "worst" of dairy farmer policy preferences. Erdem, Rigby, and Wossink (2012) used "most responsible" and "least responsible" to elicit from consumers and farmers their subjective perceptions of their relative responsibility for ensuring food safety. This analysis uses "most socially responsible" and "least socially responsible" to elicit student perceptions of CSR in prominent fast food restaurants.

The eleven fast food restaurants studied in this analysis were (in no particular order): McDonald's, Subway, Starbucks, Panera Bread, Wendy's, Burger King, Taco Bell, Dunkin’ Donuts, Chick-fil-A, KFC, and Chipotle. Each of these fast food restaurants, with the exception of Dunkin' Donuts, was located within eight miles of Purdue University at the time of data collection. In total, there were nine McDonald's, ten Subway, two Panera Bread stores, eight Starbucks, six Wendy's, five Burger King, five Taco Bell, four KFC, one Chick-fil-A and two Chipotle restaurants within eight miles of campus ${ }^{4}$.

Students were presented with eleven different questions (choice sets), each presenting five fast food restaurants from which they could select. Participants could choose any one fast food restaurant up to five times over the survey in its entirety There are eleven fast food restaurants presented ( $j$ ), Participant selections of the "most" and "least" socially responsible fast food restaurants were used to determine the relative social responsibility of each fast food restaurant presented in this study. Theoretically, these two choices represent the maximum difference between two attributes on the underlying continuum of importance (Lusk and Briggeman 2009). Following Lusk and Briggeman's (2009) study, $\lambda_{i}$ is used to represent the location of importance for each attribute $j$ on the continuum of importance, and the random error term is denoted by $\varepsilon_{i j}$. Thus, the true unobservable level of importance for each respondent is represented:

$$
\text { (1) } I_{i j}=\lambda_{i}+\varepsilon_{i j}
$$

The probability that a respondent in this study $i$, a Purdue University student, chooses $j$ and $k$, respectively as the best and worst, or "most" and "least" socially responsible fast food restaurants, is the probability that the difference between $I_{i j}$ and $I_{i k}$ is larger than all otherpossible

[^2]differences from the choice combinations (Lusk and Briggeman 2009), represented by the maximum difference between a respondent's two chosen attributes. As in the experiment outlined by Lusk and Briggeman (2009) the error term is assumed to be independently and identically distributed, therefore the probability of choosing a most-least socially responsible combination took on the multinomial logit (MNL) form:
(2) $\operatorname{Prob}(j$ is chosen most and $k$ is chosen least $)=\frac{e^{\lambda_{j}-\lambda_{k}}}{\sum_{l=1}^{J} \sum_{m=1}^{J} e^{\lambda_{l}-\lambda_{m}-J}}$

Maximum likelihood estimation (MLE) is used to estimate the parameter $\lambda_{j}$ which represents how responsible restaurant $j$ is relative to the least responsible restaurant. The least responsible restaurant is not known ex ante; rather it is determined through analysis of responses, whereby its value must be normalized to zero to prevent the "dummy variable trap" (Lusk and Briggeman 2009).

A limitation of the MNL model is that it assumes homogeneity amongst respondents' preferences for presented attributes across individuals. Student perceptions of social responsibility among fast food restaurants were hypothesized to be heterogeneous. Heterogeneous preferences for various production processes and product attributes have been well documented in the literature. Previous studies such as Schwartz (1992) and Auger, Devinney, and Louviere (2007), have shown that individual people, even within the same society, can have unique preferences. Therefore, the random parameter logit (RPL) model was used, which assumes heterogeneous preferences among respondents for the presented attributes. Adjustments from (2) for the RPL model include the unobservable level of importance for respondent $i$ and attribute $j$ in population $\lambda_{j}$, in which the mean is represented as $\bar{\lambda}_{j}$, the standard deviation $\sigma_{j}$, and the random term $\mu_{i}$. Adjustments for the RPL model were specified as:

$$
\text { (3) } \tilde{\lambda}_{i j}=\bar{\lambda}_{j}+\sigma_{j} \mu_{i j}
$$

The random term, within the RPL model, was normally distributed with mean zero and unit standard deviation, thus distributing the level of responsibility of restaurant $j$ according to a normal distribution curve (Lusk and Briggeman 2009). The probability that each fast food restaurant was picked as most responsible across all eleven restaurants was then estimated. In other words, for each of the eleven fast food restaurants, a share of preference was calculated using parameter estimates from the RPL model. The probabilities, termed "shares of preference" by Lusk and Briggeman (2009) were calculated as:
(4) $\operatorname{share}_{j}=\frac{e^{\bar{\lambda}_{j}}}{\sum_{k=1}^{J} e^{\hat{\lambda}_{l}}}$

Preference shares provide a more intuitive means of analyzing relationships between the restaurants explored than do the coefficient estimates (Wolf and Tonsor 2013). The shares must sum to one across the eleven restaurants. The calculated preference share for each attribute is the forecasted probability that each restaurant is chosen as the most responsible (Wolf and Tonsor 2013).

In addition to mean parameter estimates, individual-specific parameter estimates were estimated for each individual student respondent in the sample. Those individual-specific coefficient estimates were used to calculate individual-specific preference shares for perceived social responsibility of each fast food restaurant (relative to all other restaurants presented) for each individual student respondent. For any individual respondent, the shares of preference across all eleven fast food restaurants studied must sum to one. Estimations were performed in NLOGIT 5.0.

## Results and Discussion

The participants in this survey were a convenience sample of Purdue University students, who were present in highly populated, on-campus locations during the first week of classes in the Fall semester of 2015. In total, 550 Purdue students completed the survey. Summary statistics for demographic variables are shown in Table 1. Eighty-five percent of respondents were from the Midwest region, where Purdue University is located (West Lafayette, Indiana), and 91\% reported the US as their country of origin. Thus, a majority of the sample is likely familiar with the Midwest region of the United States and the restaurants that are the focus of this study, even outside their Purdue University experience. For analysis purposes, undergraduate students were divided into two groups: lower classmen (freshmen and sophomores) and upperclassmen (juniors and seniors).

At the time of the survey, $60 \%$ of respondents reported that they lived on campus and $53 \%$ indicated that they had a campus meal plan. Of those 294 respondents who indicated that they had a campus meal plan, 283 responded to questioning surrounding how much additional money outside their meal plan they spent on food each week. The mean spending among those 283 respondents was $\$ 23.02 /$ week. Students were not specifically asked which meal plan they had, which could range from eight meals per week in the dining courts for the most basic plan, thirteen meals per week for an intermediate plan, and up to unlimited trips through the dining court covering all breakfast, lunch, dinner, and snacks each day of the week. All meal plans except the eight meals per week also included "dining dollars," which could be spent at all dining or retail locations on campus, including a Starbucks (Purdue University 2016). In total, 256 respondents indicated that they did not have a campus meal plan and 232 of them provided average weekly spending on food, with the mean of those responses being $\$ 71.89 /$ week. Questions about restaurant patronage were asked to elicit where students were spending their food dollars. From the entire sample, 529 respondents reported weekly fast food consumption at sit-down restaurants, the mean of which was 3.4 visits per week. A total of 523 respondents provided information on take-out or drive-through fast food restaurant visits, the average of which was 4.2 visits per week.

Table 1. Sample Demographics ( $\mathrm{n}=550, \%$ of respondents)

| Variable Description | Survey |
| :---: | :---: |
| Female | 56 |
| Region |  |
| Northeast | 4 |
| South | 5 |
| Midwest | 85 |
| West | 6 |
| Classification |  |
| Freshman | 43 |
| Sophomore | 18 |
| Junior | 19 |
| Senior | 16 |
| MS/MA | 2 |
| PhD | 2 |
| Other | 1 |
| Major of study |  |
| Agriculture | 9 |
| Engineering | 34 |
| Health and Human Studies | 13 |
| Science | 17 |
| Liberal Arts | 9 |
| Other | 18 |
| Marital status |  |
| Single | 98 |
| Married | 2 |
| Divorced | 0 |
| Nationality |  |
| United States Resident | 91 |
| Other | 9 |
| I live: |  |
| On-campus | 60 |
| Off-campus | 40 |
| Campus meal plan | 53 |

Results for the BWS questions for the eleven fast food restaurants are shown in Table 2. In addition to the mean shares of preference for all fast food restaurants presented, individualspecific preference shares for each respondent and for each restaurant were also calculated using the individual-specific parameter estimates from the RPL model. Individual-specific preference shares, while not displayed for every individual ( $n=550$ ), were used in the correlation analysis between individual-specific preference shares and key student demographics collected in the survey instrument. Estimated mean preference shares revealed three distinct restaurants which obtained the cumulative majority of preference shares, where mean preference shares were largest for Panera Bread and Chipotle, followed by Starbucks. In contrast, a national sample in a previous study revealed Subway and Chick-fil-A, in addition to Panera Bread, as the top three most socially responsible fast food restaurants, although each with much smaller mean preference shares than found in this analysis (Morgan et al. 2016).

Table 2. Output and Derived Preference Shares

| Value | RPL Parameter Estimates |  | Mean Shares of Preferences |
| :---: | :---: | :---: | :---: |
|  | Coefficient | Standard Deviation |  |
| McDonald's | $\begin{aligned} & \hline-1.0709^{* * *} \\ & (0.0871) \end{aligned}$ | $\begin{aligned} & 2.2521^{* * *} \\ & (0.0864) \end{aligned}$ | 0.0115 |
| Subway | $\begin{aligned} & .8238 * * * \\ & (0.0675) \end{aligned}$ | $\begin{aligned} & 0.9905^{* * *} \\ & (0.0740) \end{aligned}$ | 0.0767 |
| Panera Bread | $\begin{aligned} & 2.1925^{* * *} \\ & (0.0797) \end{aligned}$ | $\begin{aligned} & 1.6404^{* * *} \\ & (0.0873) \end{aligned}$ | 0.3016 |
| Starbucks | $\begin{aligned} & 1.4764^{* * *} \\ & (0.0726) \end{aligned}$ | $\begin{aligned} & 1.2909^{* * *} \\ & (0.0705) \end{aligned}$ | 0.1474 |
| Wendy's | $\begin{aligned} & -0.2749 * * * \\ & (0.0591) \end{aligned}$ | $\begin{aligned} & 0.1509 * * \\ & (0.0675) \end{aligned}$ | 0.0262 |
| Burger King | $\begin{aligned} & -1.1025^{* * *} \\ & (0.0605) \end{aligned}$ | $\begin{gathered} 04954^{*} \\ (0.0625) \end{gathered}$ | 0.0111 |
| Taco Bell | $\begin{aligned} & -1.517 * * * \\ & (0.0638) \end{aligned}$ | $\begin{aligned} & 0.9478^{* *} \\ & (0.0744) \end{aligned}$ | 0.0073 |
| KFC | $\begin{aligned} & -1.2727 * * * \\ & (0.0612) \end{aligned}$ | $\begin{aligned} & 0.6812^{* *} \\ & (0.0707) \end{aligned}$ | 0.0094 |
| Chick-fil-A | $\begin{aligned} & 0.6753^{* * *} \\ & (0.0838) \end{aligned}$ | $\begin{aligned} & 1.9901^{* * *} \\ & (0.0847) \end{aligned}$ | 0.0661 |
| Chipotle | $\begin{aligned} & 2.2146 * * * \\ & (0.0869) \end{aligned}$ | $\begin{aligned} & 1.8358^{* * *} \\ & (0.0716) \end{aligned}$ | 0.3084 |
| Dunkin Donuts | 0.00 |  | 0.0336 |

Statistical significance at the $1 \%{ }^{* * *}, 5 \%^{* *}$, and $10 \% *$ levels.

Observable significant relationships, in the form of correlations, existed among respondents' demographic factors and the sizes of preference shares (perceived social responsibility) of fast food restaurants (Table A1, see Appendix A). With respect to gender, being female was negatively correlated with the sizes of individual-specific preference shares for Wendy's and Chipotle, whereas being female was positively correlated with the size of individual-specific preference share for McDonald's. In contrast to a study which used a national sample ( $\mathrm{n}=302$ ), being female was found to be negatively correlated with the size of preference share for the social responsibility of McDonald's, Wendy's, Burger King, Taco Bell, Dunkin Donuts, and KFC, while positively correlated with Chipotle (Morgan et al. 2016). Thus, the relationship of relative ranking of social responsibility of fast food restaurants is not consistent across the national sample and student sample used in this analysis. The region of origin yielded little significance with respect to respondents’ perceived social responsibility in fast food restaurants. Even so, the respondents from the US Northeast were positively correlated with the sizes of individual-specific preference shares for Burger King and Chipotle and negatively correlated with the size of individual-specific preference share for Chick-fil-A. The negative correlation between the sizes of preference shares for Chick-fil-A and being a resident of the Northeast was also present in the national analysis by Morgan et al. (2016). Respondents indicating US residency yielded interesting results; this response/demographic was negatively correlated with the sizes of individual-specific preference shares for Subway, Starbucks, Wendy's, Taco Bell,
and Dunkin' Donuts, and positively correlated with the size of individual-specific preference share for Chick-fil-A.

With respect to more student-specific demographics, lower class year was positively correlated with the sizes of individual-specific preference shares for Subway, Wendy’s, Burger King, Taco Bell, Dunkin' Donuts, and KFC, and negatively correlated with the size of individual-specific preference share for Chipotle. Upper class year status was negatively correlated with the sizes of individual-specific preference shares for Subway, Wendy's, Burger King, Taco Bell, Dunkin' Donuts, and KFC. Graduate-level enrollment was negatively correlated with the size of individual-specific preference share for Chick-fil-A. Living on campus was positively correlated with the size of individual-specific preference share for Subway.

Having a campus meal plan was positively correlated with the sizes of individual-specific preference shares for Subway, Wendy's, Burger King, Dunkin' Donuts, and KFC. Indicating a major in agriculture was positively correlated with the sizes of individual-specific preference shares for McDonald's, Wendy's, Burger King, Taco Bell, Dunkin' Donuts, and Chick-fil-A; whereas, it was negatively correlated with the size of individual-specific preference share for Chipotle. While the precise reason that a major in agriculture might be correlated to the ranking of CSR for Chipotle is outside the realm of this analysis, it is hypothesized that aspects of Chipotle's marketing (especially potentially negative depictions of large-scale and/or conventional production systems, and insinuations that such systems are inherently irresponsible) may offend those with agricultural knowledge or backgrounds, as Chipotle is often criticized by these groups. Majoring in engineering was positively correlated with the individual-specific size of preference share for Subway, and negatively correlated with the size of individual-specific preference share for Chick-fil-A. A major in health and human studies, interestingly, yielded primarily negatively correlated relationships with perceived CSR of fast food restaurants in this study. This response by students was negatively correlated with the sizes of individual-specific preference shares for Wendy's, Dunkin' Donuts, and KFC. While beyond the scope of this analysis, it is likely that those selecting health and human studies as an area of focus might be more focused on healthy dietary choices than the general student population. Furthermore, the curriculum itself, focused on human healthfulness (and thus dietary choices, at least to some degree) may be impacting perceptions of fast food restaurants by students in this area of study. Finally, students whose major area was science was negatively correlated with the sizes of individual-specific preference shares for McDonald's and Starbucks.

## Conclusions and Implications

University students are notoriously frequent consumers of fast food, with many reportedly visiting such eateries multiple times a week, for a variety of meals. University campuses have been shown to be high competition markets, each offering many options, and even multiple locations of each option, often regardless of campus size. This study finds that students appear to base perceptions of these restaurants at least, in part, on concepts that can be interpreted as components of CSR programs.

The sample of Purdue University students in this study perceived Chipotle and Panera Bread to be the most socially responsible fast food restaurants of the options presented. Observable
relationships also existed in perceptions of fast food CSR and student demographic factors. This finding suggests that CSR could be an attribute that students use to make dining decisions. Note that, in terms of restaurants that offer tacos and burritos as staple menu items; Chipotle was rated most socially responsible ( $31 \%$ of mean preference shares), while Taco Bell was viewed as decidedly less so ( $8 \%$ of mean preference shares).

While it cannot be stated that consumers purchase solely on the basis of CSR, other product attribute combinations should be considered. Consider the example of price-competitive hamburger restaurants, McDonald's and Burger King, where both received $1 \%$ of preference shares for CSR and were statistically indistinguishable from each other in that regard. As discussed, product differentiation, via social responsibility, could shift consumption patterns in areas where price alone is not sufficient. Likewise, it is also important for companies to consider the potential to boost brand image by exceeding consumer expectations for CSR in their practices. Future studies could build on this research by investigating student perceptions of CSR of specific fast food, in conjunction with actual student consumption/patronage at those restaurants. In addition, a more complete understanding of student values could add further insight into the underlying factors shaping student perceptions of and their resulting purchasing behavior at prominent fast food restaurants.

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## Appendix A．

Table A1．Correlations among Perceived Fast Food Social Responsibility Preference Shares and Sample Demographics（ $\mathrm{n}=550$ ）

|  |  | $\begin{aligned} & \vec{\pi} \\ & 3 \\ & \stackrel{\rightharpoonup}{3} \\ & \vec{n} \end{aligned}$ |  | $\begin{aligned} & \text { n } \\ & \text { y } \\ & \text { 000 } \\ & \text { in } \end{aligned}$ | $\begin{aligned} & n \\ & \text { 交 } \\ & \text { 3 } \end{aligned}$ | 哭 |  | 会 | $\begin{aligned} & U \\ & \underline{Z} \end{aligned}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Female | 0．0755＊ | －0．0202 | 0.0651 | 0.0186 | －0．0759＊ | －0．0108 | －0．0179 | －0．0604 | －0．0641 | 0.0043 | －0．0765＊ |
| Region |  |  |  |  |  |  |  |  |  |  |  |
| Northeast | －0．0123 | －0．0308 | －0．0307 | 0.0732 | 0.0731 | 0．0871＊＊ | 0.0733 | 0.0608 | 0.0269 | －0．1279＊＊＊ | 0．0841＊ |
| South | －0．0592 | 0.0085 | －0．0186 | －0．0219 | －0．0581 | －0．0755＊ | －0．0614 | －0．0651 | －0．0636 | 0.0390 | 0.0289 |
| Midwest | 0.0446 | 0.0480 | 0.0179 | －0．0116 | 0.0228 | 0.0374 | 0.0187 | 0.0281 | 0.0380 | 0.0179 | －0．0569 |
| West | －0．0136 | －0．0413 | 0.0022 | 0.0002 | －0．0251 | －0．0449 | －0．0289 | －0．0187 | －0．0085 | －0．0017 | 0.0206 |
| US resident | －0．0249 | －0．1469＊＊＊ | 0.0562 | －0．1522＊＊＊ | －0．0752＊ | －0．0159 | －0．1024＊＊ | －0．0739＊ | －0．0493 | 0．0982＊＊ | 0.0261 |
| Classification | 0.0372 | －0．0204 | 0.0166 | －0．0712＊ | 0.0069 | －0．0128 | －0．0149 | 0.0126 | 0.0157 | 0．0833＊＊ | －0．0444 |
| Lower classmen | －0．0335 | 0．1284＊＊＊ | 0.0467 | 0.0108 | 0．1372＊＊＊ | 0．1063＊＊ | 0．1003＊＊ | 0．1334＊＊＊ | 0．1271＊＊＊ | －0．0205 | －0．0875＊＊ |
| Upper classmen | 0.0536 | －0．1432＊＊＊ | －0．0399 | －0．0473 | －0．1385＊＊＊ | －0．1165＊＊＊ | －0．1114＊＊＊ | －0．1316＊＊＊ | －0．1235＊＊＊ | 0.0635 | 0.0679 |
| Graduate－level | －0．0143 | 0.0483 | 0.0297 | 0.0358 | 0.0107 | 0.0382 | 0.0395 | 0.0068 | 0.0134 | －0．0977＊＊ | 0.0143 |
| I live on－campus | 0.0384 | 0．0808＊ | －0．0510 | －0．0201 | 0.0750 | 0.0624 | 0.0305 | 0.0711 | 0.0314 | －0．0150 | 0.0207 |
| Campus meal plan | －0．0077 | 0．1294＊＊＊ | －0．0069 | 0.0182 | 0．1102＊＊＊ | 0．0836＊＊ | 0.0412 | 0．1038＊＊ | 0．0705＊ | －0．0426 | －0．0269 |
| Major |  |  |  |  |  |  |  |  |  |  |  |
| Agriculture | 0．1089＊＊＊ | 0.0193 | －0．0631 | －0．0086 | 0．0779＊ | 0．1033＊＊ | 0．1893＊＊＊ | 0．1028＊＊ | 0.0630 | 0．1020＊＊ | －0．0814＊ |
| Engineering | －0．0352 | 0．0913＊＊ | 0.0274 | 0.0352 | 0.0595 | －0．0130 | －0．0268 | 0.0384 | 0.0528 | －0．0877＊＊ | 0.0028 |
| Health and Human Studies | －0．0572 | －0．0003 | 0.0140 | －0．0291 | －0．0807＊ | －0．0438 | －0．0630 | －0．0775＊ | －0．0888＊＊ | －0．0217 | 0.0561 |
| Liberal Arts | －0．0315 | －0．0555 | 0.0830 | 0.0018 | －0．0275 | 0.0022 | －0．0175 | －0．0234 | 0.0202 | －0．0470 | －0．0112 |
| Science | －0．0924＊＊ | －0．0531 | 0.0328 | －0．0760＊ | －0．0219 | －0．0361 | －0．0234 | －0．0204 | －0．0197 | 0.0182 | 0.0488 |

Statistical significance is indicated at $1 \%{ }^{* * *}, 5 \%{ }^{* *}$ ，and $10 \%{ }^{*}$ level．

## Appendix B.

## Survey Instrument (Distributed as single sheet printed front and back)

## Purdue University Student Fast Food Perceptions Survey

Fall Semester 2015
Your participation in this survey is entirely voluntary and your responses will be kept in strict confidence.
$\square$ Male $\square$ Female
Where are you from? Country:___ years of age
(If from the United States) State:

| What college do you study/work in? |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
| $\square$ AG | $\square$ ENGR | $\square$ HHS | $\square$ SCl | $\square$ PHARM |
| $\square E D$ | $\square$ MGMT | $\square$ NUR | $\square$ LA | $\square$ VET MED |

$$
\square \text { Freshman } \square \text { Sophomore } \square \text { Junior } \square \text { Senior }
$$

$$
\text { Graduate-level } \quad \text { MS/MA } \square \mathrm{PhD} \quad \square \text { Other Prof. }
$$

| Do you have a summer job? <br> $\square$ Yes $\quad$ No <br> If YES, what are you approximate weekly earnings? |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |
| \$ ___ per week |  |  |  |  |
| Do you have a job during the academic year? |  |  |  |  |
|  |  |  | Yes | $\square$ No |
| If YES, what are you approximate weekly earnings? |  |  |  |  |
| \$__ per week |  |  |  |  |
| I am: | $\square$ Married | $\square$ Single | $\square$ | orced |
| I live: | $\square$ On campus | $\square$ Off cam |  |  |

Do you have a campus meal plan?
$\square$ YES - How much additional money do you spend
on groceries, in restaurants, for take-outs, etc.?
Please provide your best estimate.
\$ NO - How much do you spend on food each week
including at home, in groceries, in restaurants, take-
outs, etc.? Please provide your best estimate.
$\$ \ldots$

| Indicate the number of times per month you visit each <br> restaurant category: |  |  |
| :--- | :--- | :--- |
| Category |  | \# visits per <br> month |
| Fast Food - | Sit down |  |
|  | Take out/Drive Through |  |
| All other restaurants (excluding fast food) |  |  |
| Have you traveled abroad (outside the United States) in <br> the past 5 years? <br> Yes $\quad \square$ No |  |  |

Rank the importance of each of the following areas of social responsibility (1 indicating extremely unimportant and 7 extremely important):

| Environment: | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Biotechnology: | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Fair Trade: | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Health and Safety: | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Animal Welfare: | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Community: | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Procurement/ Input Supply or Acquisition: |  |  |  |  |  |  |  |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Labor and Fair Compensation: |  |  |  |  |  |  |  |
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |



| Indicate the box that best fits you for each of the statements listed below: |  |  |  |
| :---: | :---: | :---: | :---: |
| I try to buy products that can be recycled. | $\square$ Always | $\square$ Most of the time | $\square$ Sometimes $\square$ Never |
| I try to purchase from companies that make donations to charity | $\square$ Alwa | $\square$ Most of the time | $\square$ Sometimes $\square$ Never |
| I do not buy meat products from farms that do not allow their cattle access to pasture. | $\square$ A/ways | $\square$ Most of the time | $\square$ Sometimes $\square$ Never |
| Other people try to buy products that can be recycled. | $\square$ Always | $\square$ Most of the time | $\square$ Sometimes $\square$ Never |
| Other people try to purchase from companies that make donation to charity. | $\square$ Always | $\square$ Most of the time | $\square$ Sometimes $\square$ Never |
| Other people do not buy meat products from farms that do not allow their cattle access to pasture. | $\square$ Always | $\square$ Most of the time | $\square$ Sometimes $\square$ Never |

## Purdue University Student Fast Food Perceptions Survey

Fall Semester 2015
Your participation in this survey is entirely voluntary and your responses will be kept in strict confidence.

From the following list of fast food options, select the restaurant that you believe is the most socially responsible and the store you believe is the least socially responsible.

| Question 6 |  | Least |
| :---: | :---: | :---: |
| Most | Dunkin' Donuts | $\square$ |
| $\square$ | Taco Bell | $\square$ |
| $\square$ | Chipotle | $\square$ |
| $\square$ | Burger King | $\square$ |
| $\square$ | Wendy's | $\square$ |
| $\square$ |  |  |


| Question 1 |  | Least |
| :---: | :---: | :---: |
| Most | Subway | $\square$ |
| $\square$ | KFC | $\square$ |
| $\square$ | Burger King | $\square$ |
| $\square$ | Chipotle | $\square$ |
| $\square$ | Chik-fil-A | $\square$ |
| $\square$ |  |  |


| Question 7 |  |  |
| :---: | :---: | :---: |
| Most | McDonalds | $\square$ |
| $\square$ | Burger King | $\square$ |
| $\square$ | Starbucks | $\square$ |
| $\square$ | Chik-fil-A | $\square$ |
| $\square$ | Taco Bell | $\square$ |
| $\square$ |  |  |


| Question 2 |  | Least |
| :---: | :---: | :---: |
| Most | Burger King | $\square$ |
| $\square$ | Panera Bread | $\square$ |
| $\square$ | Subway | $\square$ |
| $\square$ | Wendy's | $\square$ |
| $\square$ | McDonalds | $\square$ |
| $\square$ |  |  |


| Question 8 |  | Least |
| :---: | :---: | :---: |
| Most | KFC | $\square$ |
| $\square$ | Chipotle | $\square$ |
| $\square$ | Taco Bell | $\square$ |
| $\square$ | McDonalds | $\square$ |
| $\square$ | Panera Bread | $\square$ |
| $\square$ |  |  |


| Question 3 |  |  |
| :---: | :---: | :---: |
| Most | Taco Bell | $\square$ |
| $\square$ | Starbucks | $\square$ |
| $\square$ | Wendy's | $\square$ |
| $\square$ | KFC | $\square$ |
| $\square$ | Subway | $\square$ |
| $\square$ |  |  |


| Question 9 |  | Least |
| :---: | :---: | :---: |
| Most | Starbucks | $\square$ |
| $\square$ | Wendy's | $\square$ |
| $\square$ | Chik-fil-A | $\square$ |
| $\square$ | Panera Bread | $\square$ |
| $\square$ | Chipotle | $\square$ |


| Question 4 |  | Least |
| :---: | :---: | :---: |
| Most | Panera Bread | $\square$ |
| $\square$ | Dunkin' Donuts | $\square$ |
| $\square$ | KFC | $\square$ |
| $\square$ | Starbucks | $\square$ |
| $\square$ | Burger King | $\square$ |
| $\square$ |  |  |


| Question 10 |  | Least |
| :---: | :---: | :---: |
| Most | Chik-fil-A | $\square$ |
| $\square$ | Subway | $\square$ |
| $\square$ | Panera Bread | $\square$ |
| $\square$ | Taco Bell | $\square$ |
| $\square$ | Dunkin' Donuts | $\square$ |
| $\square$ |  |  |


| Question 5 |  | Least |
| :---: | :---: | :---: |
| Most | Chipotle | $\square$ |
| $\square$ | McDonalds | $\square$ |
| $\square$ | Dunkin' Donuts | $\square$ |
| $\square$ | Subway | $\square$ |
| $\square$ | Starbucks | $\square$ |
| $\square$ |  |  |


| Question 11 |  |  |
| :---: | :---: | :---: |
| Most | Wendy's | $\square$ |
| $\square$ | Chik-fil-A | $\square$ |
| $\square$ | McDonalds | $\square$ |
| $\square$ | Dunkin' Donuts | $\square$ |
| $\square$ | KFC | $\square$ |


[^0]:    ${ }^{(1)}$ Corresponding author

[^1]:    ${ }^{1}$ The survey instrument used is presented in its entirety in Appendix 1. The survey, when distributed, was printed on both sides of a single sheet of paper.
    ${ }^{2}$ Survey data collection occurred August 24-27, 2015, each day from 9-11AM, 11AM-1PM, and 3:30-5:30PM.
    ${ }^{3}$ Locations for surveying included the Purdue Memorial Union, Beering Hall Loeb Fountain area, Cordova Corecreational Sports Center lobby, Wiley Dining Court, and the Engineering Fountain area.

[^2]:    ${ }^{4}$ The distances were collected using Google Maps. The starting location was Purdue University, 610 Purdue Mall, West Lafayette, IN 47907. At the time of the survey the closest Dunkin' Donut locations were beyond 30 miles from campus; a location was built closer but was not opened until after the survey had concluded.

