Willingness to Pay for Wind Generated Energy:
The Impact of Ethical Evaluation and Attitude

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ABSTRACT

This study analyzes consumers’ willingness to pay (WTP) for wind generated energy and examines how attitudes, deontological evaluation, and teleological evaluation affect WTP. Sparks and Pan (2009) suggest that future judgment research will benefit from integration between theories of ethical decision making and theories of social cognition. This paper utilizes Hunt and Vitell’s (1986) ethical decision making model, as well as Ajzen’s (1991) theory of planned behavior to develop a conceptual model that explains the proposed relationships. After surveying 268 individual respondents, our results suggest that attitude, deontological, and teleological evaluation positively impact WTP for wind generated energy. These results provide

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researchers and professionals (i.e., sustainable energy project developers) both theoretical and empirical support for the importance of attitude and ethical decision making on WTP for sustainable energy.

**Keywords:** attitude, deontological evaluation, teleological evaluation, willingness to pay, wind generated energy
1. Introduction

Between 1990 and 2000 wind energy grew at an average rate of 25% annually (Cherry, 2004), which far exceeded oil and natural gas (<2%) and coal (-1%). The use of wind energy is continually growing and is expected to continue the trend through 2015 in Europe, North America, Asia, Latin America, the Pacific, the Middle East and Africa (Ali, 2012). This trend projection is not surprising, given both US and international recent political objectives aimed at finding new, cleaner sources for energy to reduce the environmental impact of carbon emissions (Houston Chronicle, 2012).

Unlike coal and nuclear energy, wind energy is known as a renewable, clean and reliable source that does not contribute to global warming and acid rain. (Ali, 2012). Moreover, with better environmental protection a growing interest in wind energy is prevalent due to an increased perception that renewable energy has on human health and the positive impact it may have for future generations (Mateo, 2012, p.1). Despite environmental and health benefits, wind energy is also known as a method requiring higher initial investment than fossil fueled generators (Ali, 2012). While wind energy can provide a number of potential long-term benefits, the initial costs can make it hard for investors and consumers to wonder whether the use of wind energy over less environmentally friendly methods is beneficial.

Considering the various benefits and costs associated with wind generated energy, more economic research is focusing on the contingent valuation method (CVM) due to its ability to measure a variety of non-price impacts of specific projects (Spash et al., 2006). Yet current
research in wind generated energy fails to address what motivates individuals to invest or support projects. Individuals are willing to invest in environmental initiatives for a number of reasons not prevalent in current research. Ethical evaluation is a large component of human behavior that seems to be largely ignored. In addition, to understand what initiates individual intentions such as willingness to pay (WTP) requires insight into behavioral and psychological factors, including attitude toward a particular phenomenon (Spash et al., 2006). Ethical decision making and behavioral models can be integrated into CVM models in order to examine individual intentions to pay for sustainable energy (Spash et al., 2006). In order to fill the gap in current literature and offer important insights for environmental research, this paper seeks to introduce how ethical decision making and attitude impact WTP for wind energy.

In addition to the research implications that this paper offers, we also seek to provide practical implications for professionals. Renewable energy projects are typically funded through both equity provided by the developer and investors, as well as short- and long-term debt through lenders (Cook and Hall, 2012). Yet developers are increasingly facing difficulties funding wind energy projects, especially in the current economic environment (Cook and Hall, 2012). While a variety of new programs have been developed to encourage consumer interest, including the American Recovery and Reinvestment Act, Energy policy act of 2005 and tax incentives for investors, these often fall short in an unstable economic environment (Cook and Hall, 2012). Developers need a framework for analyzing behaviorally what makes consumers more willing to invest or pay for renewable energy projects such as wind energy (Cook and Hall, 2012). Greater comprehension of underlying reasons for investment in wind energy will enhance understanding of the individual and might prompt greater adoption of renewable energy.
In order to examine the relationships between ethical decision making, attitude toward wind generated energy and WTP, we have organized the paper as follows: first, we provide a literature review and theoretical foundation that underlie the relationships depicted in our hypotheses; next, we discuss the model as well as our hypotheses; then, we explain the overall findings in our survey results; finally, we provide a discussion of our findings, as well as future research directions.

2. Literature Review and Theoretical Foundations

The usefulness to environmental and human sustainability produced by wind generated energy over more traditional methods prompts the question of whether ethical decision making impacts consumer WTP for environmental projects. In order to further examine this question, we use Hunt’s and Vitell’s (1986) *The General Theory of Marketing Ethics*, which is widely examined in a variety of empirical studies (e.g. Singhapakdi et al., 2012; Zakaria and Lajis, 2012; Vitell, 2003). *The General Theory of Marketing Ethics* suggests ethical judgments result from deontological and teleological evaluations of decision alternatives, which provide the basis for behavioral intentions and eventually behaviors (Hunt and Vitell, 1993; 1986).

Deontological evaluation is an individual’s evaluation of the inherent rightness or wrongness of behaviors by comparing them to a set of predetermined personal values or rules (Hunt and Vitell, 1986). For deontologists the main goal is to determine the “best” rules to live by (Yücel et al., 2009). Also referred to as ethical evaluation (Bohm, 2003), it is an individual’s evaluation of what one ought or ought not to do in certain situations.
Teleological evaluation is based on assessing the rightness or wrongness of particular behaviors based on consequences (Yucel et al., 2009). According to Hunt and Vitell (1986), teleological evaluation contains four constructs: (1) Perceived consequences of each alternative for various stakeholder groups (2) probability that each consequence will occur for each stakeholder group, (3) desirability or undesirability of each consequence and (4) importance of each stakeholder group. While deontological evaluation focuses on personal values, teleological evaluation is based on perceived consequences of particular behaviors.

Although a new resurgence of ethical consideration in pro-environmental investments has emerged, past literature suggests ethical considerations have largely been neglected in risk perception research, particularly for environmental risk (Bohm, 2003; Sjoberg, 1995; Sjoberg and Winroth, 1986). To help fill the void in literature, we analyze the impact of both deontological and teleological evaluation on WTP for wind generated energy.

In addition to the *General Theory of Marketing Ethics*, we also use the *Theory of Planned Behavior* to analyze the impact of attitude on WTP for wind generated energy. Ajzen’s (1991) theory of planned behavior was originally derived from Fishbein and Ajzen’s (1975) theory of reasoned action. The theory of reasoned action suggests that an individual’s intention to perform a behavior is determined by an individual’s attitude toward the behavior and the subjective norm. The theory of reasoned action, unlike the theory of planned behavior, suggests that human behavior is under volitional control and is predicted from only intentions (Ajzen, 2002; Fishbein and Ajzen, 1975). In order to explain behavior that is not under volitional control Ajzen (1991; 1985) identified three conceptually dependent determinants of human intention that affect
behavior: (1) attitude toward behavior, (2) subjective norms and (3) perceived behavioral control (Liao et al., 2010).

Attitude refers to an evaluation of a specific behavior (Cordano et al., 2010). Attitudes tend to develop from beliefs that link the behavior to outcomes valued by the individual as either positive or negative (Ajzen, 1991). For example, if we learn that consequences related to a particular behavior are negative, we are likely to form a negative attitude toward that behavior (Ajzen, 1991). Further, positive learned consequences of a behavior lead us to form a positive attitude toward that behavior. The more favorable the attitude toward a behavior, the stronger is the intention to perform it.

Subjective norms are the perceived social pressure to engage in a behavior. This could be anything from consumer pressure to interest group or government pressure on organizations to protect the environment. Social pressures may also impact not only intention, but also an individual’s perceived moral duties and obligations. For example, an individual who belongs to an organization that supports environmental initiatives is likely to form moral duties and obligations that uphold these values in order to conform based on social norm theory (Stern, 1999).

Perceived behavioral control is the available resources and opportunities that underlie the perception of control, which an individual believes he/she possesses (Spash et al., 2006). That is, the more resources and opportunities individuals perceive they possess, and the fewer obstacles or impediments they anticipate, the greater their control over the behavior (Ajzen, 1991). The
stronger the perceived behavioral control, the stronger is the individual’s intention to perform that behavior (Ajzen, 1991). Therefore, if a person has a strong sense of good consequences of an action (i.e., through teleological evaluation) and he/she feels in control over the action, it is likely his/her intention to perform the action will increase.

While the general theory of marketing ethics and the theory of planned behavior support the connections associated with ethical evaluation and attitude toward actions, there needs to be a basis for which an action is measured in order to provide implications for academics. This is especially true for professionals in wind energy development.

CVM directly queries people through questionnaires about economic valuations they place on a change in the quantity or quality of a resource (Welle and Hodgson, 2011; Kotchen and Reiling, 2000). Common measures used in CVM include willingness to accept (WTA) and WTP (Halkos and Jones, 2012; Moreno-Sanchez et al., 2012). WTA refers to the degree to which an individual is willing to accept or tolerate something negative such as pollution (Schaeffer, 2008). WTP refers to the degree to which those adversely affected are willing to pay in order to avoid environmental loss (Schaeffer, 2008). While theoretically WTA should be equal to WTP (Carbone, 2012), it rarely is. This is often caused by discernment that individuals’ real losses are different from gains (Schaeffer, 2008; Kahneman and Sugden, 2005; McFadden, 1999). Usually WTP values are smaller than WTA, which leads to the recommendation that WTP should be used as the more conservative measure (Claesson, 2011). In addition, WTA is usually not constrained by a person’s wealth (Schaeffer, 2008), which can lead to idealistic and often unrealistic perceptions of an individual’s actual WTA measure. Since we surveyed students who
had either very high or very low incomes, we decided to use WTP as our primary measure in order to gain a more realistic conception of how attitudes and ethical evaluations impact an economic valuation devoid of any “idealistic” expectations that student samples are regarded to have. Thus, we used WTP as our primary measurement.

3. Hypotheses

3.1. Attitude and WTP

Consumer attitude is an important concept in product consumption, particularly in WTP for environmental products. For example, previous literature, including Sirgy and Lee (2008), suggest there are subjective and objective assessments in product consumption, taking into account the perspective of whether an item is safe to consumers, the general public or the environment. These subjective and objective assessments incorporated in attitude development ultimately lead to intention and behavior, as evidenced by the theory of planned behavior (Ajzen, 1991).

Further, attitudes have been empirically examined to significantly influence decision intentions (Tan and Yeap, 2012; Vermeir and Verbeke, 2007; Tarkiainen and Sundqvist, 2005; Flannery and May, 2000). Michalos et al. (2012) found that attitudes are more influential than knowledge in favorable behaviors concerning sustainable development. Cordano and Frieze (2000) found that attitudes toward environmental degradation significantly influence intention to implement source reduction activities (Cordano et al., 2010). Kotchen and Reiling (2000) also found a positive association between pro-environmental attitudes and mean WTP.
Despite the large amount of literature suggesting a positive association between attitude and WTP, attitudes are often derived from learned associations with past consequences (MacKenzie and Lutz, 1989). Further, this may negatively impact the relationship between attitudes and WTP for long-term benefit products such as wind turbines. An attitude derived from learned associations is a persuasive explanation for the varied empirical results of the relationship between attitude and WTP, as evidenced by studies like Pelsmacker et al. (2006). However, there are a variety of factors that impact attitude other than learned associations, for example, the perception of credibility of the problem at hand (MacKenzie and Lutz, 1989). Given wind energy prevalence in current political U.S. and International environments, consumers are consistently being advised and influenced about the harm of not investing and the benefits of advancing wind energy initiatives. This is contrary to studies like Pelsmacker et al. (2006), which although focused on the growing importance of the fair-trade trend in consumerism, was not as politically publicized as wind generated energy is now considering current U.S. and international political initiatives to invest in sustainable energy (Houston Chronicle, 2012). Further, the way WTP is measured is also a factor in measuring the relationship with attitude. We have followed guidelines provided by Kotchen and Reiling (2000) who suggest that the reasoning behind the conflicting empirical results is the way WTP is measured.

While it is not within the confines of this article to empirically examine the antecedents of attitude toward wind generated energy, we want to assess whether attitude toward a publicized topic such as wind generated energy impacts overall WTP in consumers.

Based on our previous research we formulate the following hypothesis:
Hypothesis 1. Attitudes toward wind generated energy are positively associated with WTP for wind generated energy.

3.2. Deontological Evaluation and WTP

Previous studies have assessed the impact of ethical evaluation on WTP (e.g., Menzel and Wiek, 2009; Spash, 2000). For example, studies like Spash and Hanley (1995) and Stevens et al. (1991) found CVM responses to wildlife and eco-systems are motivated by ethical beliefs. When an individual believes certain environmental aspects have an absolute right to be protected, then it is likely that individual will refuse money tradeoffs, which degrade the environment (Spash et al., 2006).

Aside from environmentally friendly actions, past research has also shown a connection between concern of ethical judgments and behavior, both directly and indirectly through attitudes (Pelsmacker and Janssens, 2007). For example, Mayo and Marks (1990) found ethical judgments to resolve dilemmas were determined by deontological evaluations. More specifically, Cherry et al. (2003) found culture plays a role in deontological evaluation and ethical judgment, particularly in bribery and likeliness to engage in this behavior.

Deontological evaluation is more than a concern; it represents the intention of the actor (Macdonald and Beck-Dudley, 1994) and whether the actor believes he/she has a moral duty or obligation toward the action. Furthermore, this belief in moral duty or obligation toward future generations or the aesthetic environment is likely to impact an individual’s intention and WTP for environmental initiatives such as the building of a wind powered generator. Yet very few studies have connected WTP for wind energy to deontological evaluations.
Considering the previous literature, we have derived the following hypothesis:

\textit{Hypothesis 2. Deontological evaluations are positively associated with WTP for wind generated energy.}

3.3. Teleological Evaluation and WTP

Like deontological evaluation, various studies have considered how teleological evaluation affects attitudes and behavior (i.e. Zakaria and Lajis, 2012). Individuals that perceive positive implications can arouse positive emotions that impact choices (Bray et al., 2011; Steenhaut and van Kenhove, 2006; Mayo and Marks, 1990). This may likely also impact their WTP for different types of initiatives. For example, Bang et al. (2000) found a positive relationship between beliefs about salient consequences and WTP for renewable energy. Furthermore, consumers’ positive attitudes toward paying more for renewable energy is strengthened by the knowledge of benefits, including perceived consequences (Bang et al., 2000).

This paper focuses on the perceived consequences of environmental impact caused by investments (or lack thereof) in environmental initiatives. Environmental risks like ozone depletion or climate change have far reaching and delayed consequences that affect various geographic areas and future generations. Often those who cause environmental damage or fail to confront the issue are not always those who are affected first-hand by the damage. These environmental risks are often regulated by ethical issues like social justice, fairness and equity. While individuals may not have primary experience with environmental degradation, ethical evaluation is likely to play a role in the decision to invest in environmental initiatives such as wind generated energy.
Thus, we propose the following hypothesis:

**Hypothesis 3.** Teleological evaluations are positively associated with WTP for wind generated energy.

### 4. Methodology

#### 4.1. Data

Information was gathered from a sample of 268 undergraduate business students attending a large southwestern University in the United States that was collected over a two month period. We asked students to provide certain demographic information, including gender, age, birth country and household income. These sample statistics are summarized in Table 1.

The majority of our subjects were male (67.2%), 21-30 years of age (57.1%) and had an income less than or equal to $15,000 per year (29.1%) and greater than $100,001 per year (24.6%).

While the student sample might be considered a limitation, other published studies in business ethics, including *Journal of Business Ethics*, have successfully utilized student samples to evaluate various issues (Valentine and Bateman, 2011; Elango et al., 2010; Nguyen and Biderman, 2008; Peterson et al., 2010; Power and Lundsten, 2005). The majority of students were older, between the ages of 21-30 years of age. This represents a slightly more mature sample than a typical sample of students below the age of 21. Furthermore, we also desired to gain a perspective from a sample that represented a selection of future decision makers in regard to wind generated energy, considering more Generation Y members are entering the workforce.
After the survey was approved by the school’s Institutional Review Board, we recruited students from a variety of introductory classes. The survey was distributed before class time to students who gave their consent prior to inclusion, having been told the study was completely voluntary.

4.2. Measures

4.2.1. Attitude

Attitudes toward wind generated energy were measured using a seven item scale adapted from Bang et al. (2000) and Spash et al. (2006). This particular scale is widely used and is consistent with content validity and reliability standards (Marcketti and Shelley, 2009). Each item was based on a 7 point Likert scale ranging from “strongly disagree” to “strongly agree”. Items included asking respondents whether they agreed or disagreed with statements such as “Wind turbines will increase noise levels in surrounding areas;” “Wind turbines will reduce property values in surrounding areas;” “Wind turbines reduce bird populations;” “Wind turbines improve air quality;” “Wind turbines improve health levels of humans;” “Wind turbines improve conditions for future generations;” “Wind turbines positively impact the eco-system.” Similar to Valentine and Bateman (2011), we chose items that measured attitudes that could be understood by a variety of different individuals. This increased the likelihood that the specific attitudes would resonate with students.

Even though this particular instrument was adapted from well cited previous research, a principal components factor analysis using varimax rotation was used to determine the measurement properties. The overall results suggest that three items loaded on a second factor and thus, were deleted from the analysis. The revised factor analytic model indicated that the remaining four
items captured attitude with factor loadings of 0.864, 0.774, 0.730, and 0.730, with an eigenvalue of 2.632 and over 66% of explained variance. The Cronbach’s alpha was 0.826.

4.2.2. Teleological and Deontological Evaluation
Both teleological and deontological evaluation are measured using a three point scale for each adapted from Bohm (2003). Each item was measured on a seven point Likert scale. Teleological responses ranged from “no threat” to “very intense threat” with three questions, including, “To what extent do the consequences of not using wind energy pose a threat to humans?”, “To what extent do the consequences of not using wind energy pose a threat to you personally?” and “To what extent do the consequences of not using wind energy pose a threat to nature?” The deontological evaluation included responses “not at all” to “very much”, “nothing” to “very much” and “strongly disagree” to “strongly agree” to three different questions, including: “To what extent is not using wind energy morally blameworthy?”, “How much, as a society, can we personally do about investing in wind energy?” and “Do we, as a society, have a moral duty to invest in wind energy?”

After conducting a factor analysis using varimax rotation, all items for teleological evaluation loaded on one factor. The factor loadings were 0.819, 0.667 and 0.739 for the teleological questions. With an eigenvalue of 2.224 the items accounted for 74% of explained variance. The Cronbach’s alpha was 0.822. The factor loadings for deontological evaluation were 0.629, 0.441 and 0.761 respectively for the three deontological questions. One low loading for a deontological item caused it to be deleted from the analysis. The revised factor analytic model captured factor loadings of 0.782 with an eigenvalue of 1.563 and the percentage of explained variance at 78%. The Cronbach’s alpha for deontological evaluation was 0.721.
4.2.3. WTP

WTP was measured using a two item scale adapted from Ewing and Kruse (2006) and Spash et al. (2006). Both items used a 7-point Likert scale that ranged from “not willing” to “very willing” and asked questions, including “How willing would you be to pay more for wind-powered energy?” and “How willing are you to pay more on your electric bill for the use of wind energy?”

After conducting a factor analysis using varimax rotation, all items loaded on one factor. Both factor loadings were 0.792 with an eigenvalue of 1.584 and a percentage of explained variance at 79%. The Cronbach’s alpha for WTP was 0.737.

4.3. Analysis

We used a pairwise deletion technique to account for any missing data. Further, we used both variable descriptive statistics to determine the strength of the variables and correlations to examine the relationships among these variables. Finally, a regression analysis was conducted to test the proposed relationships.

4.3.1. Descriptive Statistics and Correlations

Table 2 provides a summary of the descriptive statistics and correlations with each variable in our model. The mean values for WTP, DEO and TEL were moderate in nature reflecting an overall moderate value in WTP for wind generated energy, as well as for DEO and TEL evaluation of wind generated energy. The mean value for ATT was moderately high in nature reflecting an overall positive attitude toward wind generated energy.
Analysis of the correlation showed that WTP was positively related to ATT, DEO and TEL. Further analysis showed that ATT, DEO and TEL were all positively related to one another. All correlations were found to be significant at $\alpha = 0.05$ level. In order to ensure no problems with multi-collinearity, a review of the VIF and tolerance values was conducted. VIF values greater than ten and tolerance values lower than 0.2 indicate multi-collinearity (Myers, 1990). The highest VIF value in this study was 1.931, and the lowest tolerance value was 0.518 indicating that multi-collinearity was not an issue.

4.3.2. Results

The results of the regression analysis are depicted in Table 3. Hypothesis 1 introduces a positive association between attitude and WTP for wind generated energy. According to our results, attitude is a significant predictor of WTP for wind generated energy at $\alpha = 0.01$ ($\beta=0.191$, t-value=3.176). These results confirm that a positive attitude toward wind generated energy is associated with higher WTP for wind generated energy.

We also examined the relationship between ethical evaluation and WTP for wind generated energy. Hypothesis 2 addresses the positive association between deontological evaluation and WTP for wind generated energy. We found that deontological evaluation is a significant predictor of WTP for wind generated energy at $\alpha = 0.05$ ($\beta=0.161$, t-value=3.176). Based on these results, we can confirm that higher levels of deontological evaluation are associated with greater WTP for wind generated energy.

Finally, we examined the relationship between teleological evaluation and WTP for wind generated energy in hypothesis 3. Teleological evaluation, like deontological evaluation, was
found to be a significant predictor of WTP for wind generated energy at \( \alpha=0.01 \) (\( \beta=0.323 \), t-value=4.478). The results of our analysis of hypothesis 3 thereby assert that higher levels of teleological evaluation are associated with greater WTP for wind generated energy.

5. Discussion

This study extends previous research on motivation toward sustainability, particularly using economic valuations such as CVM by examining the underlying influence of attitude and ethical evaluation of WTP for wind generated energy.

5.1. Theoretical and Managerial Contributions

Our findings support the propositions of both the theory of planned behavior and the general theory of marketing ethics, since attitude, deontological and teleological evaluation all positively impact WTP for wind generated energy.

Overall the findings of this study provided two important yet surprising results: (1) attitude’s association with WTP and (2) ability to pay or level of income of survey subjects’ association with higher WTP for wind generated energy. Attitude often results from learned associations with previous consequences to actions (MacKenzie and Lutz, 1989). Since investment in wind generated energy does not have immediate consequences for individual participants, it may be surprising that attitude has a stronger association with WTP over deontological evaluation, which is focused on a person’s moral duties. Further, we surveyed students who had either very high or the majority having very low incomes thus, focusing on the ability to pay for wind generated energy. Although ability to pay is fundamentally important for assessing purchase behaviors, (Öberseder and Schlegelmilch, 2011), the WTP was moderate in value.
Perhaps the reasoning behind these findings lies in potential moderating variables that may have come into play. For example, peer pressure and care for future generations may play an important role in the relationship. Additionally, a long-term orientated individual, who perceives greater value in long-term as opposed to short-term benefits, may also impact this relationship. While it was not within the confines of this article to analyze this further, additional work should create a model that depicts how these variables might impact this relationship.

Moreover, our finding that teleological evaluation has a stronger relationship with WTP than deontological evaluation has interesting implications for both researchers and developers. Based on this finding, we conclude a person’s perception of positive consequences of a particular behavior has a stronger impact on WTP for wind generated energy than a person’s belief in a moral duty toward investing in wind generated energy. Furthermore, wind generated energy developers should focus on explaining the potential positive consequences of paying for wind turbines to potential investors in order to improve WTP for the project.

6. Limitations and Further Directions of Future Research

While the model provides useful implications to both researchers and developers in the wind generated energy domain, like all studies there are a few limitations that must be addressed.

First, our study consisted of a sample of undergraduate business students. Given this sample, other moderating variables may have impacted the relationships between attitude, deontological and teleological evaluation and WTP for wind generated energy. While this sample provided us with a unique look into younger generations’ impact of teleological and deontological evaluation
on WTP, future research may benefit from surveying older subjects. Future research should extend this work to a broader variety of individuals.

This study also focuses specifically on wind generated energy. Although wind generated energy attitudes and WTP have a broad variety of implications for energy companies, various other topics outside of environmental sustainability can be considered. While this paper’s focus on wind generated energy and the impact that deontological, teleological and attitudes have on WTP gives a background on how this model can be incorporated, it limits the ability to generalize the research findings. Thus, future research should attempt to examine this model using different scenarios.

Using this model as a preliminary basis for future research ties behavioral and economic research together and systematizes the way we view individuals’ decisions regarding WTP. In essence we have incorporated theories of ethical decision making and social cognition in order to provide a framework that depicts how WTP is impacted in an ethical and a behavioral sense. We hope this can be the basis for future research that will impact both arenas

### Appendix

<table>
<thead>
<tr>
<th>Table 1. Demographic descriptive statistics</th>
<th></th>
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<tbody>
<tr>
<td>Demographic</td>
<td>Percentage</td>
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<tr>
<td>Gender</td>
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<tr>
<td>Male</td>
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<td>Female</td>
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<tr>
<td>Age</td>
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<td>31-40 years old</td>
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<td>51-60 years old</td>
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Birth country

<table>
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<th>Country</th>
<th>Percentage</th>
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<tbody>
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<td>Africa</td>
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<td>Philippines</td>
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<td>United States</td>
<td>93.3</td>
</tr>
<tr>
<td>Central or South America</td>
<td>2.6</td>
</tr>
<tr>
<td>South Asia (India, Malaysia, Indonesia)</td>
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Household yearly income

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<th>Income Range</th>
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</tr>
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<td>Less than or equal to $15,000</td>
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<tr>
<td>$15,001-$20,000</td>
<td>7.1</td>
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<tr>
<td>Greater than $100,000</td>
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Table 2.
Descriptive statistics and correlations

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<th>Variable</th>
<th>M</th>
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<th>WTP</th>
<th>ATT</th>
<th>DEO</th>
<th>TEL</th>
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<tr>
<td>WTP</td>
<td>3.22</td>
<td>1.49</td>
<td>268</td>
<td>1</td>
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<tr>
<td>ATT</td>
<td>4.77</td>
<td>1.19</td>
<td>268</td>
<td>0.447**</td>
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<tr>
<td>DEO</td>
<td>3.90</td>
<td>1.45</td>
<td>268</td>
<td>0.469**</td>
<td>0.475**</td>
<td>1</td>
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<tr>
<td>TEL</td>
<td>3.86</td>
<td>1.35</td>
<td>268</td>
<td>0.533**</td>
<td>0.545**</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level

Table 3.
Hypotheses results

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>β</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1. ATT→WTP</td>
<td>0.191**</td>
<td>3.176</td>
</tr>
<tr>
<td>H2. DEO→WTP</td>
<td>0.161*</td>
<td>2.321</td>
</tr>
<tr>
<td>H3. TEL→WTP</td>
<td>0.323**</td>
<td>4.478</td>
</tr>
</tbody>
</table>

** Significant at the 0.01 level
* Significant at the 0.05 level

7. Bibliography


Cherry, T.L. (2004). The Net Benefits of Utility-Scale Wind Generated Electricity in Western North Carolina. Department of Economics Appalachian Energy Centre, Appalachian Regional Development Institute, Appalachian State University, NC.


Our responsibility is to provide strong academic programs that instill excellence, confidence and strong leadership skills in our graduates. Our aim is to (1) promote critical and independent thinking, (2) foster personal responsibility and (3) develop students whose performance and commitment mark them as leaders contributing to the business community and society. The College will serve as a center for business scholarship, creative research and outreach activities to the citizens and institutions of the State of Rhode Island as well as the regional, national and international communities.

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