Product Bundling in Fast Food Advertisements and the Relationship With Consumers' Willingness to Pay

by

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ABSTRACT

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Obesity rates have been rapidly increasing in recent years. This is a problem especially for low-income families and for households without access to quality food. Consequently, fast food restaurants are a solution for those who cannot afford healthy food. The large number and variety of fast food restaurants coupled with their aggressive advertisements, cheap prices and large portions, may have an effect on consumption and obesity rates. This study explored the relationship between types of advertisements utilized by fast food restaurants and consumers' willingness to pay (WTP) to see if bundled advertisements have a significant impact on WTP. Bundles, also referred to as value meals, combine two or more products, which are sold at a lower price than the individual prices combined. Using a between subjects study, a Becker, DeGroot, Marshak (BDM) bidding auction was conducted to elicit participants WTP for three different items a drink, fries and a burger, which were advertised individually or in a bundle. I hypothesized that consumers would be willing to spend more on individually advertised items than the same items advertised in a bundle. I found that consumers were indeed willing to pay significantly more for items sold individually than in a bundle. These results suggest that consumers see purchasing bundles as a gain rather than a loss, increasing the overall perceived value of the bundle and decreasing the perceived cost.

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CHAPTER ONE

INTRODUCTION

One main concern in today's society is the rising rates of obesity. Pollen (2006) states that three in five Americans are overweight, while one in five are obese. Serious health problems can develop from being overweight or obese. "Excessive body weight is associated with comorbidities such as hypertension, cardiovascular disease, diabetes, depression, infertility, and breast, endometrial, colon, and prostate cancers" (Rosenheck, 2008, p.535). In many areas, households do not always have access to healthy options and this lack of access to quality food may be one of the reasons for the obesity epidemic. It is also more common for those living in these areas to be in lower income or minority communities (Drewnoski, 2012). Additionally, healthy options are not always affordable, making fast food a convenient solution.

The fast food industry is known for its cheap prices and ability to feed consumers quickly. In 2010 it is estimated that 53% of total food spending was at fast food restaurants (Rosenheck, 2008). Rosenheck (2008) explained that typical fast food items are poor in nutrients, low in fiber, have high glycemic levels and consist of large potions that are sometimes excessive. Six out of seven of the prospective cohort studies that Rosenheck looked at found a strong association with increased fast food intake and calories that lead to weight gain. This may be a result of supersizing. Invented by David Wallerstien, a past member of McDonald's board of directors, supersizing allows customers to get a larger portion of food at a low additional cost. This was a smart economical decision to help increase sales. Pollan (2006) states that past research found that people would eat 30 percent more when presented with larger potions.

Another marketing technique utilized by fast food companies is value meals. Value meals, a type of product bundling, are another way to increase consumer consumption and spending. Bundling is when two or more products are sold together in a package. Bladey, Rokach & Shapria (2016) stated that while "price bundling is a pricing and promotional tool, product bundling is more strategic, because it creates added value" (p.194). Bundling products together can increase consumers' desire to purchase. Thus excessive advertising of such deals might also be a reason for increased spending.

Advertisements infringe on many aspects of our daily lives. While we search our Facebook feed, on the side of the highway and printed everywhere, advertisements try to tap into our tastes and preferences. Today, advertisements and their content indirectly affect those who are subjected to them. In 1997 alone, U.S. food manufacturers spent $7 billion on product advertising (Chou, Rashad & Grossman, 2005). Since advertising is a public, non-rejectable good, one cannot avoid their messages. Chou et al. (2005) stated that in 1997, 28% of the $7 billion spent was on fast food ads alone. In 2012, however, $4.6 billion was spent on fast food advertisements, more than two times 1997 spending (Harris et al., 2013). Exposure to fast food advertisements can actually make a person more susceptible to weight gain and obesity (Rosenheck, 2008). Evidently, advertisements have an effect on consumers and their buying behaviors.

This study explores the relationship between bundling in fast food advertisements and consumers' willingness to pay. The hypothesis is that bundling on fast food advertisements will decrease consumers' willingness to pay for the individual products in the bundle. Therefore, this increases the perceived value of the bundle and decreases the perceived cost. This research question is examined using a behavioral economics

experiment. Results from the experiment indicate that the main hypothesis was supported and it can be concluded that willingness to pay for bundles is less than willingness to pay for individual products. This could help explain the advantages for fast food restaurants selling value meals where there are more than two goods combined. Consequently, consumers may purchase more because they perceive value meals as a gain.

This thesis is divided into five chapters. Chapter 1 includes the introduction and discusses the motivation for the research. In Chapter 2, I review the literature and theories relevant to my hypothesis. The literature review starts with an explanation of bundling, as it is significant for the research question. Next, an analysis of advertising and the supply and demand of advertising in relation to economics frame the study. Other theories and topics that are most relevant to the thesis are as follows: Heterogeneity of Price, Unpacking Effect and Prospect Theory. The literature review is divided into these themes. Chapter 3 examines the methodology and describes the experiment that was conducted. In this section I first look at willingness to pay in regards to bundles and then the methods for measuring this. These methods are auctions typically used in behavioral economics. Chapter 3 concludes with the method for testing the hypothesis. It is divided into three sections, participants, materials and procedure. Chapter 4 looks at the data and results that the study yielded. A one-way analysis of variance (ANOVA), 3 independent samples t-tests, frequencies and correlations were run to analyze the results. The final chapter, Chapter 5, includes the discussion and conclusion from the study. This will discuss various implications for the study and potential improvements for future research.

CHAPTER TWO

LITERATURE REVIEW

This thesis examines the way bundling in fast food advertisements affects consumers' willingness to pay. My hypothesis is that bundled pricing, particularly on fast food advertisements, decreases the willingness to pay for individual products in that bundle, therefore increasing the perceived value of the bundle and decreasing the perceived cost. The literature examined in this chapter will unpack theories of behavioral economics and psychology that support the hypothesis. Each section has significant relevance for the declared hypothesis. None of the papers below have directly looked at the correlation between willingness to pay and bundled pricing in advertisements. In this study, the link between these two variables will be examined to advance findings not yet studied in the literature.

2.1 Bundling

Bundling is a significant and important concept that has motivated the current research. It is a marketing tactic that increases sales by combining individual units into a packaged, usually less expensive bundle (Banciu and Odegaard, 2014). It is a form of value pricing; Raab and Raab (2010) explain that this is determined by consumers' perceived value of a product. Therefore, producers want to find out what represents value in the mind of the consumer. Banciu and Odegaard (2014) explain the three main types of bundling – pure components, pure bundling and mixed bundling. Pure components (PC) are when sellers only sell products individually and not together. Pure bundling (PB) is when you can only buy a bundle and not products on their own. Lastly, mixed bundling (MB) is when you can buy a bundle, but you can also buy individual components of that

bundle. This last form of bundling is found in most fast food restaurants (Xu, 2009). It is not typical for McDonald's, for example, to sell something in a bundle that cannot be bought alone.

In Xu's (2009) work he discussed the perceived benefits of buying a bundle. Harris and Blair (2006) were cited in Xu (2009) saying that, "Consumers are attracted to a bundled offer because of the benefits it can provide: saved search cost including time, money, and efforts; saved assembling cost; lower compatibility risk; and volume discounts" (Xu, 2009, p. 2). This explains some of the reasons consumers may prefer bundles. There are also some negatives, such as risk of waste, less choice and freedom and consumers may not desire all the products in a bundle. These risks are considered when suppliers offer a bundle. However, the main determinants of purchase for consumers are the perceived benefits and risks. If benefits outweigh the risks or cost it is likely they will purchase the bundle. If risks outweigh the benefits, it is likely the consumer will not purchase it.

Many studies have looked into bundling and perceived value. Xu's (2009) paper in particular found information pertaining to this thesis. Xu looked at consumers' perceived value of products even before purchase. The paper found that bundling strategies had a significant impact on purchase. These included the cost of bundle, what was in the bundle, and what the discount was in comparison to the sum of the individual prices. The contribution of the study was to explain how pricing strategies and product variation in a bundle interact. One main finding suggested that if bundles did not have a discount, customers nonetheless assumed there was a discount. In addition, when including more items in a bundle, customers perceived a lesser cost (Xu, 2009). Overall,

Xu's research suggested that when products were sold in a bundle it would make them seem like they cost less and consumers felt like there were gains by purchasing it.

Aloysius, Deck and Farmer (2011) found that large companies like McDonald's favored bundling because customers may not actually pay for products alone if they were not offered in a bundle. Further, bundling can actually increase their overall sales. This is common among travel packages, cable and entertainment bundling. In many cases the customer might not buy anything if they do not like the bundle. Thus sellers need to be careful when charging for a bundle. They obviously cannot charge more than the total cost of the individual items or it would be ineffective. Bundling is not viewed negatively, but whether consumers buy the bundle is mostly due to human biases based on their tastes and preferences (Aloysius, Deck and Farmer, 2011).

Frackenpohl and Pönitzsch (2015) made a valuable point that explained the perceived value of bundles, "the presentation of two goods as a bundle can increase the salience of the bundled goods and lead to lower valuations" (p. 2). Bundling has a significant impact on the way consumers perceive price and this study aims to further examine this relationship.

2.2 Analysis of Advertising

While bundling has a significant effect on consumers' buying behavior, product advertising can also affect purchases. Bagwell's (2007) work on the economics of advertising offers some significant research that explains the practicality and mechanisms used for advertising. There are three concepts of advertising: persuasive, informative and complementary. Persuasive ideas of advertising shift the consumer's tastes and preferences as a way to increase brand loyalty. This concept of advertising increases

product variation and producer profits. The informative perspective provides customers with information on prices and products to educate them when buying goods. This promotes competition throughout brands with similar products. The repeat-business effect explains that ads are a way to increase competitive advantage. For example, ads can generate memories connected with the good as a way to attract customers (Nelson, 1974). Schmalensee (1978) said that consumers also respond to ads even if they were for lower quality goods because those goods tended to be advertised more. These two ideas support the informative concept. Last, the complementary view is the opposite of the persuasive view because it is not used to change tastes and preferences of consumers. It shows that the products consumers already buy are of value and will continue to provide a positive experience. These three advertising concepts can explain techniques used by producers to attract consumers and sales.

Advertisements can have direct and indirect effects on profits. In the case of convenience and non-convenience goods, ads are more persuasive for convenience goods. Products like toothpaste or soft drinks, convenience goods, do not require much thought, therefore, little information is needed for purchase. For these kinds of goods, ads have the ability to highlight the important differences in products. “In short, consumer choice may be more responsive to advertising by manufacturers of convenience than non-convenience goods” (Bagwell, 2007, p. 1738). The ads can be effective in the short run when consumers are trying to decide between goods that are of lesser importance to them than non-convenience goods. Bagwell (2007) cited Porter (1974) who explained that advertising for convenience goods were important because it significantly impacts profits of a company. This idea did not stand true for non-convenience goods. In addition,

companies that specialize in convenience goods typically advertise abundantly as a way to reach a range of customers. These ideas on advertising justify the research in this thesis on fast food ads since products sold by fast food establishments can be considered convenience goods. Furthermore, the advertisements of fast food companies are of utmost importance and act as a necessary factor in determining profitability.

2.3 Supply and Demand of Advertising

Bagwell (2007) also looked into the supply and demand model in relation to advertising. Advertising can affect the consumers' demand curve in various ways. One way is through the promotional hype of advertisements used by fast food companies. This type of advertising is both persuasive and informative. Johnson and Myatt (2006) stated that promotional hyping increased consumers' willingness to pay, resulting in a shift of the demand curve outward. However, if the information was too informative and revealing it had the ability to lower demand. In their study, they found that advertising may not always increase profits directly but can be used to inform consumers. Johnson and Myatt (2006) also looked at dispersion of prices with companies that sell similar goods. The fast food industry was an example of this. They found that when there was a greater dispersion of prices among companies, consumers' willingness to pay lessened and lowered demand. Xu (2009) also noted that when suppliers sell in bundles they could sell more at a cheaper cost, which increased value and demand of products and reduced consumers' surplus. Perceived costs and benefits of a product also determine demand and affect the supply side.

In the case of this study, advertising among companies with large market share, like McDonald's, shift demand function upward. In turn, this increases consumers'

willingness to pay (Bagwell, 2007). In many cases, companies with large share in the market do not need to excessively advertise, however, they still want to increase brand awareness and demand for their products. This is particularly important when there are promotional deals and hype. Advertising can also increase the amount of spending existing customers contribute to the company. As a result, companies can maintain their current, large market share in the fast food industry. Consequently, advertising is relevant to demand of consumers. Maintaining and surpassing current demand helps to increase profits among large companies like McDonald's.

2.4 Heterogeneity of Price

Heterogeneity of price may suggest why some consumers prefer bundles, while others do not. Heterogeneity of price explains why there is no standard price for similar products, but prices vary as a way to reach various customers. Bell and Lattin (2000) suggested that price sensitivity and reference points vary among buyers. Some may be price-responsive, meaning that they had a lower reference point and they tended to perceive bundles as losses. The opposite was a price-insensitive consumer who saw bundling and value pricing as a gain. Heterogeneity was not always positive because it could deter price-responsive customers. Banciu & Odegaard (2014) cited Stigler (1963) saying that heterogeneity acted as a "price-discrimination mechanism" (p. 481). In contrast, by reducing heterogeneity suppliers got more of consumers' surplus. This was only the case if the producer had market power, and in the case of McDonald's, they undeniably have market power. Furthermore, bundles are a way to infringe on reservation prices that is influenced by consumers' heterogeneity (Xu, 2009).

2.5 Unpacking Effect

The unpacking effect claims that the whole is less than the sum of the individual parts (Bernasconi, Corazzini, Kube and Maréchal, 2009). Looking at individual products within a bundle increases value when considering them individually than when they are combined. Tversky and Koehler (1994) explained that unpacking bundles into their individual units makes us think of things we would not have originally thought of. For example, one might think of the additional risks that come with each item, opposed to valuing the package on its own. Frackenpohl and Pönitzsch (2015) also looked at this theory and how unpacking goods increased single parts valuation and raised the overall value of the package. Their experiment looked into the bundling of private and public goods. They attempted to disprove the standard consumer theory that says bundling two goods would not change consumers' valuation of the individual products. They examined the effects of unpacking and bundling. Unpacking was just a way to illustrate that items valued on their own were valued higher than when bundled with something else. Also, when unpacking items in a bundle, the added transactions must be considered. If a consumer has one transaction with the bundle, opposed to buying the goods all separately, this decreases the pain of buying. For a good like food that is consumed immediately this isn't always the case but might explain the advantages of purchasing a pre-packaged bundle to avoiding unpacking the goods (Frackenpohl and Pönitzsch, 2015).

Frackenpohl and Pönitzsch (2015) also effectively showed that when goods are bundled together, there was a major increase in purchase by 60%. This suggested an increase in market demand when bundling goods. However, since they included public goods, which increased consumers' altruistic association, this increase in purchasing was

from spillover of the public good. When the goods were valued on their own, the added influence of bundling was not seen. The main finding in their study was that bundling with a public good increased perceived value significantly in that bundle. This study found results that helped to shape the current study. Since the use of public goods here may have skewed the results, however, by looking at just private goods in this experiment generalizations about bundling goods were made.

Frackenpohl and Pönitzsch's (2015) study also explained that when products with a lower value were combined with something of higher value, then the whole was perceived higher. In the case of this thesis, a consumer may not always purchase a soda on its own, but when it is in a value meal with a burger and fries, that soda appears more desirable than when unpacked. Van Boven and Epley (2003) supported the methodology of this thesis because they found that looking at the cost of the bundle first, and then unpacking it, affected the evaluation of prices. They also found that the order of unpacking the combined products made a difference in the way the consumer viewed its value. The unpacking effect explains the reverse of bundling and supports why consumers perceive bundles as a gain.

2.6 Prospect Theory

Prospect theory is a behavioral economics model used to explain decision-making under risk. Behavioral economists combine rationale from both economics and psychology. Prospect theory is a valuable addition to support the current hypothesis. Tversky and Kahneman (1979) developed this theory and looked into many factors that determined consumer decisions. They cited the certainty effect, which contributes to risk avoidance, ensuring that there were gains and not losses. The isolation effect was also

included and says that people tend to have inconsistent preferences when given the same options. This effect was similar to heterogeneity of price and suppliers must understand that not all consumers have the same tastes and preferences.

Tversky and Kahneman (1979) also described the two critical steps in choice making. First, there is the editing phase. This is when we analyze our option. Heuristics, which shape the way we make problem-solving decisions and tend to be mental shortcuts to ease the pain of making a decision, determine the order of prospects. This is how consumers are able to compare options to a reference price. During this phase decision makers use a combination of coding and combining. Coding is how our cognitive processes code decisions as gains or losses and when a reference point is considered. Reference points vary based on preferences. Combination is a way to simplify prospects by combining them, usually into bundles. From a producer's perspective, combining products helps with this editing phase. Next, there is the evaluation phase. Based on consumers reference point they determine which product has the highest value or utility and it is selected.

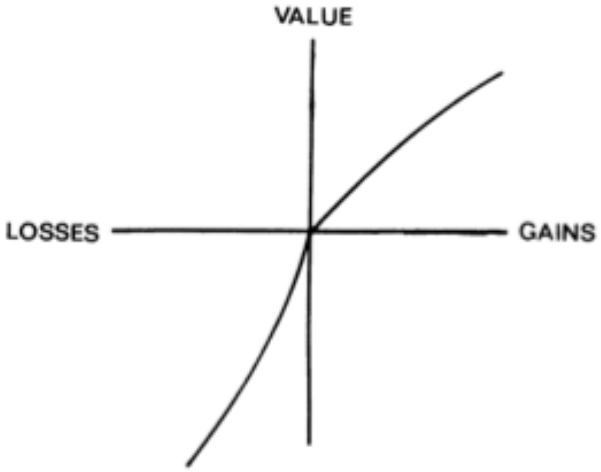

Figure 1: **Hypothetical value function from Tversky and Kahneman (1979, p. 279).**

An important aspect to prospect theory is the relationship between gains and losses. The graph in Figure 1 shows the typical value function of a consumer and their preferences for gains and losses. The loss curve is steeper than that of the gains. This is because losses are seen as a worse outcome than gains. They explained that decisions are shaped by discrete options. Frackenpohl & Pönitzsch (2015) supported these statements and elaborated by saying consumers saw a bundle as a gain, not a loss. Buying more than one good at once decrease the pain of paying and transaction costs that come with purchases. They also stated that having a single price for various items increased demand. By tapping into the way in which decisions are made based on gains and losses, in regards to reference point, suppliers can create packages to gain some of the remaining consumer surplus.

Bundled meals like those of fast food restaurants where you get a burger, fries and a drink, are a way to infringe on consumers' tastes and preferences. When ordering one might not desire a large fries, but when it comes with their favorite burger and a drink – if they happen to be thirsty, they do not mind spending the extra $1.50. However, if the fries were $2.00 and sold individually they would not make the purchase. Drumwright (1992) cited Thale's (1985) mental accounting theory about how losses can be cancelled out by gains and supports this idea. For example, if you do not want something in the bundle, like fries in this situation, but want another part, a person may cancel out the loss and still get the package. Therefore, bundles have the ability to make consumers ignore net loss (Drumwright, 1992). If we refer to Figure 1, we see that the relationship between gains and value is positive. In this scenario, a value meal was seen as a gain and not a risky behavior because the ability to save money made the purchase attractive. In all,

mental accounting and loss aversion influence cognitive processes of decision-making that is explained by prospect theory.

2.7 Summary

The hypothesis stated that bundles in fast food advertisements decreased consumers' willingness to pay for individual products within the bundle. Therefore, the willingness to pay for the bundle as a whole was lower. As illustrated in this chapter, various theories and models support the hypothesis in this thesis. Advertisements are important for many companies and help increase their sales. By highlighting a value meal as a bundle of fast food items, sales of the bundle can increase. Fast food companies can acquire additional consumer surplus of those who typically might not have tastes and preferences for all items in a bundle. In addition, consumers' heterogeneity of price and reference points explains why bundles are frequently purchased. The unpacking effect also supports why consumers may purchase a bundle. Finally, prospect theory provides an explanation as to why bundles are perceived as a gain as opposed to a loss. These were some of the key theories that influenced the hypothesis and supported the study.

CHAPTER THREE

METHODOLOGY AND STUDY

The study was conducted to examine consumer valuation of pricing of individual items within a bundle. A Becker-DeGroot-Marschak (BDM) auction, typical in behavioral economics, was used to measure consumers' maximum willingness to pay for items in different advertisements.

3.1 Willingness to Pay in Bundles

As mentioned in the previous chapters, bundling can have an effect on willingness to pay. This study looked at how significant this effect was and how advertising tactics impact valuations. In standard economic theory, bundling goods together should not change consumers' valuations of the individual products. However, other factors are in play and bundling does in fact change consumers' valuations (Frackenpohl & Pönitzsch, 2015). Bundling goods impacts the way individual products are viewed because there are added benefits and possible losses. Frackenpohl & Pönitzsch (2015) said, "If bundling decreases the *salience of product characteristics*, bundles may be attributed to lower value than the sum of their parts" (p. 20). This supports the unpacking effect and the obvious conclusion that bundles infringe on consumers' willingness to pay.

3.2 Methods for Measuring Willingness to Pay

It is difficult to measure true willingness to pay in experiments and surveys. Direct and indirect surveys have been used but they can experience bias, range effects and price effects. A participant must feel as if they are in a real-life situation to elicit their actual valuation of a product. Two kinds of auction methods are proven to be effective in measuring willingness to pay, the Vickrey auction and the Becker DeGroot Marschak

(BDM) auction. In both these auctions, the products are being sold to a bidder and they receive the product if they win. In this case, it shows their true valuation.

Noussair, Robin and Ruffieux (2004) explored the Vickrey auction. This is a second price sealed bid auction where participants are given a set amount of money to start. Bids are put into a sealed envelope and the person with the highest bid wins. The winner pays the price of the second highest bidder, and then they receive the item. The bidder is expected to give cash right away and this will ensure that the gains and losses are credible. Rousu, Hufflan, Shogren and Tegene (2007) and Noussair, Robin and Ruffieux (2002) used this method in their experiments to measure willingness to pay.

The Becker DeGroot and Marshak (BDM) auction differs from the Vickrey auction by the method for choosing a winner. Breidert, Hahslet & Reutterer (2006) explained that the BDM is conducted by having participants submit an offer price all at once to purchase a product. A random sale price is chosen based on the actual price of the item. If a bidder bids above or equal to the randomly selected price then they buy the product. Many studies including Wertenbroch and Skiera (2002), Frackenpohl and Pönitzsch (2015) and Noussair, Robin and Ruffieux (2004), used BDM for measuring willingness to pay. Frackenpohl and Pönitzsch (2015) adapted the BDM method to examine willingness to pay for multiple goods at once. This is applicable to the current study when pricing bundles and helped to shape the methodology.

Noussair, Robin and Ruffieux (2004) also provided a descriptive procedure, which helped shape the current study. They used the typical BDM method as previously explained. In their study the bidders submitted bids and prices were randomly generated prior to the bidding. The bidders' offer was determined by the reservation price and

preferences of each buyer. In Noussair, Robin and Ruffieux's (2002) experiment they also asked questions to ensure participants were paying attention and understood the auction. These included: which bid was yours; which bidder/bidders won the auction; and do you regret the bids you submitted, now that you know how much the others bid. It was important for bidders to understand the buying process of the auction.

Both of these auction methods have been used to measure willingness to pay in various economic studies. The auctions were compared and the Vickrey auction tends to be better than the BDM method at eliciting true valuations. In the Vickrey auction the average underbid is 35.98% compared to 44.56% for BDM (Noussair, Robin and Ruffieux, 2004). "Vickrey auction is less biased, exhibits lower dispersion, induces a greater percentage to reveal their exact valuations, and improves its performance more quickly over time" (Noussair, Robin and Ruffieux, 2004, p.733). While the Vickrey auction is less biased, the conditions for this auction are hard to mimic in the current lab setting. The number of participants, lab setting and the inability to actually purchase the products limited the scope of the research. Therefore, for this experiment, the Becker, DeGroot and Marshak (BDM) mechanism was the best auction for measuring participants' true willingness to pay for items on a fast food advertisement.

3.3 Method

The methodology for this thesis was an economic experiment. A between subjects experiment was used to examine how bundled advertisements affected consumers' willingness to pay. Each session consisted of a bidding auction followed by a short questionnaire about participant demographics and preferences about fast food restaurants and spending. The experiment attempted to replicate a situation that would minimize bias

and other factors that may affect the participants' bids. The following sections outline the experiment design and procedure.

3.3.A Participants

The participants consisted of 74 students at Union College, recruited through the SONA online research system or in person. Participants signed up on SONA and were offered class credit or payment for participation. Participants either received class credit from an Introduction to Psychology or from a Research Methods of Psychology course or were paid in cash for their participation. Those getting credit were rewarded half a credit for the half hour they participated. Cash volunteers were paid the standard rate for participating in research studies at Union College of $8/hour and received $4 for their half hour of time. Of the 74 participants, 55 were women and 19 were men. Ages ranged from 18-24, with an average age of 20.3. There were 30 seniors, 16 juniors, 15 sophomores and 13 freshmen. Of the 74 participants, 50% of them indicated that McDonald's was their favorite fast food restaurant. 49 participants preferred individual products and 20 preferred value meals, 5 did not answer this question.

Gender		Age		Class Year	
Male	19	Mean	20.3	Freshman	13
Female	55	Minimum	18	Sophomore	15
		Maximum	24	Junior	16
				Senior	30

Table 1: Demographics of sample in regards to gender, age and class year.

3.3.B Materials

For this experiment, a large room with individual seats was necessary. The distance between the seats needed to be large enough so that participants could not see bids of others in the room. The written materials included an informed consent form, which indicated to participants that there were no foreseeable risks with the study and a bidding sheet – a blank sheet of paper with participants' unique ID number on the top right corner. Participants used this sheet to write their bids and record points received throughout the experiment. The points were recorded as tally marks on the bottom right corner of the page. Writing implements for the participants were provided.

Printed fast food advertisements were key components in the experiment. Each ad had a plain background with a logo on the bottom right corner. The ketchup ad was Heinz, a familiar brand for most consumers. There were four other ads: a drink, French fries, a burger and a bundle comprising of all three. Each ad was the same size (8.5in x 11in) and had a neutral orange background with a yellow McDonald's logo in the bottom right corner. The drink and French fries had a McDonald's logo on the product; however, the burger did not have a logo on the actual product. The items in the bundle ad were the same as the one in the individual ads, but printed smaller so that each ad was the same size. There were eight of each ad printed to ensure participants had their own ad and extras for contingency. These were laminated and printed on sturdy paper like cardstock.

In addition, each participant needed a fast food questionnaire, with participant ID number on the top right corner. The questionnaire included basic demographic questions of gender, age and year of graduation. There were five additional questions about the participants' fast food tastes and preferences. They were asked how often they ate at fast

food restaurants, what their favorite fast food restaurant was and how often they ate at McDonald's in particular. In addition, participants were asked if they typically buy value meals or individual products and about how much was spent if they ate at McDonald's. All of these questions were used to determine if there was a correlation with those more familiar with McDonald's and their knowledge of pricing. The questionnaire was necessary for collecting demographic information about the sample and determining any biases in the participant group.

For the Becker, DeGroot and Marshak (BDM) auction, fake money was used. Each participant was given $15 for the entire bidding process. Since the maximum number of participants per session was six people, this meant that a minimum of $90 in fake money was needed. The experimenter also needed smaller denominations of fake money to have change to give to participants. Thus, bidders were not compelled to bid in certain monetary increments. Change included fake quarters, dimes, nickels and pennies.

The final material needed for the experiment was a reward. To ensure the BDM auction was as accurate as possible, the participants had to feel like they were gaining something real since the bidding was done using fake money and they would not receive the actual products in the ads. Cash was used as a reward in this experiment. The points attained during the auction determined the amount of the reward. The nature of the reward was not revealed to participants until the auction was completed.

3.3.C Procedure

This study examined the way bundling affected consumers' willingness to pay, in the context of fast food advertisements and value meals. There were three conditions that

varied based on type of ad and whether participants were valuing items individually or as a bundle.

- Condition 1: individual advertisements for three products where participants were asked their maximum willingness to pay (WTP) for items individually.
- Condition 2: one advertisement containing all three products where participants asked their WTP for individual products.
- Condition 3: one advertisement with all three products where participants were asked their WTP for the products sold together (bundle).

Participants were first asked to read and sign the informed consent and were then given instructions on the Becker, DeGroot and Marshak (BDM) auction. They were told that it was a hypothetical auction where they would be given $15 of fake money for bidding. The experimenter explained that they were to write down their bids on the sheets that would be handed out. It was important to stress that there was no "correct" value and personal values could differ from individual to individual. Bids were told to be kept to themselves and would be read out loud after everyone recorded their bids. Next, the experimenter explained the buying process. The prices at which the items were sold were randomly pre-selected. Randomly generated prices were an important part of the BDM mechanism. These numbers were picked prior to each session, but were reselected each session. This was done on an online random number generator called, Rechneronline. The random numbers were picked from a distribution $0.50 above and below the market price of each item. The price ranges used are recorded in Table 2 below:

Item Type	Actual Price	Lower Range	Upper Range
Ketchup	$2.99	$2.49	$3.49
Drink	$1.29	$.79	$1.79
French fries	$1.79	$1.29	$2.29
Burger	$3.79	$3.29	$4.29
Bundle	$5.79	$5.29	$6.29

Table 2: **Pricing used to determine lower and upper range of randomly pre-selected numbers.**

The instructions then explained the procedure for the "buying" of items. If the bids written down were greater than or equal to the randomly chosen price, the individual had to "buy" the item in the ad. The amount paid was the price that was randomly pre-selected not the price they bid. To complete the instructions, the reward was explained. For each round that they "purchased" the item in the ad, they would be given a point, which was record, at the bottom of their bidding sheet. However, if they had the most total points at the end of the session they were penalized by losing a point. This was to incentivize participants to state their true WTP for the item in the ad and not overbid to maximize their reward.

After participants filled out the informed consent and understood the rules of the bidding process, the first round started. In each session, there was a practice round with the ketchup ad. This was included to ensure participants understood the bidding process. The participants were given a bidding sheet, a writing instrument, $15 of fake money and the ad. The practice round began with the experimenter prompting them to write down

their maximum willingness to pay for the item in the ad. Once they were finished each participant read their bids. The randomly pre-selected price was read and winners were determined. The experimenter explained who would have purchased the ketchup for that round and explained that in a real round they would have to pay for it and get a point. At the end of the practice round, the following questions were asked to ensure the participants' understanding: do you understand which bidder/bidders won the auction? Do you regret the bids you submitted? To conclude this round it was important to reiterate that the amount that they bid was their personal valuation and it would not be to their advantage to offer more than this maximum value, and it would not be to their advantage to offer less.

In condition one, there were four rounds. The practice round was followed by the drink ad, the French fry ad and the burger ad. The same procedure was followed for each round; however, it was necessary to record the points on the bottom of their paper if they bought the item. After the bidding rounds were completed, the participants were given the fast food questionnaire. They were told that the reward was $1 for every point and could be redeemed after it was completed. The participant with the most points was penalized by losing a point. If more than one participant had the same amount of points, no points were taken away. Finally, they were told there was a delayed debriefing via email to ensure there was no bias with the study. Once the fast food questionnaire was completed, rewards and payments were given out. At the end of each session bids and questionnaire responses were recorded for each participant. Having the ID numbers was to ensure that questionnaire answers and bids were jointly recorded.

The second condition also had four rounds. The sessions started with an informed consent sheet and the same instructions were read. In this condition, the participants bid on the ketchup round for practice but then they were only given one ad. This ad was a bundle/value meal from McDonald's. There was a picture of a drink, medium French fry and burger. These pictures were the same ones from the individual ads. Participants had three rounds after the ketchup ad and were asked to bid on each item in the ad separately. First they were asked to write their maximum willingness to pay for the drink in the ad, bids were read and winners were determined. Bidders bought the item if their bid was equal to or above the price and points were recorded. This same process was done with the French fries and burger in the bundle ad. The fast food questionnaire followed and they were told there would be a delayed debriefing via email to ensure there was no bias in the experiment. To conclude the session, the rewards were given out.

The third condition in the experiment was the bundled ad where there was bidding on the bundle. Again, participants were first welcomed and given an informed consent sheet, learning there were no foreseeable risks. Following this, instructions about the bidding process, payment and reward retrieval were explained. Next, the ketchup bidding round took place. Participants recorded their maximum willingness to pay and bids were read out loud. Since it was a practice round, no points were given out or buying occurred. After this round there was only one ad and one bidding round. The same ad that was given in the second condition was used. This had a McDonald's value/bundle meal of a drink, medium French fry and a burger. Participants were asked to bid on the items in this ad all together. Once they were finished the bids were read out loud and those who had to "buy" the item did so and received their point. This concluded the bundle auction and

participants filled out the fast food questionnaire and were given rewards. All of the data was recorded and used in the analysis to determine possible differences in willingness to pay across groups.

CHAPTER FOUR

DATA AND RESULTS

There were 24 participants in the individual ads-individual item valuation treatment (condition 1), 25 in the bundled ad-individual item valuation treatment (condition 2) and 25 in the bundled ad-bundle valuation treatment (condition 3). Before any tests and comparisons of means, the bundled WTP for condition 1 and 2 were calculated. Willingness to pay for the bundle equaled the willingness to pay for the drink, French fry and burger added together. The mean bundle price for condition 1 was $7.98, $6.59 for condition 2 and $7.07 for condition 3. Mean prices for the drink, French fries and burger could only be compared across conditions 1 and 2. The mean drink price was $2.18 for the individual ad and $1.64 for the bundle ad. The mean French fry WTP was $2.58 for condition 1 and $2.05 for condition 2. For the last WTP for an individual product, the burger, was $3.21 in condition 1 and $2.90 in condition 2. These values are reported in Table 2.

Type of Ad	Mean Drink Price ($)	Mean French Fry Price ($)	Mean Burger Price ($)	Mean Bundle Price ($)
WTP for Individual Ads	2.18	2.58	3.21	7.98
WTP for Individual Products in Bundle Ad	1.64	2.05	2.90	6.59
WTP for Bundle in Bundle Ad	N/A	N/A	N/A	7.07

Table 3: **Mean amount of unhealthy foods consumed across varying environmental cue groups in relation to type of group setting.**

Before running tests it was necessary to see if there were any gender differences in WTP. Through an independent samples t-test it was determined that there were not any gender differences in bundle pricing, t (72) = .60, p = .55. Women and men did not differ in their WTP for the bundle. Therefore it was reasonable to combine males and females for analysis of the results.

Three independent samples t-tests looked at the pricing differences for individual products across the first two conditions. Condition 3 was eliminated because a drink, fry and burger price was not determined. Through the t-tests it was found that there was a statistically significant difference in WTP for the drink for conditions 1 and 2, t (47) = 2.577, p = .014. There was also a statistically significant difference between WTP for the French fries in the ads, t (47) = 2.31, p = .025. However, there was no difference between WTP for the burger for conditions 1 and 2, t (47) = .96, p = .34. The means for drink, French fries, burger and bundle are presented in Table 3 and illustrated in Figure 2.

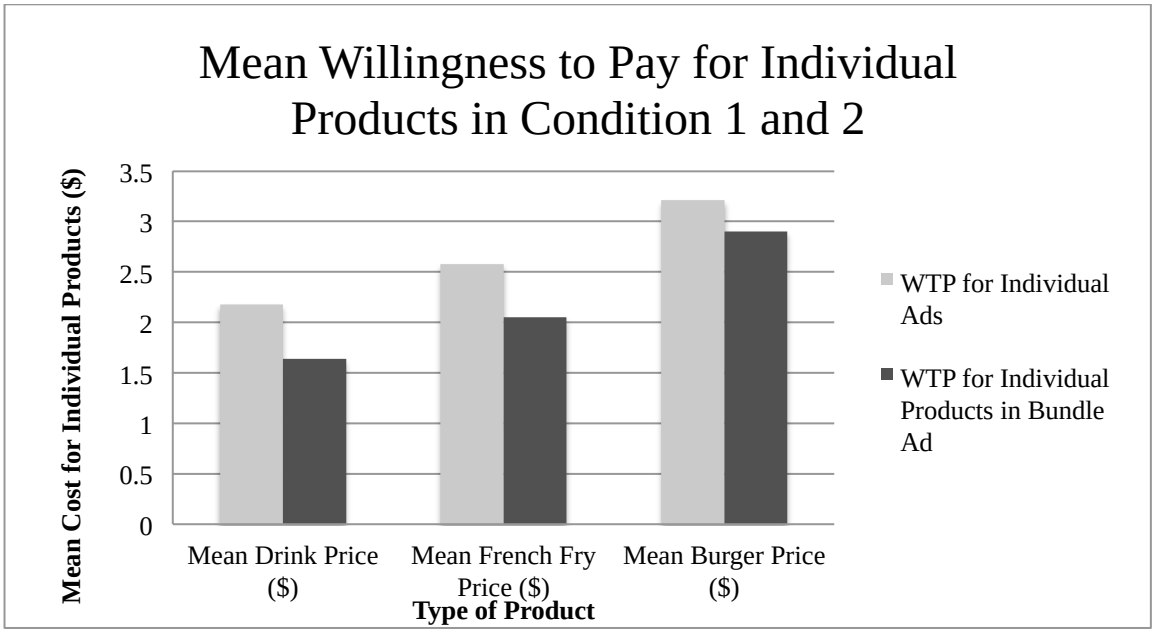

***Figure 2*: Mean willingness to pay for individual products in condition 1 and 2.**

Next, a one-way analysis of variance (ANOVA) was conducted to see if there were differences in the type of ad and bundle price. The three conditions were included and there was a statistically significant difference with type of ad and bundle WTP, F (2, 71) = 4.90, p = .01. Next a Tukey post-hoc test comparison was necessary to see differences across groups. There was a statistically significant difference between bundle pricing in treatment 1, WTP for items in individual ads and treatment 2, WTP for individual items in a bundle ad, M difference = 1.38, p = .017. Also, there was a difference between bundle pricing in treatment 1, WTP for items in individual ads and treatment 3, bundle price, M difference = 1.27, p = .03. However, there was not a statistically significant difference between treatment 2 and 3, M difference = .11, p = .97. The post-hoc test was used to see where the difference across treatment groups.

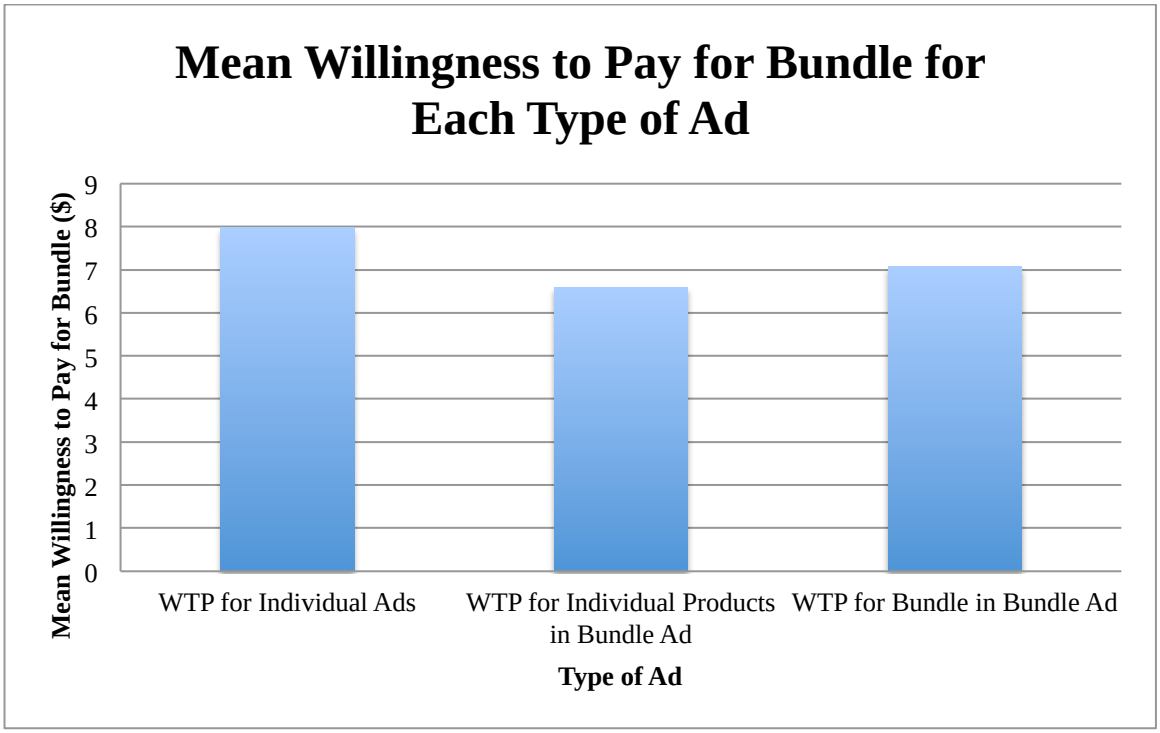

***Figure 3*: Mean willingness to pay for bundle for each type of ad/condition.**

Additional correlations were computed from answers on the fast food questionnaire. 50% of the participants said that McDonald's was their favorite, however, this did not make a difference in WTP for the bundle. There was no significant difference in WTP between those who tend to purchase individual products or value meals, t (67) = .49, p = .87. There was also no correlation with WTP of how often a person ate at fast food restaurants, r = -.101, p = .39 or at McDonald's in particular, r = .06, p = .59. There was a positive correlation between amount spent at McDonald's and bundle WTP, r = .22, p = .068, however this was small and only significant at the 10 percent level.

CHAPTER FIVE

DISCUSSION AND CONCLUSION

This thesis examined the relationship between bundling in fast food advertisements and consumers' willingness to pay (WTF). It was hypothesized that consumers would have a higher willingness to pay for items sold individually than when sold in a bundle. Consumers would conclude that purchasing a bundle was a gain because of the lower cost and greater perceived value. This hypothesis was supported by the study's findings. This was consistent with the notion that bundles were more desirable because consumers felt they were getting more value when buying bundles than when purchasing items individually.

Similar findings from previous studies supported the study hypothesis. Xu (2009) established that bundles were more attractive for various reasons. The benefits included less time spent searching the cost, less money and less efforts by the consumer for the overall purchase. In Xu's study, the gains significantly outweighed the negatives and participants assumed that there was a discount on the bundle, even if it was not listed. Similar to the current study, price was not listed, but it was automatically assumed when something was being sold in a value meal, it was cheaper. Therefore, producers can sell more at a cheaper cost and still gain some of consumers' surplus. This was because they were more likely to purchase due to the higher value associated with the bundle. Bundles infringe of reservation prices that were mentally set by consumers. This supports findings of Aloysius, Deck and Farmer (2011) who found that buyers might not pay for items unless they were in a bundle. Past studies support the notion that bundles makes a difference on purchasing, which was also found in the current study.

Two major theories, the unpacking effect and prospect theory, supported findings. The unpacking effect says that the sum of the whole is less than the sum of individual parts (Bernasconi, Corazzini, Kube and Maréchal, 2009). Illustrated explicitly in Table 3 and 2 and 3, consumers were willing to pay significantly less for items sold in a bundle. The unpacking effect might be one of the major reasons why items advertised individually had higher values. Frackenpohl and Pönitzsch (2015) also looked at this theory and how unpacking goods can increase single parts valuation and raise the overall value of the package. When goods were bundled together purchasing increased by 60%. Clearly, consumers might not always purchase something if they were sold individually. Furthermore, prospect theory explains that bundles are seen as a gain (Tversky and Kahneman, 1979). In most cases, gains are preferred to losses because consumers want to decrease the pain of buying (Frackenpohl and Pönitzsch, 2015). These are two major theories that explain patterns of the results.

While findings replicate those of past studies, there are limitations that need to be considered. The advertisements used in the study were all the same size and the same images in the individual ads were used for the bundled ad. The only difference was that those in the bundle ad were sized down to fit on the page. This could have had a significant impact on WTP because the items in the individual ads were larger. Maximum willingness to pay for items could be correlated with the size of ad. If this study was to be done again the items in the individual advertisements should be the same size in the bundle conditions. Consequently, the ad for the bundle would need to be printed larger. This could introduce a similar issue, but a different presentation of the products in the ads might make a difference. The population was another concern that could have affected

the results. The sample size was not large, 74 total participants with 25 participants in two conditions and 24 in the other. A larger sample size would increase the validity of the findings. Also, all of the participants were college students at one college. This makes it hard to generalize results to the greater population. Results for a more representative population yield different results. The last concern for the study was the use of fake money and type of reward. In typical Becker-DeGroot-Marschak (BDM) auctions, real money is used and actual items are being sold. In this study, fake money was used and items on advertisements were sold in a hypothetical auction with a point system set up to obtain rewards. This setting could have affected bids and in turn changed the results.

The findings of this study suggest there are benefits of selling items in a bundle. Many companies utilized bundling but there is still more research to be done on its effect on spending. Consequently, the increased use of bundled meals as a marketing tactic in fast food restaurants creates adverse effects, such as rising obesity rates. Increased exposure to advertising of these deals and other ads of fast food restaurants can make a person more susceptible to weight gain (Rosenheck, 2008).

In 2009 McDonald's spent almost $1 billion advertising their products, while the fruit, bottled water, vegetable and milk producers spent $367 million on their advertisements together (Harris et al., 2013). Clearly it is hard to avoid large fast food company's aggressive advertisements. Also, the ability to spend less and get more, due to bundles, impacts how much we eat. Pollan (2006) states "Researchers found that people presented with large portions will eat up to 30 percent more than they would otherwise" (p. 106). This is an evident adverse effect that comes from consumers assessing bundles as a gain. While bundling can have positive ramifications from the producers' side and

inflate sales, the negative consequences related to health should be considered when utilizing bundling as a marketing tactic.

This thesis examined bundling effects on willingness to pay through a bidding auction. While results suggest that bundling significantly decreases perceived cost of the items in a bundle, there are still some unanswered questions. Limitations due to the way the products were presented, type of population and hypothetical aspect of the auction could have induced the WTP for items that supported the hypothesis. For future research these concerns should be taken into account and corrected for more accurate results. As noted, obesity rates should be investigated further. Implications related to the greater population and issues that come from weight gain need to be studied in relation to advertisements. An experiment that looks at increased exposure to fast food restaurant ads in relation to obesity could yield interesting findings. In summation, further research needs to look into alternative factors that may influence consumer buying behavior and their evaluation of prices that come from aggressive, yet abundant advertising techniques of large fast food companies.

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Appendix A

INFORMED CONSENT FORM

My name is Madison Shapiro, and I am a student at Union College in Schenectady, NY. I am inviting you to participate in a research study. Involvement in the study is voluntary, so you may choose to participate or not. A description of the study is written below.

I am interested in learning about bundling in fast food advertisements and willingness to pay. You will be asked to partake in an auction. This will take approximately 30 minutes. There are no foreseeable risks to taking part in this study. If you no longer wish to continue, you have the right to withdraw from the study, without penalty, at any time.

During the study you will be making bids that will be known to other participants in your session. The bids are confidential in the sense that the information will not be shared with anyone else and no one outside of the study will know your responses.

Even though all aspects of the study may not be explained to you beforehand (e.g., the entire purpose of the study), there will be delayed debriefing where you will be given additional information about the study and have the opportunity to ask questions.

By signing below, you indicate that you understand the information above, and that you wish to participate in this research study.

Participant Signature	Printed Name	Date

Appendix B

Fast Food Advertisements and Bundling

Gender: _____

Age: _____

YOG: _____

How often do you eat at fast food restaurants?

Never 1-3 times a month 3-6 times a month >6 times a month

What is your favorite fast food restaurant?

McDonald's
Burger King
Wendy's
Other _____

How often do you eat at McDonald's in particular?

Never 1-3 times a month 3-6 times a month >6 times a month

Do you typically buy value meals or individual products?

Value meal Individual Products

How much do you typically spend when you go to McDonald's, if you eat there?

$1-$3 $3-$6 $6-$9 $9-$12 $12 or more

Appendix C

Experiment Instructions

Condition 1: Individual ads

Hi everyone, thank you for participating in the study today. First, I need you to fill out an informed consent form. There will be no foreseeable risks in this study and I just ask that there is no communication with each other during the entire session.

(Pass out informed consent sheet)

Please start by reading and filling out the informed consent sheet.

(Collect informed consent sheet)

Today you will be participating in a hypothetical bidding auction. Each person will be given $15 of fake money that will be used to place your bids. There will be four rounds in the session. During each round you will be asked to bid on items on fast food advertisements. You will be asked to write down the maximum price you are willing to pay for the item on the ad. This is your personal valuation of the item so there is no "correct" value. Personal values can differ from individual to individual. It will not be to your advantage to offer more than this maximum value, and it will not be to your advantage to offer less. Bids should be kept to yourself and once you are finished we will read them out loud.

The price at which the item will be sold has been randomly pre-selected. This price is completely unrelated to your bid and to the bids of all other persons in the room. I will read the randomly selected price and if your bid is greater than or equal to that price then you "buy" the item in the ad i.e. you to pay for the item in the ad with your fake money. The amount you will pay is the price that was randomly selected, not the amount that you bid. If your bid is less than the randomly selected price then you do not buy the item and keep your fake money.

Since this is a hypothetical auction, you will not actually be getting the items you are bidding on. However, for every round in which you "buy" the item i.e. your bid is higher than or equal to the randomly chosen price, you will be given a point. These points will be used to redeem a reward at the end of the experiment. However, if you are the person with the most points at the end of the session, you will be penalized by losing a point. This is to incentivize you to state your true willingness to pay for the item in the ad. It is important that you are honest with your responses because you can lose a point if you overbid and get too many points.

The first round will be a practice round with a ketchup ad.

(First hand out money ($15) then ketchup ad)

Please write down the maximum amount you would be willing to pay for this bottle of ketchup.

(Prompt participants to read bids, random number is read and determine winners and explain who would buy the bottle of ketchup.)

If you had a bid equal to or above the randomly selected price of ($X) you would have had to "buy" the ketchup and get a point. Since this is the practice round, we will not do that this round. Now I will ask a few questions to ensure your understanding of the bidding/winning process. Do you understand which bidder/bidders won the auction? Do you regret the bids you submitted?

Remember, the amount you bid is your personal valuation of the item so there is no "correct" value. Personal values can differ from individual to individual. It will not be to your advantage to offer more than this maximum value, and it will not be to your advantage to offer less. Do you have any other questions moving forward?

We will now continue with the other rounds.

(Hand out drink ad)

Please write down the maximum amount you would be willing to pay for the drink in this ad.

(Prompt participants to read bids, random number is read and determine winners. Make those who won pay and get their change. Put points on the participants' paper where they recorded their bids.)

Now you will bid on the French fry in this ad. Please write down the maximum amount you would be willing to pay for the French fries in this ad.

(Prompt participants to read bids, random number is read and determine winners. Make those who won pay and get their change. Put points on the participants' paper where they recorded their bids.)

Finally, you will bid on the burger in this ad. Please write down the maximum amount you would be willing to pay for the burger in this ad.

(Prompt participants to read bids, random number is read and determine winners. Make those who won pay and get their change. Put points on the participants' paper where they recorded their bids.)

That concludes the bidding auction. I will now hand out a short questionnaire for you to fill out about fast food restaurants and your preferences. Once you are finished you can bring everything up to me with your post-it note on top. You will be able to redeem $1

for each point you have. If you have 2 points that means you will receive $2. If you have the most points, you will be penalized one point i.e. you will be penalized $1.

Thank you for participating in my study. There will be delayed debriefing that will take place after all the data has been collected. An email will be sent to participants with further information. You will have the opportunity to ask questions about the study. Thank you again.

Condition 2: Individual pricing of items within a bundle

Hi everyone, thank you for participating in the study today. First I need you all to fill out an informed consent form. There will be no foreseeable risks in this study and I just ask that there is no communication with each other during the entire session.

(Pass out informed consent sheet)

Please start by reading and filling out the informed consent sheet.

(Collect informed consent sheet)

Today you will be participating in a hypothetical bidding auction. Each person will be given $15 of fake money that will be used to place your bids. There will be four rounds in the session. During each round you will be asked to bid on items on fast food advertisements. You will be asked to write down the maximum price you are willing to pay for the item on the ad. This is your personal valuation of the item so there is no "correct" value. Personal values can differ from individual to individual. It will not be to your advantage to offer more than this maximum value, and it will not be to your advantage to offer less. Bids should be kept to yourself and once you are finished we will read them out loud.

The price at which the item will be sold has been randomly pre-selected. This price is completely unrelated to your bid and to the bids of all other persons in the room. I will read the randomly selected price and if your bid is greater than or equal to that price then you "buy" the item in the ad i.e. you to pay for the item in the ad with your fake money. The amount you will pay is the price that was randomly selected, not the amount that you bid. If your bid is less than the randomly selected price then you do not buy the item and keep your fake money.

Since this is a hypothetical auction, you will not actually be getting the items you are bidding on. However, for every round in which you "buy" the item i.e. your bid is higher than or equal to the randomly chosen price, you will be given a point. These points will be used to redeem a reward at the end of the experiment. However, if you are the person with the most points at the end of the session, you will be penalized by losing a point. This is to incentivize you to state your true willingness to pay for the item in the ad. It is important that you are honest with your responses because you can lose a point if you overbid and get too many points.

The first round will be a practice round with a ketchup ad.

(First hand out money ($15) then ketchup ad)

Please write down the maximum amount you would be willing to pay for this bottle of ketchup. Flip it over when you are finished.

(Prompt participants to read bids, random number is read and determine winners and explain who would buy the bottle of ketchup.)

If you had a bid equal to or above the randomly selected price of ($X) you would have had to "buy" the ketchup and get a point. Since this is the practice round, we will not do that this round. Now I will ask a few questions to ensure your understanding of the bidding/winning process. Do you understand which bidder/bidders won the auction? Do you regret the bids you submitted?

Remember, the amount you bid is your personal valuation of the item so there is no "correct" value. Personal values can differ from individual to individual. It will not be to your advantage to offer more than this maximum value, and it will not be to your advantage to offer less. Do you have any other questions moving forward?

We will now continue with the other rounds.

(Hand out the bundled ad)

Please write down the maximum amount you would be willing to pay for the drink in this ad.

(Prompt participants to read bids, random number is read and determine winners. Make those who won pay and get their change. Put points on the participants' paper where they recorded their bids.)

Now you will bid on the French fries in this ad. Please write down the maximum amount you would be willing to pay for the fries in this ad.

(Prompt participants to read bids, random number is read and determine winners. Make those who won pay and get their change. Put points on the participants' paper where they recorded their bids.)

Finally, you will bid on the burger in this ad. Please write down the maximum amount you would be willing to pay for the burger in this ad.

(Prompt participants to read bids, random number is read and determine winners. Make those who won pay and get their change. Put points on the participants' paper where they recorded their bids.)

That concludes the bidding auction. I will now hand out a short questionnaire for you to fill out about fast food restaurants and your preferences. Once you are finished you can bring everything up to me with your post-it note on top. You will be able to redeem $1 for each point you have. If you have 2 points that means you will receive $2. If you have the most points, you will be penalized one point i.e. you will be penalized $1.

Thank you for participating in my study. There will be delayed debriefing that will take place after all the data has been collected. An email will be sent to participants with further information. You will have the opportunity to ask questions about the study. Thank you again.

Condition 3: Bundle

Hi everyone, thank you for participating in the study today. First I need you all to fill out an informed consent form. There will be no foreseeable risks in this study and I just ask that there is no communication with each other during the entire session.

(Pass out informed consent sheet)

Please start by reading and filling out the informed consent sheet.

(Collect informed consent sheet)

Today you will be participating in a hypothetical bidding auction. Each person will be given $15 of fake money that will be used to place your bids. There will be two rounds in the session. During each round you will be asked to bid on items on fast food advertisements. You will be asked to write down the maximum price you are willing to pay for the item on the ad. This is your personal valuation of the item so there is no "correct" value. Personal values can differ from individual to individual. It will not be to your advantage to offer more than this maximum value, and it will not be to your advantage to offer less. Bids should be kept to yourself and once you are finished we will read them out loud.

The price at which the item will be sold has been randomly pre-selected. This price is completely unrelated to your bid and to the bids of all other persons in the room. I will read the randomly selected price and if your bid is greater than or equal to that price then you "buy" the item in the ad i.e. you to pay for the item in the ad with your fake money. The amount you will pay is the price that was randomly selected, not the amount that you bid. If your bid is less than the randomly selected price then you do not buy the item and keep your fake money.

Since this is a hypothetical auction, you will not actually be getting the items you are bidding on. However, for every round in which you "buy" the item i.e. your bid is higher than or equal to the randomly chosen price, you will be given a point. These points will be used to redeem a reward at the end of the experiment. However, if you are the person with the most points at the end of the session, you will be penalized by losing a point. This is to incentivize you to state your true willingness to pay for the item in the ad. It is important that you are honest with your responses because you can lose a point if you overbid and get too many points.

The first round will be a practice round with a ketchup ad.

(First hand out money ($15) then ketchup ad)

Please write down the maximum amount you would be willing to pay for this bottle of ketchup.

(Prompt participants to read bids, random number is read and determine winners and explain who would buy the bottle of ketchup.)

If you had a bid equal to or above the randomly selected price of ($X) you would have had to "buy" the ketchup and get a point. Since this is the practice round, we will not do that this round. Now I will ask a few questions to ensure your understanding of the bidding/winning process. Do you understand which bidder/bidders won the auction? Do you regret the bids you submitted?

Remember, the amount you bid is your personal valuation of the item so there is no "correct" value. Personal values can differ from individual to individual. It will not be to your advantage to offer more than this maximum value, and it will not be to your advantage to offer less. Do you have any other questions moving forward?

We will now continue with the other round.

(Hand out bundle ad)

Please write down the maximum amount you would be willing to pay for the whole bundle. The bundle includes a drink, French fries and the burger from McDonald's.

(Prompt participants to read bids, random number is read and determine winners. Make those who won pay and get their change. Put points on the participants' paper where they recorded their bids.)

That concludes the bidding auction. I will now hand out a short questionnaire for you to fill out about fast food restaurants and your preferences. Once you are finished you can bring everything up to me with your post-it note on top. You will be able to redeem $1 for each point you have. If you have 2 points that means you will receive $2. If you have the most points, you will be penalized one point i.e. you will be penalized $1.

Thank you for participating in my study. There will be delayed debriefing that will take place after all the data has been collected. An email will be sent to participants with further information. You will have the opportunity to ask questions about the study. Thank you again.

Appendix D – Advertisements

Ketchup Practice Round Advertisement

Drink Advertisement

French Fry Advertisement

Burger Advertisement

Bundle Advertisement

Appendix E - Tests

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18	7	9.5	9.5	9.5
	19	16	21.6	21.6	31.1
	20	16	21.6	21.6	52.7
	21	19	25.7	25.7	78.4
	22	15	20.3	20.3	98.6
	24	1	1.4	1.4	100.0
	Total	74	100.0	100.0	

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	55	74.3	74.3	74.3
	Male	19	25.7	25.7	100.0
	Total	74	100.0	100.0	

Favorite Restaurant - McDonald's

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	37	50.0	50.0	50.0
	No	37	50.0	50.0	100.0
	Total	74	100.0	100.0	

School Year Of Graduation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Senior	30	40.5	40.5	40.5
	Junior	16	21.6	21.6	62.2
	Sophomore	15	20.3	20.3	82.4
	Freshman	13	17.6	17.6	100.0
	Total	74	100.0	100.0	

Treatment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Individual WTP Individual Ads	24	32.4	32.4	32.4
	Individual WTP Bundled Ad	25	33.8	33.8	66.2
	Bundle Price	25	33.8	33.8	100.0
	Total	74	100.0	100.0	

T-Test

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Bundle	Female	55	7.1469	1.85820	.25056
	Male	19	6.8605	1.63024	.37400

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Bundle	Equal variances assumed	.276	.601	.597	72	.553	.28638	.48004
	Equal variances not assumed			.636	35.406	.529	.28638	.45018

Oneway

Descriptives

Bundle

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Individual WTP Individual Ads	24	7.9679	1.80655	.36876	7.2051	8.7308	5.00	10.50
Individual WTP Bundled Ad	25	6.5884	1.72132	.34426	5.8779	7.2989	4.01	11.25
Bundle Price	25	6.6996	1.59038	.31808	6.0431	7.3561	4.50	10.00
Total	74	7.0734	1.79594	.20877	6.6573	7.4895	4.01	11.25

ANOVA

Bundle

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	28.578	2	14.289	4.904	.010
Within Groups	206.876	71	2.914		
Total	235.454	73			

Oneway

Descriptives

Bundle

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Individual WTP Individual Ads	24	7.9679	1.80655	.36876	7.2051	8.7308	5.00	10.50
Individual WTP Bundled Ad	25	6.5884	1.72132	.34426	5.8779	7.2989	4.01	11.25
Bundle Price	25	6.6996	1.59038	.31808	6.0431	7.3561	4.50	10.00
Total	74	7.0734	1.79594	.20877	6.6573	7.4895	4.01	11.25

ANOVA

Bundle

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	28.578	2	14.289	4.904	.010
Within Groups	206.876	71	2.914		
Total	235.454	73			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: Bundle

Tukey HSD

(I) Treatment	(J) Treatment	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Individual WTP Individual Ads	Individual WTP Bundled Ad	1.37952*	.48781	.017	.2118	2.5472
	Bundle Price	1.26832*	.48781	.030	.1006	2.4360
Individual WTP Bundled Ad	Individual WTP Individual Ads	-1.37952*	.48781	.017	-2.5472	-.2118
	Bundle Price	-.11120	.48280	.971	-1.2670	1.0446
Bundle Price	Individual WTP Individual Ads	-1.26832*	.48781	.030	-2.4360	-.1006
	Individual WTP Bundled Ad	.11120	.48280	.971	-1.0446	1.2670

*. The mean difference is significant at the 0.05 level.

Bundle

Tukey HSD[a,b]

Treatment	N	Subset for alpha = 0.05	
		1	2
Individual WTP Bundled Ad	25	6.5884	
Bundle Price	25	6.6996	
Individual WTP Individual Ads	24		7.9679
Sig.		.972	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 24.658.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

T-Test

Group Statistics

	Treatment	N	Mean	Std. Deviation	Std. Error Mean
Drink	Individual WTP Individual Ads	24	2.1783	.78580	.16040
	Individual WTP Bundled Ad	25	1.6404	.68042	.13608
Fries	Individual WTP Individual Ads	24	2.5813	.93876	.19162
	Individual WTP Bundled Ad	25	2.0540	.63810	.12762
Burger	Individual WTP Individual Ads	24	3.2083	1.16252	.23730
	Individual WTP Bundled Ad	25	2.8960	1.11270	.22254

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.		F	Sig.		F
Drink	Equal variances assumed	1.976	Drink	Equal variances assumed	1.976	Drink	Equal variances assumed	1.976
	Equal variances not assumed			Equal variances not assumed			Equal variances not assumed	

T-Test

Group Statistics

	McDonaldFav	N	Mean	Std. Deviation	Std. Error Mean
Bundle	Yes	37	7.3822	1.92913	.31715
	No	37	6.7646	1.61952	.26625

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.		F	Sig.		F
Bundle	Equal variances assumed	1.213	Bundle	Equal variances assumed	1.213	Bundle	Equal variances assumed	1.213
	Equal variances not assumed			Equal variances not assumed			Equal variances not assumed	

T-Test

Group Statistics

	PurchaseType	N	Mean	Std. Deviation	Std. Error Mean
Bundle	Individual	49	7.2108	1.84361	.26337
	Value	20	6.9710	1.80564	.40375

Correlations

Correlations

		Bundle	FastFoodFreq
Bundle	Pearson Correlation	1	-.101
	Sig. (2-tailed)		.392
	N	74	74
FastFoodFreq	Pearson Correlation	-.101	1
	Sig. (2-tailed)	.392	
	N	74	74

Correlations

		Bundle	McDFreq
Bundle	Pearson Correlation	1	.064
	Sig. (2-tailed)		.588
	N	74	74
McDFreq	Pearson Correlation	.064	1
	Sig. (2-tailed)	.588	
	N	74	74

Correlations

		Bundle	McDSpending
Bundle	Pearson Correlation	1	.222
	Sig. (2-tailed)		.068
	N	74	68
McDSpending	Pearson Correlation	.222	1
	Sig. (2-tailed)	.068	
	N	68	68