DOES BUSINESS EDUCATION PROMOTE UNSCRUPULOUS BEHAVIOR?

Nathanael D. Peach[1], Robert Buckley, Caleb Reynolds[2,3]

Abstract

This study seeks to determine factors that contribute to individual's honesty in the marketplace and willingness to exploit market power. In order to identify these factors a survey was administered to undergraduate students enrolled in institutions across the United States. We find that perception of others has a multifaceted relationship with honesty and exploiting market power. Respondents that believe others are likely to be honest are more likely to be honest themselves. But the relationship is symmetrical, believing others are dishonest leads to dishonest behavior. An increase in the perception of firm's taking advantage of market power leads to respondents being more likely to do so themselves. In terms of expressing market power, individuals that believe raising the price of a good in response to a demand shock is fair will do so. Business education is found to lead to more honest behavior but does *not* influence an individual's propensity to exploit market power. Individuals that believe others are altruistic are more likely to forego self-interested behavior. Lastly, religiosity is found to increase honesty but not the use of market power. These findings suggest that educators ought to pay attention to the ways in which students form their perceptions of how individuals behave in the marketplace.

Key Words: honesty, business education, religiosity, market power, social norms

JEL Classification: A13, A22

Introduction

Students of commerce have long recognized the importance of subjective elements of the human experience, such as personal beliefs and social norms, in the marketplace. Adam Smith's impartial spectator, which plays an important role in *The Theory of Moral Sentiments,* is a notable early attempt to formalize the linkage between notions of right and wrong with observable market outcomes. The impartial spectator acts as an internal conscience and external barometer of social norms. Ideally, the spectator remains "impartial" and is not influenced by the shallow justifications we often put forth for ethically dubious actions. (Everyone else cheated on the homework so it's not a big deal that I did.) Despite the power of Smith's device, he was unable to completely integrate the impartial spectator into his analysis of commerce. The impartial spectator disappears from his toolbox as quickly as it appeared; not even being mentioned once in *The Wealth of Nations*.

The project of integrating agents' notions of right and wrong with market outcomes, which Smith left his indelible impression on, remains an active area of inquiry because of its

[1] Associate Professor of Economics, College of Business, George Fox University, 414 N. Meridian St., Newberg, OR 97132 (corresponding author)

[2] Robert Buckley and Caleb Reynolds conducted much of this research as part of an independent study led by Nathanael D. Peach

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importance. North (2005) outlines the process of how agents' mental models respond to and are shaped by their norms. He argues that this process serves as the very foundation of economic change; it forms culture and shapes the development of institutions. A tangible example of these linkages is provided by Alesina, Miano, and Stantcheva (2018), where individual's perceptions of immigrants (regardless of accuracy) influences their attitudes towards redistribution and many other public policies. Sen (1988) argues that ignoring ethical issues, or, in North's words, agents' mental models, has "impoverished" economics and narrowed its "reach," "relevance," and "predictions." Behavioral and experimental economics, two of the most important economic fields to emerge in recent decades, are in many ways responses to criticisms such as Sen's. Both are attempts to develop a deeper and more formal understanding of how subjective elements of the human experience influence economic outcomes.

Economists are likely to never arrive at a full understanding of the role of norms in economic outcomes because of their evolutionary nature. As norms change over time so too would agents' interpretation of appropriate marketplace behavior. This is not to say that human nature is entirely fluid (the cardinal virtues have stood the test of time), but that ethical dilemmas and responses to them change over time.

Norms are shaped, formed, and acted upon in a host of settings; from the preschool to the corporate boardroom. In this study we focus on a setting of particular interest to professors of economics: the university. McCloskey contends that "virtues are matters of prepared feeling rather than a decision on the spot" (p. 154). Education, and economics courses in particular, engage the formation of virtues in explicit and implicit ways. Formal instruction, whether through lecture, readings, or some other means, explicitly aims at shaping virtue. Students are told the right ways to do things to increase their prudence, or wisdom. There is also a more subtle way in which virtues may be shaped: through the topics considered and proposed solutions to problems. For example, the priority given to economic growth and efficiency signals that these are worthy goals, regardless of whether this is formally stated. The absence of other goals, such as equity, health, or environmental sustainability signals their insignificance. For many, the college years are a period of transition. They enter college largely protected from the marketplace by their parents and leave fully immersed as they begin their working years. Education then plays an important role in "preparing the feelings" that individuals will put into action as they more fully participate in the economy.

It can then be argued that the seeds of economic activity, cultural formation, and institutional development - the very foundations of markets - are sown in the classroom. Before proceeding we ought to temper the importance of the classroom. To believe notions of right and wrong are completely formed by a single course, or even program of study, is too heroic. Students' opinions of economic issues are influenced by the classes they take, both through the professor and their peers' opinions, and students maintain much of their own thoughts (Hammock, Routon, & Walker, 2016; Magee, 2009).

In this study we seek to understand factors which influence individual's honesty and attitudes towards profit maximization. To do so, scenarios originally posed in Frank, Gilovich, and Regan (1993) (FGR) and Kahneman, Knetsch, and Thaler (1986) (KKT) are applied. These studies are foundational in the literature on individual's perception of acceptable behavior in the marketplace. KKT focus on attitudes towards profit maximizing behavior, while FGR focuses on scenarios in which self-interested behavior is at odds with socially desirable outcomes. By quantifying individual's attitudes these studies moved the literature away from anecdotes and conjecture to more rigorous evaluation. The logical extension to these studies, and many they

have inspired, is to seek out factors which are influencing the individual's attitudes. What leads one to conclude that price increases are acceptable in some scenarios but not others? Why are economists more likely to be free-riders? KKT devote attention to notions of fairness, FGR to economics education.

In order to consider a wide range of factors that may influence notions of honesty and market power a survey was administered to students at 14 colleges and universities across the United States. (The survey is outlined in the following section.) The survey consisted of three categories of questions: market scenarios (from KKT and FGR), attitudes, and demographics. The scenarios elicit opinions regarding honesty and use of market power in pricing decisions. Attitudinal questions were related to education and the purpose of business. Demographic considerations included the number of business courses taken, measures of religiosity, as well as standard categories such as race and gender. After cleaning the data for incomplete surveys, nonsensical responses, etc. a total of 662 responses are analyzed. The full data set is available upon request.

Literature

The relationship between economic coursework and economic knowledge, being of intimate concern to professors, has been widely studied. It can be safely assumed that every course has the objective of increasing student's knowledge of the content being studied. There are many reasons why this goal may not be realized; from the professor being ineffective to students being overwhelmed by the complexity of the subject matter. Every semester thousands of students are successful in their courses and more than a few are not. It is safe to conclude that knowledge is being gained, for many, but not all. But is this knowledge fleeting? Does it have a "half-life"? Just because an individual understands the consequences of imperfect competition as a sophomore does not mean that they will 20 years later. Once the course concludes it is possible that the individual would quickly lose the knowledge they commanded at a particular moment in time. (Whether knowledge that is fleeting is truly knowledge is worth pondering but would lead us too far from the study's goals.) Despite the real possibility that students would not remember much from their courses later in life the consensus is that those that have taken economics courses have higher levels of economic knowledge and understanding (Allgood, Walstad, & Seigfried, 2015; Blinder & Krueger, 2004; Walstad & Rebeck, 2002).

Even if we can be confident that courses increase the average individual's knowledge of a subject this does not mean their attitudes or behaviors change. For many reasons the impact education has on attitudes and behaviors is less established than its impact on knowledge. As previously discussed, FGR (1993) is an early, seminal article in this literature. Its importance is in part due to its provocative findings, that studying economics makes one more likely to behave as a free-rider and pursue self-interested behavior. But why would this occur? FGR (1993) argue that inundating students with models and theories based upon self-interested behavior eventually results in an acceptance that this is an acceptable way to behave. If free-riding is the rational thing to do, why would you do anything else? Rationality is a virtue, foolishness is not. As individuals proceed through their studies their mental model of the prudent way to behave is adjusted accordingly. Ghoshal's (2005) study of business education reaches a similar conclusion: the priority business education places on theory and scientism justifies acting unethically in the marketplace. Instructors are providing an implicit permission to ignore ethical dilemmas because they are not worth considering during one's studies. As a result, the educational endeavor shapes individuals with juvenile conceptions of virtuous behavior. While studies with claims such as

these have been criticized (e.g., Neubaum, Pagell, Drexler Jr, Mckee-Ryan, & Larson, 2009), the findings have not been entirely refuted. Indeed, business or economics education has been shown to promote a host of problematic behavior from greediness to narrowly defining a firm's social responsibility (Allgood, Walstad, & Siegfried, 2015; Wang, Malhotra, & Murnighan, 2011; Lämsä, Vehkaperä, Puttonen, & Pesonen, 2008).

The full implications of these findings are sobering. If the pursuit of an academic major results in shaping attitudes and subsequently behavior the stakes of education are raised. DeMartino (2011) outlines the consequences of shallow ethics among professional economists, Zingales (2015) the finance sector's excessive focus on duping (rent-seeking) rather than the creating value, and Cohn, Fehr, & Maréchal (2014) when dishonesty becomes the norm within an organization. If economics, or business education in general, is creating self-interested (or even selfish) people then we should expect that the marketplace, through the organizations and institutions engaged in it, will reflect the behaviors of such people. This is the corporate malfeasance that finds itself in headlines on a regular basis.

Of course education need not solely promote selfish and anti-social behavior. Neubaum, Pagell, Drexler Jr, Mckee-Ryan, and Larson (2009) find that business education does not lead to "profit-first" attitudes. Students temper the desire for profit with other considerations. They find that business students are more concerned about sustainability issues (in terms of both firms and the environment) than other students. May, Luth, and Schwoerer (2014), in a quasi-experimental study (with a fairly small control and treatment group, 30 in each), find that business ethics courses raise moral efficacy, courage, and moral meaningfulness. Considering the full scope of this literature suggests that the relationship between education and morality is nuanced.

Before outlining the survey applied in this study the reader ought to be aware of an ongoing debate within the literature. Namely, to what extent is selection bias dictating results? Perhaps the observed relationships between course of study and attitudes has nothing to do with education. Instead, individuals that study business or economics are already amendable to certain types of behaviors and subscribe to the worldviews articulated by these disciplines. If this is the case, then the aforementioned causation is nothing more than correlation. Our attempt to control for selection bias is via a variable related to the number of business courses taken. With this variable we are able to control for exposure to traditional business education. While selection bias is a real concern, and ought to temper the implications of any study within this literature, it seems implausible that students would learn factual knowledge in courses but not have subjective considerations of the marketplace completely unaffected (Frank, Gilovich, & Regan; 1996).

Survey

In this section the survey's design and methodology is outlined. After a general discussion of choices made during this process, the specific questions and prompts on the survey are presented. This discussion is complemented by the presentation of relevant descriptive statistics.

Survey Design and Administration

The survey was designed to capture the influence of attitudes and demographics on marketplace decisions. First, respondents were asked to consider hypothetical scenarios. The scenarios posed in the survey were chosen because they place an ethical dilemma in a mundane context. Every day we make decisions to behave more, or less, virtuously. While the outcomes of

these decisions rarely become the fantastic corporate scandals reported by the media, they are very important, serving as the building blocks of culture. After reading the scenario, respondents were asked to predict the behavior of a stranger and themselves. This allowed us to control for how individual's conceptions of others may, or may not, influence their behavior.

The remainder of the control variables were established through attitudinal and demographic questions. These questions and prompts followed the scenarios in order to mitigate possible biases they may introduce. The attitudes queried were related to motivation towards pursuing education, the purpose of education, as well as the purposes and motivations of businesses. Responses to these questions allowed for causal channels between these views and marketplace decisions to be established.

The survey ended with a host of demographic questions related to gender, race, field of study, etc. The demographics of particular interest were education, religiosity, and political affiliation. For a number of reasons, from the aforementioned literature to informal classroom interactions, we expected business education to have a negative impact on virtuous behavior in the marketplace. We had an anecdotal sense that business culture prioritized profit over other considerations. While many studies have found religiosity contributes to virtuous behavior, we wanted to test these findings in the context of mundane scenarios. We expected that religiosity would not impact decisions in these instances because of the subtle way in which the ethical dilemma was presented. Political affiliation was included because of the caustic political environment we find ourselves in. We were curious as to whether this dimension of identity would influence decisions in the marketplace.

The survey went through many iterations before it was finalized. A focus group was an invaluable step in this process. Approximately 50 undergraduate students, in two different sections of a business ethics course, participated in the focus group. As the goal for this project was to further our understanding of the ways in which business education, and other factors, influence marketplace decisions these students were able to help us design a survey that elicited the desired data. Feedback from the focus group resulted in edits to ensure the survey's wording was understandable, free of unnecessary jargon, and that questions prompted the considerations intended.

Once the survey was completed the authors utilized their professional networks, through personal communication and announcements in professional associations, for assistance in administering the survey. The intent was to create a sample which was representative of undergraduates in the United States. The institutions within the study are Anderson University (Illinois), Anderson University (South Carolina), Asbury University, Bowling Green State University, Bryan College, Cedarville University, George Fox University, Goshen College, Grace College, Oregon State University, Point Loma Nazarene University, Southern Oregon University, Truman State University, and University of Wyoming. The reader may note a disproportionate number of private, religiously affiliated institutions. This was not design; it is the result of the authors' working at such an institution. The impact of oversampling religiously affiliated institutions will be elaborated on in the following section.

With one exception, the survey was administered electronically via email request. At one institution the survey was administered by hand at the end of a class. Once the survey was completed the data were cleaned in a number of ways. First, incomplete surveys were removed from the sample. Next, responses by graduate students and non-U.S. citizens were removed. The former because of the many ways in which this population differs from undergraduates; most relevant to this study being age, work experience, and number of courses taken. Many studies

have found significant variation in attitudes towards markets across nations, for this reason non-U.S. citizens were removed in order to keep the sample coherent. Of the 783 surveys received, 662 were kept, 85% of the initial sample. The reader interested in working with the data is encouraged to contact the lead author; all data are available upon request.

Survey Questions and Descriptive Statistics

The first scenario posed in the survey is from FGR (1993): "A business had been shipped 10 microcomputers but charged for 9" (p. 168). (The prompt was edited in our study, "iPad" replaced "microcomputer.") Respondents were asked the likelihood that the owner of the business would report the error as well as the likelihood that they would. Descriptive statistics are presented in Table 1. FGR report the change in respondents' answers as they were seeking to determine if a particular economics course would influence the results. In the two courses analyzed by FGR there is a 40.0% increase in the number of students that expect the owner to not report the error and 38.3% increase in respondents saying they would not report the error (the average of the two microeconomics courses). In subsequent studies that have applied this scenario one consistent theme is worth highlighting. The mean for the individual reporting the error is consistently larger, typically by a magnitude of approximately 20 percentage points, than for the owner; individuals view themselves as considerably more honest than others (Iida & Oda, 201; Yezer, Goldfarb, & Poppen 1996).

Table 1: Likelihood a Shipping Error is Reported

	Owner Likelihood	Personal Likelihood
Mean	54.4%	76.7%
Median	50%	90%
Standard Deviation	29.9	29.9

Note: $N = 665$.

The second scenario is from KKT (1986): "A hardware store has been selling snow shovels for $15. The morning after a large snowstorm, it believes it can raise the price to $20" (p. 729). Respondents were asked the probability the hardware store would raise the price, if they would raise the price, and finally whether raising the price would be fair. Descriptive statistics for this scenario are presented in Table 2. The scenario is fascinating because it places the profit motive within a fairly mundane ethical dilemma. (Certainly results would be different if the scenario was a natural disaster or lifesaving medications.) Standard economic theory justifies raising the price; the snowstorm has increased demand. Firms ought to respond to the increase in willingness to pay by raising their prices. But as KKT point out, the cause of the shock is important. In this case, it is an event that neither firms nor consumers have control over: the weather. The respondent must weigh profit against altruism. KKT conclude that the nature of this shock compels many to conclude raising the price would be unfair.

Table 2: Responses to Increase in Demand for Snow Shovels

	Likelihood Owner Raises Price	Personal Price Charged	Raising the Price is Fair
Mean	71.0%	$16.60	76%
Median	75.0%	$17.00	-
Standard Deviation	24.8	5.4	0.42

Note: n = 567. Ninety eight respondents indicated they would charge a price greater than $40. Given the possibility that the unrealistic prices are a function of likely misreading of the question, these responses have been removed for this question. Raising the Price is Fair is coded as = 1 if Fair, = 0 if Unfair.

This scenario has been applied in a number of studies in many different nations (Cipriani, Lubian, & Zago, 2009; Frey & Pommerehne, 1993; Gorman & Kehr, 1992; Gao, 2009; Maxwell & Comer, 2010; Thaler, 2015). Across these studies the variation in the perception of whether a price increase is unfair is quite large. In KKT, 82% of respondents believe it is unfair. The lowest value is found in Thaler, (2015) 24%. Coincidentally, 24% of our sample believed the price increase was unfair. There are also notable differences across nationalities and between students and non-students. Across these studies students, regardless of nationality, are much more likely to believe the price increase was fair than the general population.

Following the scenarios respondents were polled on their attitudes towards business and education. A brief description of these variables is presented in Table 4; descriptive statistics can be found in Table A1 of the Appendix. Attitudes towards business primarily had to do with its purpose. Attitudes toward the purpose of business could greatly influence responses in the scenarios. For example, a student believing that business should primarily strive to make profit might suggest a higher fair price for a snow shovel than a student believing business ought to primarily serve the needs of the community. Profitability suggests raising the price to exploit increased demand, while the service point of view suggests lowering the price to assist a community in need.

Within the education questions, respondents were asked how goals of service, wealth, and personal fulfillment related to their educational choices and beliefs. Since the respondents in the survey were students, attitudes toward education could influence their opinions in the business scenarios. Further, attitudes toward education could serve as a more tangible measure of beliefs than attitudes toward business, since most students have relatively little business experience and consider their education their full-time occupation. These questions also allowed us to control for ways in which selection bias might influence results between education and attitudes or behaviors.

To better understand the role of religiosity in economic attitudes, the Duke Religion Index (DUREL) originally presented in Koenig, Parkerson, and Meador (1997) is applied. Vitell's (2009) survey on the literature is recommended to the reader interested in a thorough treatment of the relationship between religiosity and business ethics. He argues that the empirical evidence, while not as extensive as the subject matter warrants, suggests that religiosity contributes to more ethical behavior. Conroy and Emerson (2004) find that religiosity is statistically significant in 7 of the 25 ethical scenarios considered in their study. Many of these scenarios would be classified under the broad heading of honesty; none would be considered

exercising market power. In some of the scenarios religiosity compels the individual to act more honestly, but in plenty it does not.

The DUREL is comprised of five questions which gauge three dimensions of religiosity: organizational religiosity (OR), non-organizational religiosity (NOR), and intrinsic religiosity (IR). OR is measured via the public practice of religious rituals such as attending mass or a Bible study. NOR is the private practice of religious activities such as mediation or prayer. IR seeks to gauge the extent to which an individual's religious beliefs impact other areas of life. DUREL scores are the sum of the individual's answer on the five questions, higher scores indicating higher levels of religiosity. Descriptive statistics are presented in Table A2 of the Appendix. Using DUREL scores, we can determine the role that religiosity, not just mere religious affiliation, plays in economics attitudes.

The survey concluded with a host of demographic questions. Exposure to business education could impact students' behavior in the marketplace. The survey measured exposure to business education in two ways. First, respondents were asked their academic major and the number of business courses they had taken. To avoid multicollinearity, and to have a better measure of exposure, our analysis only used number of business courses (the absolute value of the correlation coefficient between the two variables was 0.624). We preferred number of business courses to the dummy variable for business major since this would allow us to measure the extent to which more business courses influenced results. It should be noted that this variable is measured in five categories: 0, 1 – 5, 6 – 10, 11 – 15, Greater than 15. The mean, median, and standard deviation for this variable are 2.9, 3, and 1.4, respectively. The decision to apply a categorical variable was based upon the belief that it would provide a more accurate measure than an open ended question. The authors recognize that this question is not ideal. In future work efforts will be taken to identify and control for specific aspects of business education, such as ethics or finance, which may impact attitudes in different ways.

Not only do we expect business education to be meaningful, but also where the individual is pursuing their studies. In order to determine if universities with religious affiliation influence attitudes towards commerce, students at faith-based universities were sampled. Of the final sample, 65.7% of respondents in our sample attend such institutions. This relatively large percentage indicates the sample is not representative of the population of undergraduate students. Oversampling was not intentional, it is simply the result of different response rates. There are two other important ways in which the sample is not representative of the population of undergraduates. Specifically, in our sample 75% of respondents are white and 51% are male. The distribution of race within the sample is presented in Table A3. In 2016 the national percent for each group was 58% and 44%, respectively (National Center for Education Statistics, 2019).

Within the demographics section political affiliation was also queried. Political views could greatly influence an individual's view of business and opinion of proper action in certain situations. Butorovic and Klein (2010 & 2011) find political ideology to be an important predictor of economic knowledge. In regression analysis 'Liberal' and 'Progressive/Very Liberal' were merged into the category of *Liberal*, approximately 11% of the final sample. Similarly, we combined 'Conservative' and 'Very Conservative' into *Conservative*, 44% of final sample. All other political ideologies (Moderate, Libertarian, Not Sure, and Refuse to Answer) represent the omitted category in the creation of the aforementioned dummy variables. The full distribution is presented in Table A4.

Methodology and Findings

Each scenario was modeled as a function of key questions from the survey, ranging from expectations of others to standard demographics. Our approach extends Iida and Oda's (2011). They control for three factors: economics major, sex, and academic standing. Our specifications include a host of other possible explanatory factors. Standard ordinary least squares was applied to determine factors which had a statistically significant relationship with the dependent variable, the respondent's reported behavior. Table 3 presents the results from the iPad scenario. A brief description of relevant variables can be found in Table 4. The probability that the respondent would report the error, with a range of 0 to 100%, is the dependent variable.

Table 3: OLS results, dependent variable: Likelihood you report iPad Shipping Error

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
Constant	16.7131	10.1309	1.650	0.0995	*
iPad_Owner	0.5524	0.0366	15.090	0.0000	***
Needs_Others	0.4259	1.2577	0.339	0.7350	
Charity	-2.1988	1.1136	-1.975	0.0487	**
Max_Profit	1.4599	1.0216	1.429	0.1535	
Own_Needs	3.1801	1.0536	3.018	0.0026	***
Comm	-0.4264	1.1820	-0.361	0.7184	
Motiv	1.4388	1.0904	1.319	0.1875	
Purp_Educ	-0.6254	1.2653	-0.494	0.6213	
Others	1.3267	1.2669	1.047	0.2954	
Busn_Courses	2.1564	0.6468	3.334	0.0009	***
Univ_DV	3.2743	2.6752	1.224	0.2214	
Conservative	2.7727	2.1228	1.306	0.1920	
Liberal	-5.6417	3.6518	-1.545	0.1229	
DUREL	0.4202	0.2085	2.016	0.0443	**
Race_DV	-3.1899	2.5120	-1.270	0.2046	
Gender_DV	-1.8868	1.9268	-0.979	0.3278	
Age	0.0093	0.2851	0.033	0.9739	

Mean dependent var	76.8172	S.D. dependent var	29.8077
R-squared	0.3827	Adjusted R-squared	0.3664
F(17, 644)	21.1609	P-value(F)	0.0000

Significance level: *** 0.01 ** 0.05 * 0.10

Table 4: Description of Explanatory Variables

Variable	*Description*
ipad_Owner	Probability an anonymous owner reports the error.
Snow_Store	Probability a hardware store raises the price of a snow shovel.
Snow_DV	Is it fair to raise the price of a snow shovel? Fair = 1
Needs_Others	The primary purpose of business is to meet the needs of others.
Charity	Business professionals only engage in charitable acts when it benefits them.
Max_Profit	The primary purpose of business is to maximize profit.
Own_Needs	In business, in order to be successful, employees need to look out for their own needs first.
Comm	It is more important for business to seek the welfare of its community than it is to seek the welfare of its owners.
Motiv	The primary motivation in choosing my major is to make a lot of money.
Purp_Educ	The primary purpose of my education is to be prepared to serve others.
Others	I view my education as preparation to care for the needs of people.
Busn_Courses	= 1 "0 Courses," = 2 "1 – 5 Courses," =3 "6 – 10 Courses," = 4 "11 – 15 Courses," = 5 "Greater than 15 Courses"
Univ_DV	= 1 if faith-based institution, = 0 if not faith-based institution
Conservative	= 1 if Conservative or Very Conservative
Liberal	= 1 if Very liberal or Liberal
DUREL	Duke Religion Index
Race_DV	= 1 Non-Caucasian, = 0 Caucasian
Gender_DV	= 1 Male, = 0 Female
Age	Reported age of respondent.

Note: Attitudinal questions are coded such that their range is =1 if "Strongly Agree" to = 5 if "Strongly Disagree."

The respondent's perception of others' behavior impacts their behavior in many ways. The more the respondent believes an anonymous individual (the owner) will act honestly, the more likely they will act honestly - the point estimate for *iPad_Owner* being 0.55 and statistically significant at the 1% level. The notion that an individual's behavior is based upon their expectation of others has been confirmed in experimental studies. McCabe, Rigdon, and Smith (2003) find that trust and reciprocity can be a more important predictor of behavior than

payoff motivations. The statistical significance and magnitude of *Own_Needs'* coefficient is another manifestation of this relationship. This variable measures the extent to which an individual believes employees need to look after their own needs. The more altruistic the respondent believes others are in business the more likely they are to state they would report the error. A one-unit increase in this variable (measured as a categorical variable) corresponds to 3 percentage points more likely to report the error. *Charity* is measured and coded such that an increase in this variable corresponds to a respondent disagreeing with the statement "Business professionals only engage in charitable acts when it benefits them." Conversely, the more they agree with this statement the less likely they are to report the error. If one conceptualizes dishonesty in the scenario as an act of self-interest this finding makes sense, especially in light of the statistical significance of *iPad_Owner*. The more one believes business owners are charitable not because of altruistic motivations, but out of self-interest, the less likely one is to act against his or her own self-interest by not reporting the error.

The relationship between business courses and honesty was not expected, but upon reflection is sensible. The more business courses a respondent has taken the higher their reported honesty. As noted in the Survey section, this variable is not calculated on a per class basis. Rather, the survey contained five categories: 0, 1 – 5, 6 – 10, 11 – 15, Greater than 15. A movement from one category of business courses to the next increases reported honesty by approximately 2 percentage points. This finding is congruent with May, Luth, and Schwoerer's (2014) that business ethics courses raise moral efficacy, courage, and moral meaningfulness.

Finally, the DUREL variable, which measures respondent's religiosity was significant (at the 5% level) and had the expected sign. Given the importance of honesty in religious life this is not that surprising. More religious individuals are likely to report being more honest.

It is worth highlighting the myriad of factors that do not have statistically significant relationships with honesty. To the dismay to those that relish lambasting their political opponents (a guilty pleasure perhaps we're all guilty of from time to time) political ideology is not significant. Additionally, demographic differences, motivations for pursuing higher education, or whether the student is at a faith-based institution do not matter.

In Table 5 the factors which determine whether an individual will take advantage of a change in market conditions are reported. The dependent variable is the price an individual would charge for a snow shovel the day after a snowstorm. The sample analyzed for this question was restricted to respondents that reported a price less than or equal to $40, a reasonable price given the information in the scenario. Approximately 15% of the final sample reported they would charge a price of more than $40, with 5% stating they would charge $100, which is not realistic. In this scenario 566 responses were analyzed. Prior to analyzing the results, the regression's low adjusted *R*-squared ought to be acknowledged. While a robust set of explanatory variables have been controlled for, ranging from attitudes about business to political affiliation, factors outside of the model are certainly influencing the variation in reported price charged. The statistical significance of the intercept and its large absolute value support this suspicion. The regression's overall *F*-statistic is significant at the 1% level, but its value is fairly small, suggesting that the model does an adequate job of explaining the pricing decision but certainly does not tell the entire story.

Table 5: OLS results, dependent variable: Price you would charge

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
Constant	10.8409	2.6040	4.163	0.0000	***
Snow	0.0628	0.0103	6.106	0.0000	***
Snow_DV	2.8430	0.5795	4.905	0.0000	***
Needs_Others	-0.2429	0.2553	-0.952	0.3417	
Charity	-0.2232	0.2564	-0.870	0.3846	
Max_Profit	-0.0461	0.2324	-0.198	0.8429	
Own_Needs	-0.3279	0.2220	-1.477	0.1403	
Comm	0.0453	0.2248	0.202	0.8403	
Motiv	-0.0328	0.2191	-0.150	0.8812	
Purp_Educ	0.2575	0.3068	0.839	0.4018	
Others	-0.6658	0.3212	-2.073	0.0387	**
Busn_Courses	0.0406	0.1626	0.250	0.8029	
Univ_DV	0.5366	0.5751	0.933	0.3512	
Conservative	0.0048	0.4793	0.001	0.9921	
Liberal	-1.2477	0.8469	-1.473	0.1412	
Durel	0.0446	0.0528	0.844	0.3988	
Race_DV	0.1953	0.5205	0.375	0.7076	
Gender_DV	-0.3674	0.4495	-0.818	0.4140	
Age	0.1220	0.0726	1.680	0.0935	*

Mean dependent var	16.5741	S.D. dependent var	5.3876
R-squared	0.1986	Adjusted R-squared	0.1722
F(18, 547)	6.5763	P-value(F)	0.0000

Significance level: *** 0.01 ** 0.05 * 0.10

As in the previous scenario, perception of others influences the respondent's decision. For every percentage point more likely a respondent expects the owner to raise the price, the price the respondent will charge increases by $0.06. While small at the margin, *ceteris paribus,* the difference between being 0% sure the owner will raise the price and 100% sure is $6. With a baseline price of $15 this is a meaningful change in price.

Somewhat surprisingly business education does not have a statistically significant relationship with price. *A priori*, we expected a positive relationship. It appears that exposure to business theory through coursework is not overwhelming individual's ethical considerations. Our findings support KKT's (1986) hypothesis, that ethical motivations are often more important than what economic, or business, theory predicts or prescribes. *Snow_DV*, is positive and economically significant. A respondent that considers it acceptable to raise the price will, on average, charge $2.79 more than one that believes it is unfair, approximately 18% of the starting price.

The stronger a respondent's altruistic impulse, in the form of considering their education as preparation to care for the needs others, the lower the price they would charge. (The variable *Others* is categorical where 1 = Definitely *not* True and 5 = Definitely True) This finding aligns with expectations. After a storm, altruism would temper the impulse to raise the price of a snow shovel. The final statistically significant explanatory variable is *Age*, though only at the 10% level (*p*-value = 0.094). Were the statistical significance stronger this result would be worth

exploring further. Since the result is fairly weak we will not speculate on age's role in the pricing decision.

In addition to the statistical insignificance of business education, a host of other variables which were expected to matter did not. Religiosity of respondents nor attending a faith-based institution influenced respondent's pricing decisions. Similarly, political affiliation has no statistical significance; neither do demographics such as race or gender.

Conclusion

Before synthesizing the results of this study, two caveats ought to be reiterated. First, the inadvertent oversampling of certain groups (males, Caucasians, and students at faith-based institutions) needs to be acknowledge. Because the sample differs significantly from the national population of students the externally validity and application of our results is tempered. Second, the low adjusted *R*-squared and importance of the intercept (statistically and economically) in the pricing scenario suggests that some relevant explanatory variables have not been controlled for. It is possible that one of these omitted variables are an important piece of the story. Additionally, these omissions may bias the results, though it should be noted that in preliminary estimations the estimated coefficients were robust across multiple specifications. The robustness of these estimates gives us confidence that the presented estimates are not biased. With these caveats in mind we now offer concluding thoughts.

Our findings motivate further exploration of the ways in which individuals create their perception of others. In both scenarios, the perception of others' behavior was statistically and economically (a large coefficient) significant. While perception of others is a function of a myriad of factors, our findings suggest business education could play a role in informing these perceptions. Business education has the opportunity to influence how students believe others will behave in the marketplace. This can be done through the models or frameworks taught in the classroom as well as through and case studies considered. It is possible that too often our teaching methods highlight self-interested behavior or ethically dubious practices. The way business and commerce are presented in the classroom will impact student development. Instances where commerce encourages virtuous behavior ought to receive attention in courses, too. In both scenarios believing others are altruistic compels the respondent to be more considerate of the needs of others.

Business education is found to increase honesty but not impact the propensity to take advantage of market power. In the spirit of transparency these are not the findings we expected when we began the study. Our study fits within the literature that business education does not promote unscrupulous behavior. This could be due to the changing nature of the standard business curriculum. Issues of corporate social responsibility, ethical scandals, etc. are becoming more and more standard educational fare.

Religiosity influences reported honest behavior but not pricing decisions. Again, this was not the result expected when the study began. From our results it would be reasonable to conclude that religiosity positively contributes to honesty in the marketplace but does not extend to pricing decisions, at least as framed in the survey's scenario. It is possible that individuals do not perceive pricing decisions as relevant to their religious life. The significance of the fairness dummy variable suggests this is indeed the case. Whether the individual believes the price increase is fair is an important factor in their decision.

This study contributes to a small but important literature which sheds light on the ways in which business education can promote ethical behavior. As this literature grows educators will

have more tools to integrate the ethical aspects of commerce into their courses. This project, which is as old as time, will hopefully continue as all of us strive to lead a more virtuous life.

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Appendix

Table A1: Attitudinal Variables Descriptive Statistics

	Mean	Median	Standard Deviation
Needs_Others	2.1	2	0.82
Charity	3.1	3	0.95
Max_Profit	2.3	2	0.99
Own_Needs	3.2	3	0.99
Comm	2.5	2	0.86
Motiv	3.2	3	1.12
Purp_Educ	2.1	2	0.89
Others	3.8	4	0.98

Note: Attitudinal questions are coded such that their range is =1 if "Strongly Agree" to = 5 if "Strongly Disagree." Brief descriptions of these variables are listed in Table 4.

Table A2: Duke Religion Index (DUREL) Descriptive Statistics

	Organizational Religiosity (OR)	Non-Organizational Religiosity (NOR)	Intrinsic Religiosity (IR)	DUREL
Mean	4.2	3.4	11.3	18.9
Median	5	4	12	20.5
Standard Deviation	1.5	1.7	3.5	6.0

Note: OR and NOR range from 1 to 6. IR includes three questions and ranges from 3 to 15. DUREL is the summation of individual's scores. Higher numbers indicate higher religiosity.

Table A3: Racial Composition

Group	Percent of Sample
African American	2.1%
Asian/Pacific	11.7%
Hispanic	16.4%
White	75.2%
Other/Mixed	6.0%
Refuse to Answer	2.4%

Table A4: Political Ideology

Group	Percent of Sample
Progressive/Very Liberal	2.6%
Liberal	8.7%
Moderate	19.4%
Conservative	37.7%
Very Conservative	5.9%
Libertarian	5.1%
Not Sure	15.6%
Refuse to Answer	5.0%