

BOBCATS GO GREEN: ANALYZING AND INCREASING
RECYCLING BEHAVIOR AT A COLLEGE
FOOTBALL STADIUM

by

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CHAPTER I

Bobcats Go Green Campaign

Introduction

The number of green initiatives that are implemented in college sports venues across the United States has steadily increased in the past few years. In these green sports venues, attendees will find recycling and composting programs. Some universities have taken an additional step by working with vendors to sell only recyclable and compostable concession stand items. Venues are now adopting green initiatives such as: the addition of energy efficient lighting, green building designs and renovations, green cleaning supplies, and the provision of more bike accommodations and other fuel efficient transportation methods on game days (University of Arizona Office of Sustainability, 2013). Environmentally conscious students and their universities are now committing to sustainability initiatives. This new shift in thinking has set new standards for college sports venues all over the United States (Henly, 2013). Universities are able to engage and interact with their students and sports fans using green initiatives to promote sustainable stewardship (Henly, 2013). Universities have seen the benefits from these initiatives when university brands are enhanced, and utilities, as well as, wastes costs go down as a result of energy efficient technologies and higher waste diversion rates (Henly, 2013). College students now expect these green initiatives when sustainability and campus-wide environmental goals are highlighted (Henly, 2013). These changes to college sports venues give universities an opportunity to educate students and instill environmentally conscious behavior through a different outlet. One of these outlets is college football, which is one of the most watched sports in the United States. College

football games attract large crowds and so large stadiums are built for National Collegiate Athletic Association (NCAA) football teams across the nation. Thus, it is vital that green initiatives are implemented in these stadiums in order to mitigate the environmental impact of these major athletic events that attract up to 100,000 people per game. This study will detail the process of implementing a recycling program in Texas State University's Bobcat Stadium. It will also summarize the benefits that universities, students, and the environment will receive from implementing such a program. Overall, this study seeks to identify students' expectations about sustainability in general, as well as, campus-wide environmental initiatives. A survey was conducted among Texas State University students to identify social norm variables and personal norms that motivate students to participate in pro-environmental behavior like recycling. A social media campaign was also used as a moderator to increase pro-environmental behavior. The recycling campaign was given the tagline Bobcats Go Green.

Origins of the Campaign

On September 8, 2012, Texas State University hosted a football game against Texas Tech in Bobcat Stadium. The teams competed against each other in front of a record setting crowd of 33,006 people. That night, over 8,000 plastic bottle beverages were sold as well as over 6,000 disposable cups that could not be recycled or composted after use. At the time, there was not a recycling program in Bobcat Stadium. Thus, many of the plastic bottles from that game were thrown away instead of recycled. In 2009, renovations to the stadium were made and additional seating was added. The renovations included 15 luxury suites and a 450-seat club seating area. However, there were no attempts to add a recycling program into the stadium even though some of the top

Division I football programs in the United States have recycling and composting programs in their stadiums. The Texas State Common Experience Theme for the 2010-2011 school year was, “Sustainability: Science, Policy, and Opportunity”. This is a clear disconnect between the Athletics Department and the University goals.

In February 2013, Duy Le, a graduate student in the Sustainability Studies program submitted a proposal to implement a recycling and composting “zero-waste” program in Bobcat Stadium. In May 2013, his proposal was accepted by the President’s Cabinet on the condition that only recycling would be implemented. This campaign would be a student run pilot program and would be coordinated by Le. While interning for American Rivers from June-August 2013, Le worked on organizing the logistics over the phone, e-mails, and the internet. The first home game of the 2013 Texas State Bobcats season, September 7th, was also the date of the first Texas State home game to have recycling inside of Bobcat Stadium.

Introduction to the Campaign

Texas State Bobcats Football brings the local community together. Thus, a recycling program at Bobcat Stadium will further connect the community by combining football with a green initiative that will benefit the San Marcos community, the student body, and the environment. The Bobcats Go Green campaign has supported Texas State’s goal of progressing towards a more environmentally friendly campus. Texas State seeks to reduce material consumption, increase recycling efforts, reduce energy use, and encourage environmentally responsible behavior. In 2012: 116.35 tons of mixed paper, 52.99 tons of OCC (cardboard), and 12.85 tons of single stream material (glass, plastics,

paper) were recycled on campus (Texas State University, 2013). The addition of the recycling program to Bobcat Stadium has been a positive reinforcement of Texas State's commitment to the environment and sustainability. It has increased the exposure of Texas State's recycling efforts to football game attendees and competitors.

Goals of the Campaign

An important part of being an environmentally responsible institution is the commitment to the waste hierarchy: "Reduce, Reuse, and Recycle" (Environmental Protection Agency, 2010). College football already brings local communities like San Marcos together. Therefore, implementing a recycling program into Bobcat Stadium combines football with a green initiative that will benefit the local community and the environment. The following are the goals of the Bobcats Go Green campaign:

- Encourage attendees of football games to minimize waste in the Stadium and in their daily lives by "Reducing, Reusing, and Recycling"
- Educate attendees about the positive impact that people can have on the environment when they are aware about their consumption and proper disposal of their purchases
- Reduce the environmental impact of Texas State University football games
- Cut down costs associated with landfill waste by recycling and/or composting most of what is purchased from concessions at each football game
- Increase participation and awareness of waste reduction programs like recycling and composting

- Give students and student organizations a chance to volunteer, as well as, gain experience working on green initiatives
- Help advance the University's commitment to sustainability and the environment

CHAPTER II

Literature Review

This study uses the Value-Belief-Norm (VBN) Theory as a theoretical basis for increasing self-reported recycling behavior (Stern et al., 1999). Additionally, an extension of Stern's (2000) Theory of Environmentally Significant Behavior is proposed by including social media participation as a form of environmental activism under Stern's (2000) comprehensive table of environmentally significant behaviors (p. 421). This study will also seek to extend the Theory of Environmentally Significant Behavior by exploring behaviors and theories involving environmentalism among college students. Social media effects are used as a moderator to the model that assumes social norms and personal norms have influence on self-reported recycling behavior. Theories on pro-environmental behavior such as recycling will be examined. There will be a specific focus on the growing "green" movement in university sports facilities. Additionally, internet activism and marketing, as well as, current theories on social media activism and marketing will be further explored. Currently, there are studies that show the effects that social media platforms (e.g., Facebook, Twitter, Instagram) have on pro-environmental intentions and behaviors.

Theories Regarding Pro-environmental Behavior

Vining & Ebreo (1992) summarizes the Schwartz (1977) norm-activation theory by stating that the, "Schwartz model predicts that Awareness of Consequences and Ascription of Responsibility serve as moderators of the relationship between Personal Norms and altruistic behaviors (in this case, recycling is the altruistic behavior). The

model also supposes that Social Norms indirectly affect behavior through their effects on Personal Norms” (p. 1601). Thus, the Schwartz norm-activation theory assumes that social norms have no direct link to behavior and that the norms depend on personal norms to change behavior. Studies regarding the norm-activation theory have found this notion to hold true (Hopper & Nielson 1991; Thøgersen, 1996). However, some studies have found that social norms can also have a direct effect on behavior (Vining & Ebreo, 1992).

Social norms in an individual’s social surroundings can conflict with that individual’s personal beliefs. Moreover, these personal beliefs, the Awareness of Consequences (AC) and Ascription of Responsibility (AR), can effectively influence behavioral change (Bratt, 1999; Ajzen & Fishbein, 1980; Newhouse, 1990). AC can be defined as a “tendency to become aware of the consequences of one’s behavior for others” (Schwartz, 1977, p.229). Turaga et al. (2010) summarized Schwartz’s (1977) proposed preconditions for the activation of one’s personal norms: “1) the individual must be aware that her action has consequences for the welfare of others (AC), and 2) the individual must feel a personal responsibility to undertake that action (AR)” (p. 212). Schwartz (1977) listed activation step, obligation, defense, and response (in that order) as the steps involved in an individual’s moral decision-making process. The activation step represents an urge to satisfy a need through the appropriate actions. After those actions are taken, an individual knows he or she has the ability to address similar needs, thus, that individual feels a sense of moral obligation or personal responsibility to take action in the future. Moreover, the defense step refers to an individual weighing the cost and benefits before a response or action. Studies have found that campaigns should focusing more on

social norms and personal beliefs rather than direct environmental protection if they want to promote pro-environmental behavior effectively (Staats et al., 1996). Moreover, Bratt (1999) found that “assumed consequences of behavior appeared to have no impact on the link between the personal norm and recycling behavior” (p. 650). This may partly be because science has not provided “unambiguous answers in regard to the effects of collective behavior” (Bratt, 1999, p. 634).

Stern, Dietz, & Kalof (1993) expanded on the norm-activation theory by proposing that “social-altruistic” value orientations, “egoistic” value orientations, “biospheric” value orientations could be activated as personal norms in the norm-activation theory. Stern et al. (1999) further expanded this notion with the Value-Belief-Norm (VBN) Theory. The VBN Theory states that egoistic and biospheric value orientations should accompany altruistic personal norms as the driving forces that activate AC, which then activates AR (Stern et al., 1999). The VBN Theory also proposes that AC and AR are influenced by human-environment interactions (Stern et al., 1999). Stern et al. (1999) states that the causal chain of the VBN Theory, “moves from relatively stable, central elements of personality and belief structure to more focused beliefs about human environment relation, the threats they pose to valued objects, and the responsibility for action, finally activating a sense of moral obligation that creates a predisposition to act” (p. 85). Empirical studies have shown that biospheric and altruistic values have a positive association with pro-environmental behavior while egoistic values have an opposite effect (Stern et al., 1995; Karp, 1996; Stern, Dietz, & Guagnano, 1998; Nordlund & Garvill, 2002, Schultz & Zelezny, 1999). The New Environmental Paradigm (NEP) scale provides a structure for the study of human-environment interactions within

the VBN Theory (Dunlap & Van Liere, 1978; Stern et al., 1999). The NEP scale expanded from a 12-item scale to a 15-item scale that measured an “ecological” worldview (Dunlap & Van Liere, 1978; Dunlap et al., 2000). The NEP scale can effectively predict pro-environmental behavior (Stern, Dietz, & Guagnano, 1995; Poortinga, Steg, & Vlek, 2004). However, some studies found that NEP is not effective in influencing factors within the VBN Theory (Kaiser, Hubner, & Bogner, 2005). Stern (1999) summarizes the VBN Theory further when he states that, “the theory holds that such support depends on an individual’s acceptance of key values shared by the movement (for environmentalism, valuing the welfare of other people, other species, and the biosphere), on their holding beliefs that particular conditions of environmental degradation threaten these values, and on their holding the further belief that something they can do would directly or indirectly help ameliorate these conditions and preserve the values” (P. 462-463).

Defining Pro-environmental behavior (PEB)

Stern (1997, 2000) defines environmentally significant behavior by its impact and states that it is, “the extent to which it changes the availability of materials or energy from the environment or alters the structure and dynamics of ecosystems or the biosphere itself” (p. 408). Pro-environmental behavior (PEB) is interchangeable with environmental significant behavior, conservation behavior, environmentally friendly behavior, environmentally sustainable behaviors, and responsible environmental behaviors (Osbaldeston & Schott, 2012, p. 258). Indirect and direct impact on the environment is dependent on environmentally significant behavior (Rosa & Diets, 1998; Stern, Young, & Druckman, 1991). Human activities have significantly impacted the environment both

indirectly and directly (Stern, 2000). The extraction and use of resources, urbanization, land development, technological advances, transportation, manufacturing, agriculture, deforestation, and energy production are among the numerous human activities that impact the environment. Rates of human consumption grew steadily over the nineteenth and twentieth century, but starting the last half of the twentieth century, technological advances and a boom in population increased the rate of environmental impact due to the increased demand for natural resources and land development (Hays, 2000, p. 12).

Human consumption patterns can be split into three distinct stages: 1) “necessities” to 2) “conveniences”, and then to 3) “amenities” (Hays, 2000, p.12). With “basic necessities” (e.g., food and clothing) turning into “conveniences” (e.g., fast food) and “amenities” (e.g., clothing stores at shopping malls), mindsets and consumption patterns shifted away from the steady growth patterns seen in the nineteenth and twentieth century (Hays, 2000, p. 12-13). Marketing strategies that targeted human desires are considered major factors of the shift in human consumption patterns (Hays, 2000, p. 13). Stern (2000) reinforces this notion when he stated that, “environmental impact has largely been a by-product of human desires for physical comfort, mobility, relief from labor, enjoyment, power, status, personal security, maintenance of tradition and family, and so forth, and of the organizations and technologies humanity has created to meet these desires” (p.408).

Despite the rapid increase in human consumption, there is a growing movement that supports consumption patterns that have environmental protection as a driving factor for decision making (Osbaldiston & Schott, 2012). Environmentally significant behavior can take on a second meaning in this growing movement as an intent-oriented definition that is used to describe alterations or benefits to the environment (Stern, 2000). Although

environmental intent and environmental impact are closely related to each other, environmental intent does not always result in environmental impact (Stern 2000). The intent-oriented definition and the impact-oriented definition can both be used to identify and/or change behaviors that are considered environmentally significant (Stern & Gardner, 1981). In terms of environmentally significant behavior, there are many distinct forms according to Stern (2000). Moreover, “combinations of causal factors” differentiate each of the distinct forms from the other (Stern, 2000).

Social Media Participation as a Form of Environmental Activism

Stern (2000) lists “environmental activism” as a type of environmentally significant behavior. Environmental activism is a catalyst for social movements. Participation in environmental initiatives and the support of environmental organizations are examples of environmental activism.

Activists and environmental organizations are now using social media as a tool to generate public support for environmental initiatives. They also use social media to inform the public about issues regarding the environment. Stern (2000) lists, “Behavior-specific norms and beliefs” as an “Attitudinal Causal Variable” that influences “Environmental Activism” (p. 421). This study will explore the feasibility of Social Media Participation as a form of environmental activism. Moreover, this study will use social media participation as a moderator to social norms and personal norms that influence self-reported recycling behavior.

Recycling: Non-activist Behaviors and Public Policy

As opposed to environmental activism, some behaviors affect the environment indirectly. One does not have to be an activist in order to make a positive impact on the environment. Stern (2000) explains this further when he distinguished “environmental activism” and “non-activists’ environmental support/acceptance of public policies” from each other (p. 409). Stern and his colleagues found that the support/acceptance of environmental policies is an important class of behavior that can have significant, indirect positive effects on the environment, because behaviors can be changed at a mainstream level through public policy (Zald, 1992; Dietz, Stern, & Guagnano, 1998; Stern et al., 1999). Public policies regarding recycling can influence and change the way people view waste in terms of proper disposal of various products at the end of each product’s lifecycle. Recycling is an environmental behavior that can be influenced by public policies. By implementing policies that increase or introduce access to recycling opportunities in a given area, pro-environmental behavior can be fostered. Moreover, the desired environmentally significant behavior can be influenced by “attitudinal causal variables (e.g., social norms)” that will instill pro-environmental behavior (Stern, 2000).

Environmentally Significant Behavior in the Private-Sphere

In terms of the private-sphere, the consumption of personal and household products has a significant impact on the environment (Stern, 2000). Stern (2000) divides each of these behaviors based on the decision types: 1) “the purchase, use, and disposal of personal and household goods and services that are environmentally significant in their impact”, 2) “the use and maintenance of environmentally important goods”, and 3)

“household waste disposal, and green consumerism” (p. 409-410). These decisions, made by individuals, have a direct impact on the environment. As individuals, the environmental impact of a certain behavior is miniscule. However, if people make similar decisions on an individual basis, there will be a significant environmental impact (Stern, 2000). Similar decisions made by these individuals can influence organizations and institutions to consider their own environmental impact (Stern, 2000). For instance, companies may seek to produce more environmentally friendly products if there is a consumer demand for it. This is a powerful notion because decisions made by organizations (e.g., companies and industries) can have a direct effect on the environment.

Environmentalism and the Drivers of Environmentally Significant Behavior

Environmentalism is the idea that decisions should be made with the health of the environment in mind. Stern (2000) states that, “environmentalism may be defined behaviorally as the propensity to take actions with pro-environmental intent” (p. 411). A wide array of factors can influence environmentalism like, “emotional affinity toward nature” (Kals, Schumacher, & Montada, 1999) and/or loyalty to an organization or institution. Environmentalism fosters environmental concern and behavior. Studies have shown that “environmental concern and behavior” are linked with values (Schwartz, 1994; Stern, 2000). “Self-transcendent or altruistic values” are more prevalent among those who participate in pro-environmental behavior (Dietz, Stern, & Guagnano, 1998; Karp, 1996; Stern & Dietz, 1994; Stern et al., 1995). Furthermore, altruistic values instill behaviors that relate to environmentalism. Schwartz’s (1973, 1977) “moral norm-activation theory of altruism” builds itself up on the theory that altruistic behavior

activates when someone perceives a threat to something the person cares about (“awareness of adverse consequences (AC)”), and so the person feels a sense of responsibility to protect what he or she cares about (“ascription of responsibility to self (AR)”). Stern’s (2000) “value-belief-norm (VBN) theory of environmentalism” further explains how “environmental concern and behavior” links with values. Stern (2000) states that the VBN theory, “links value theory, norm-activation theory, and the New Environmental Paradigm (NEP) perspective through a causal chain of five variables leading to behavior: personal values, NEP, AC and AR beliefs about general conditions in the biophysical environment, and personal norms for pro-environmental action” (p. 412).

According to Stern (2000), pro-environmental personal norms are activated by values and beliefs. The belief that there is a threat to something the individual values (AC), as well as, the perceived ability to reduce that threat (AR) creates a sense of obligation in the individual to take pro-environmental actions. This notion is the fundamental hypothesis of Stern’s (2000) VBN theory of environmentalism, which also shows how pro-environmental behavior is affected by “social-psychological factors and behavior-specific personal norms”. AC and AR are activated by an “ecological worldview” (NEP) which is determined by an individual’s values whether “biospheric”, “altruistic”, or “egoistic” (Stern, Dietz, & Guagnano, 1995). Biospheric values root from a concern for ecosystems, other species, and the general health of the environment. Altruistic values come from a concern for the general welfare of others, and egoistic values are the opposite of altruistic in that an egoistic person only cares about one’s own interests and well-being. Pro-environmental personal norms are mostly activated by

altruistic values according to empirical data (Karp, 1996; Stern et al., 1995; Stern et al., 1999).

The VBN Theory has proven to be a strong predictor of behavioral indicators that lead to pro-environmental behavior. In the VBN theory, beliefs such as AC and AR, act as a mediator between values and environmentalism (Stern, 2000). Environmentalism involves factors like “pro-environmental personal norms” and the “sense of obligation to take pro-environmental actions”. New scientific theories and discoveries, news coverage, and politics activate the variables (AC and AR) that lead to environmentalism (Stern, 2000). News coverage and media, such as marketing and advertising, use similar models to persuade or dissuade the public from particular behaviors through the manipulation of environmental personal norms (Stern, Dietz, Kalof, & Guagnano, 1995). This notion reinforces the idea that environmental concerns and issues are socially constructed (Dietz, Stern, & Rycroft, 1989). In the 1970s, a decade dubbed by *Time* magazine as the “Environmental Decade”, numerous environmental legislation and policies were implemented because of the social structure of the United States during that period of time (Collins, 2010).

Stern et al. (1999) used the VBN theory to identify strong predictors of particular behaviors. They found that there was a higher explained variance in the following pro-environmental behaviors: “private-sphere behavior”, “policy support”, and “environmental citizenship” than the other three variables in the study which were “beliefs about the sacredness of nature”, “postmaterialist values”, and “four cultural biases” (Stern et al., 1999). VBN theory had an explained variance of .194 for private-sphere behavior, .346 for policy support, and .302 for environmental citizenship. The

other three variables had an explain variance of .094 for private-sphere behavior, .199 for policy support, and .187 for environmental citizenship. Activism remains difficult to predict. Studies show that there are other factors in addition to “environmentalist predisposition” that serve as “indicators of activism” (Stern et al., 1999). Based on the VBN theory, individuals’ general dispositions to environmentally significant pro-environmental behavior are driven by personal moral norms (Stern et al. 1999). Stern et al. (1999) found in their study that personal moral norms (values, AC beliefs, and NEP) accounted for 56% of the variance.

In order to understand how to change environmentally significant behavior, many factors must be considered (Stern, 2000). Moreover, Stern (2000) states that there is a distinct difference between “environmental intent” and “environmental impact”. Stern (2000) states that “many environmentally significant behaviors are matters of personal habit or household routine” (e.g., recycling and composting), and that many of these habits and/or routines are hardly ever considered as factors at all (p. 415). “Income or infrastructure constraints” (e.g., gas efficient vehicles and public transportation) are also seen as limiting factors (Stern, 2000). Additionally, Stern (2000) explains that “non-environmental concerns” (e.g., income, social status) may also influence environmentally significant behavior. Pro-environmental action does not always come from “environmental concern” (Gardner & Stern, 1996; Kempton, 1993; Stern, 2000). A theory that helps explain this notion further is the ABC Theory. The ABC Theory explains how environmental behavior is a “function of the organism and its environment” (Stern, 2000) (p. 415). Stern (2000) referenced Guagnano et al. (1995) when he stated that, “behavior (B) is an interactive product of personal-sphere attitudinal variables (A)

and contextual factors (C)” (Stern, 2000, p. 415). Stern (2000) explains this further when he stated, “This ABC Theory formulation implies that for personal behaviors that are not strongly favored by context, the more difficult, time-consuming, or expensive the behavior, the weaker its dependence on attitudinal factors” (p. 416).

Causal Variables of Environmentally Significant Behavior

Stern (2000) effectively organizes the “personal-contextual” and “organism-environment distinctions” into four major types of “causal variables” (p. 416). The first is *Attitudinal Factors* which consists of beliefs, values, and norms. Environmentally significant behavior can be influenced by these attitudinal factors that act as a catalyst to the “predisposition to act with pro-environmental intent” (Stern, 2000, p. 416). Some attitudinal variables activate specific environmental behaviors like “behavior-specific predispositions and beliefs” (Stern, 2000). Katzev and Johnson (1987) demonstrated in their research that “personal commitment”, as well as, “the perceived costs and benefits of particular actions” affect pro-environmental behavior. Attitudinal causal variables relate to Social Cognitive Theory, which suggests that people must believe the benefits of a particular action will outweigh the cost of the alternative, and must also perceive a level of success in doing so in order to change or adopt that behavior (Bandura, 1977). The second type of causal variable that Stern (2000) mentions is *Contextual Forces*, which are external forces that include: “interpersonal influence; community expectations; marketing and advertising; regulations; legal and institutional factors; monetary incentives and costs; physical barriers; capabilities and constraints provided by technology and infrastructure; public policy; and various features of the broad social, economic, and political context” (p.417). Stern (1999) states that capabilities and constraints commonly

influence engagement in environmentally significant behavior and that constraints (or the absence of) act as barriers or catalysts to behavior. Studies have shown that contextual variables influence the “predictive value of attitudinal variables” for environmentally significant consumer behavior (Stern, 1999, p. 464; Black et al., 1985; Derksen & Gartrell, 1994; Guagnano et al., 1995). Moreover, contextual domain also influences the effects that the personal domain has on behavior with external factors (Stern, 1999). Generally, the weaker a contextual variable is, the more influence a personal variable will have on behavior (Stern, 1999). Thus, another type of causal variable is *Personal Capabilities*, which include: “the skills and knowledge required for particular actions, availability of time, and general capabilities and resources” (e.g. access to information, money, social status, and power) (Stern, 2000, p. 417). Stern (1999) states that an individual’s “personal domain” is focused around the attitudes, values, and beliefs that influence the person’s environmentally significant behavior and capabilities to make an impact. Thus, one target consumer might react differently to an intervention strategy than another consumer because of differences in attitudes, values, and beliefs (Stern, 1999). Some “capabilities” are affected by “socio-demographic variables like age, race, and income” (Stern et al., 1999). Moreover, research has found that “socio-demographic variables were unrelated to consumer behavior and policy support when social-psychological variables were held constant” (Stern et al., 1999; Stern, 2000, p. 417). Stern (2000) stated that “environmental citizenship was found to be positively associated with income and with White race” (p. 417). Additionally, Stern et al. (1999) found that the efficacy of “environmental citizenship” is dependent on social and economic resources. The last type of causal variable is *habit or routine*, which is a key factor in

environmentally significant behavior (e.g., recycling and composting) (Stern, 2000). A desired behavior can be achieved once an old habit is changed out for a new habit (Dahlstrand and Biel (1997). Sometimes, the desired behavior must be “incentivized” in order to be implemented (Stern, 1999). In terms of behavior, habits can be environmentally significant and can leave a major impact on the environment. Whether it is a pro-environmental or anti-environmental impact, the behavior could be unintentional or intentional (sometimes unwarranted). Pro-environmental habits are crucial to mitigating environmental degradation. Instilling these pro-environmental habits, however, may depend on various factors, such as the ones attached to the *Attitudinal, Contextual Forces, Personal Capabilities, and Habit or Routine* causal variables. Ultimately, all of the causal variables must be considered in order to fully understand how to change an environmentally significant behavior (Stern, 2000). Moreover, studies have shown that environmentally significant consumer behavior can be vastly situational (Stern, 1999; Gardner & Stern, 1996).

Increasing Self-reported Recycling Behavior and Participation

Osbaldiston & Schott (2012) found that increasing recycling opportunities and incentivizing behavior are the most effective intervention treatments for curbside recycling. Moreover, central recycling needed instructions and rewards for intervention treatments in order to be effective. In terms of public recycling, Osbaldiston & Schott (2012) found that increasing recycling opportunities and communicating justifications for recycling were the most effective intervention treatments, but the utilization of treatments that create cognitive dissonance was third in effectiveness. The same was true with curbside recycling in terms of creating cognitive dissonance to increase self-reported

recycling behavior. Studies have shown that increasing recycling opportunities and/or strategically placing receptacles in a more convenient location for the consumer will increase recycling behavior (Osbaldiston & Schott, 2012; Porter, Leeming, & Dwyer, 1995; Schultz, Oskamp, & Mainieri, 1995). However, it is also essential to change “consumer behavior” in order to lessen the impact consumption has on the environment (Stern, 1999). Studies have shown that levels of environmental awareness do not necessarily predict recycling behavior (Vining & Ebreo, 1990; Do Valle et al., 2004). Nonetheless, education about the environment has proven itself to be one of the most effective ways to motivate pro-environmental behavior (Vining & Ebreo, 1989). In order to increase recycling behavior, one should examine the theories and methods used to change consumer behavior. Gardner and Stern (1996) examined four types of intervention: “religious and moral approaches”, “education”, “efforts to change the material incentive”, and “community management”. Stern (2000) believes that combinations of these types are the most effective programs for behavior change. Interventions are, for the most part, held back until “barriers to change” are removed (Stern, 2000). Stern (1999) states that “consumer sovereignty” has been restricted by markets that are available to environmentally conscious consumers. Stern (1999) mentions several intervention strategies and policies for changing environmentally significant consumer behavior when he states, “Policies may seek to alter behavior by offering new and beneficial technology, changing financial and other material incentives, changing attitudes and beliefs with education and information, appealing to basic values, or modifying institutional structures that may range from international agreements down to community-level norms and neighborhood organizations (p. 461).” Of these strategies

and policies, Stern (1999) lists, “providing information about the beneficial effects to the consumer of behavioral changes and offering material incentives for behavioral change” as two of the major intervention strategies (p. 462).

Gardner and Stern (1996) offer a guideline to changes or reinforcements of environmental behavior (Ch. 10). Stern (2000) reiterates this guideline as an approach to develop theory about environmentally significant behavior: “First, identify target behaviors to identify the responsible actors and actions. Then consider the full range of causal variables and explore their possible relevance to the target behavior from the actor’s standpoint” (p. 420).

Recycling: The “Mundane” Behavior

Recycling reduces waste by diverting reusable material from ending up in incinerators or landfills. Moreover, it reduces energy use and cuts down on emissions which will lead to a variety of environmental and economic benefits (Borgstede & Andersson, 2010; Björklund & Finnveden, 2007) Recycled material can be converted into something that has already been used into new material or products through up-cycling and down-cycling. The face value of recycling is relatively small to people in terms of a behavior that can make a significant environmental impact (which is a barrier to recycling), but if everyone actively participates in pro-environmental behaviors like recycling, it would make a significant difference (Osbaldiston & Schott, 2012). “Reasonable achievable emissions reductions” is the term used to describe pro-environmental actions that can be reasonably done by the public without government intervention (Osbaldiston & Schott, 2012). If the public adopted these “household

behaviors”, they could cut annual carbon emissions by approximately 123 million metric tons or 7% of current US carbon emissions (Dietz et al., 2009).

Haldeman and Turner (2009) used a community-based social marketing program to implement a recycling pilot program that attempted to increase recycling behavior in a county in Maryland. Haldeman and Turner (2009) found that some of the residents in the county did not recycle as much or at all because they did not have the recycling bins or “knowledge of what, why, how, and when to recycle” or they felt that “nothing really gets done with the recycled materials or recycling is a waste of time and resources” (p. 120). Time, perceived inconvenience, and cognitive effort are all known barriers to increasing recycling behavior (Shrum, Lowrey, & McCarty, 1995; Ajzen, 2005; Bagozzi, Yi, & Baumgartner, 1990). Various studies have found that time, cost, and availability of facilities are barriers to recycling (De Young, 1988; Vining & Ebreo, 1990). The lack of recycling bins or facilities is a major barrier to recycling, thus, improving facilities will increase recycling behavior (Reid et al., 1976; Luyben & Bailey, 1979; Derksen & Gartrell, 1993). Some people might be inclined to hang on to their recyclables until they have access to a recycling bin but most will decide to throw away their recyclables due to the inconvenience of possessing a product that is no longer being used. Furthermore, studies have shown that perceived inconvenience has a direct relationship with behavior, especially among college students (McCarty & Shrum, 1994). Chen and Tung (2010) used “perceived lack of facilities” as a moderator to their extended Theory of Planned Behavior model. They found that the extended THB model was useful in examining “consumers’ recycling intentions” and “consumers’ perceived lack of facilities” (Chen and Tung, 2010). Their data results show that “consumers’ recycling intentions” are

positively affected by “attitude, subjective norms, moral norms, and perceptions of consequences of recycling” (Chen and Tung, 2010; p. 837). Moreover, Chen and Tung (2010) found that “consumers’ perceived lack of facilities” has a significant impact on “consumers’ intentions to recycle”, and so increasing recycling facilities would lead to an increase in recycling behavior.

Comber et al. (2013) describes recycling and the disposal of waste as a “mundane behavior” that does not seem to be important to people because they see it as a “daily habit or routine” (Wahlen, 2012). As a result, the dilemma of changing behavior to engage people in recycling and/or composting lies in the fact that people feel that it is this “mundane behavior” that is not “intrinsically motivating’ to people (Wahlen, 2012; Comber et al. 2013). For instance, Barr (2007) found that environmental protection and nature values significantly influenced waste reduction behaviors among U.K. households in a case study, while recycling was seen as a normal daily practice that was not as strongly influenced by environmental protection and nature values. This idea that recycling is a “mundane behavior” explains the some of the limitations of the education efforts implemented during the Bobcats Go Green recycling program.

Social Media: Internet Effectiveness and Marketing

Social media has opened up an array of opportunities for organizations or institutions that wish to communicate through a wide-reaching outlet. The internet in general has been used by organizations and institutions as an economical way to communicate with the public. Coombs (1998) described it as a direct and low cost communication channel. Political activists and advocacy organizations use it as a way

to inform the public about certain issues (Van Laer & Van Aelst, 2010; Heath, 1998). The internet is also utilized as a marketing tool by these organizations (Shrum, Lowrey, & McCarty, 1994). Social media adds on another layer of effectiveness by acting as a way to build support and foster relationships with the public. Obar, Zube, & Lampe (2012) surveyed 169 individuals from 53 advocacy groups and found that all the groups used social media as a communication tool almost every day and that individuals from these groups believe that social media helps them “accomplish their advocacy and organizational goals across a range of specified activities” (p. 1). The idea of enhanced connectivity through the social media outlet has been used in political and international platforms, as well. Social media’s connectivity can be used to empower individuals and groups to strengthen social and environmental movements (Obar, Zube, & Lampe, 2012). Critics believe that even if social media can bring mass amounts of people together, it does not have enough influence to actually instill change in people (Gladwell, 2010; Alterman, 2011). Some critics have called these relationships “weak ties” (Obar, Zube, & Lampe, 2012; Papacharissi, 2002). Comber et al. (2013) found that a strong, positive attitude towards proper waste disposal and green initiatives does not always lead towards positive action. Nonetheless, social media is effective in numerous ways and will continue to be used as a communication tool. Obar, Zube, & Lampe (2012) surveyed advocacy groups about the use of social media to facilitate civic engagement, as well as, collective action and found that social media strengthened outreach efforts and enabled engaging feedback loops (p. 14-15). Some drawbacks of social media might include: “generational/digital literacy gaps”, “separation of personal and organizational use”, and “weak ties” (Obar, Zube, & Lampe, 2012, p. 17). Harlow & Harp (2012) surveyed

activists in the United States and Latin America and respondents agreed that social media plays a vital role in advancing activism in today's technologically driven society. However, in the United States, respondents from the survey felt that "online activism" lacks the dedication of "real offline activism" (p. 210). This converges with the idea that "weak ties" are ineffective in making a real impact and that support does not necessarily mean there will be action. Comber et al. (2013) found that a strong, positive attitude towards proper waste disposal and green initiatives does not always lead towards positive action. On the other hand, online activism has increased the organization of offline activism and some activists will argue that social media is enhancing activism, not replacing it (Harlow & Harp, 2012). Another challenge is to communicate the desired message through the array of advertisements and marketing efforts that target consumerism (Rosenberg, 2004; Amel, Manning, & Scott, 2009).

Defining Social Media

Obar, Zube, & Lampe (2012) state two problems associated with defining social media: 1) "the broad array of social media sites have been and continue to be developed, abandoned, ignored, and re-conceptualized day-by-day in different countries and at different levels of public awareness" (p. 7); and 2) "social media have enabled forms and benefits of communication processes that when described generally can be regarded as similar to capabilities enabled by more traditional media technologies" (p. 7). The first problem is pointing to the fact that social media platforms have come and gone over the years, and are not popular in every major country. Xanga and Myspace were popular before Facebook and Twitter, but eventually they lost their popularity with the steady rise of the latter two. Facebook and Twitter are so successful now that they have gone public

and are now selling stock, so it seems that they will not fade out anytime soon. Even though these platforms are popular in the United States, they are not as popular in some countries. Furthermore, in some countries they are banned from being used out of the governments' fear that it would cause trouble in these countries. The second problem associated with defining social media is the fact that platforms like Facebook and Twitter are not the only platforms that can be used to bring people together or share information. If the criteria for "social mediums" are the abilities to communicate and collaborate, then e-mail should be considered social media as well (Obar, Zube, & Lampe, 2012). However, if one is to specify that the term "social media" is referring to the Facebook and Twitter platforms because they are the most commonly used, then the first problem of defining social media would arise because one cannot neglect the other social media platforms available (e.g., LinkedIn, Youtube, and Instagram) or ignore the new social media platforms that might be more popular in the near future. Nonetheless, 98% of the advocacy groups that were surveyed by Obar, Zube, & Lampe (2012) stated that they used Facebook to communicate with the public. Furthermore, 67% of them stated that they used Facebook daily. Moreover, the advocacy groups consistently stated that Facebook was helpful in facilitating civic engagement and collective action. Additionally, 96% of the advocacy groups that were surveyed use Twitter and 77% of them used YouTube. Facebook, Twitter, and YouTube require no fees to use basic services.

Utilizing Social Media

Before social media, the internet was still considered an effective tool for communication and organization (Tatarchevskiy, 2010). Political, grassroots, and social movements would benefit from the utilization of the internet (Van Laer & Van Aelst,

2010; Castells, 1996; Castells, 2007; Rheingold, 1993; Juris, 2008). The internet has made a significant impact on society because of the “power or its symbolism” (Tatarchevskiy, 2010). Compared to other forms of communication, the internet is more accessible and exposes more people to a vast amount of visuals, media, and images from around the world (Van Laer & Van Aelst, 2009; Tatarchevskiy, 2010). Moreover, it is a cultural tool in a world where individuals are easily distracted (Tatarchevskiy, 2010). Social media has been used for fundraising, campaigning, and organizing movements (Van Laer & Van Aelst, 2010; Harlow & Harp, 2012). Social media was credited with increasing the amount of participation and voting turnout from young voters during the 2008 US presidential election (Soule and Nairne, 2009). Beyond the polls, young people (e.g., “Millennials”) have increased their participation in public, civic, social, and environmental issues because of the access to information via internet (Juris & Pleyers, 2009; Dalton, 2008; Kiesa et al., 2007; Montgomery et al., 2004). Social media is a platform that can be used to instill behavior change, as well (Comber et al., 2013).

Social media competitions were created for the Bobcats Go Green recycling campaign. Not much has been researched on the idea of using competitions or games to increase environmental behavior (Osbaldeston & Schott, 2012; Dwyer et al., 1993). Some studies have shown that the serious nature of plastic pollution, environmental degradation, and depletion of resources is downplayed by interactive marketing tools that promote incentives and games (Dean, 2003). Studies have dubbed this “passivity” and the term refers to active involvement with a passive standpoint (Dean, 2009; Tatarchevskiy, 2010). Moreover, some individuals are “devoid of any critical or radical urge” when they participate in activities that promote an issue/initiative in order to show support and/or

fundraise for the individuals or groups that actually take an active role in implementing change (Tatarchevskiy, 2010). This is troubling to some critics of these internet marketing tools, but realistically, not everyone can take an active role and so some individuals will have to take more of a passive role (e.g., signing a petition, donating money).

Incentivizing Pro-environmental Behavior through Social Media and Marketing

Information acts as a form of intervention in the personal domain (Stern, 1999). Historically, informational programs (where information is simply presented to people) that show the benefits of energy conservation, recycling, and the use of public transportation have not resulted in significant behavioral change (Stern, 1999; Ester & Winett, 1982; McDougall, Claxton, & Ritchie, 1983; Hirst, Berry, & Soderstrom, 1981). However, the application of additional strategies from “insights of research on communication”, “social influence”, and “human decision making” into informational programs can lead to positive results (Stern, 1999). Information programs can be more effective when the information is presented at the place and time the target behavior is to occur and if it is “easily validated by the target audience” (Stern, 1999). Additionally, history has shown that energy audits (Seligman, Becker, & Darley, 1981), information that comes from a similar target audience (Winett et al., 1982; Winett et al., 1985), information that comes from a reliable source to the target audience (Craig & McCann, 1978), public commitments to participate in an action (Becker, 1978; Pardini & Katzev, 1983), and information that shows a certain behavior is a norm (Cialdini, Kallgren, & Reno, 1991) are all effective forms of informational programs. Moreover, studies have shown that metrics (e.g., volume of liter) can influence people to behave a certain way in

order to reach the desired results (Schnelle et al., 1980). Stern (1999) emphasizes that “accuracy and completeness” is less of a priority than capturing the target audiences’ attention, getting them involved, and helping them overcome any doubt and uncertainty by proving to them that the information program is credible and useful to their current situation. Ultimately, informational programs usually only produce “short-term behavioral change” and most of the behavioral changes are simple, as in they are relatively convenient and inexpensive (i.e. few external constraints), and do little to produce positive environmentally significant impact (Stern, 1999). A deeper connection must be made in order to instill long-term behavioral change. Factors such as values, attitudes, and intrinsic motives should be considered in education and marketing efforts to increase recycling behavior (Jacobs & Bailey, 1982; De Young, 1985; De Young, 1986; De Young, 2000).

Incentives act as a form of intervention in the contextual domain (Stern, 1999). Incentives have been shown to be effective in implementing changes in household consumer behaviors like making efficient use of water, as well as, installing efficient energy systems for cooling and heating systems. Studies have shown that incentivized pro-environmental behavior will dissipate when the incentive is removed (Witmer & Geller, 1976; De Young, 1986; Vining & Ebreo, 1990). Nonetheless, the motivation to save or make money is one of the most important drivers of environmentally significant behavior (e.g. waste that is paid for by volume, payment for recyclable material, fluctuations in the price of oil). Non-monetary incentives like convenience can also influence environmentally significant behavior (e.g. increased access to public transit, increase in recycling containers, and curbside pickup of recyclable material from

households) (Stern 1999). Stern (1999) states that social marketing programs should also consider a phenomenon described as “crowding out” motivation (Stern, 1999; Frey & Oberholzer-Gee, 1996). This phenomenon shows that financial constraints have a detrimental effect on intrinsic motivation to actively participate in pro-environmental behavior because there is an expectation that particular behaviors should be incentivized (Stern, 1999; Schultz, Oskamp, & Mainieri, 1995).

The most effective interventions combine information, incentives, social influences, and institutional supports (Stern, 1999). Designing an intervention from the consumer’s perspective and increasing participation and/or engagement are both important factors to consider (Stern, 1999). People who are actively engaged in the decisions of a program and/or feel that others like them are actively engaged in that program will trust the information, therefore, increasing the motivation to participate (Stern, 1999).

Hypotheses

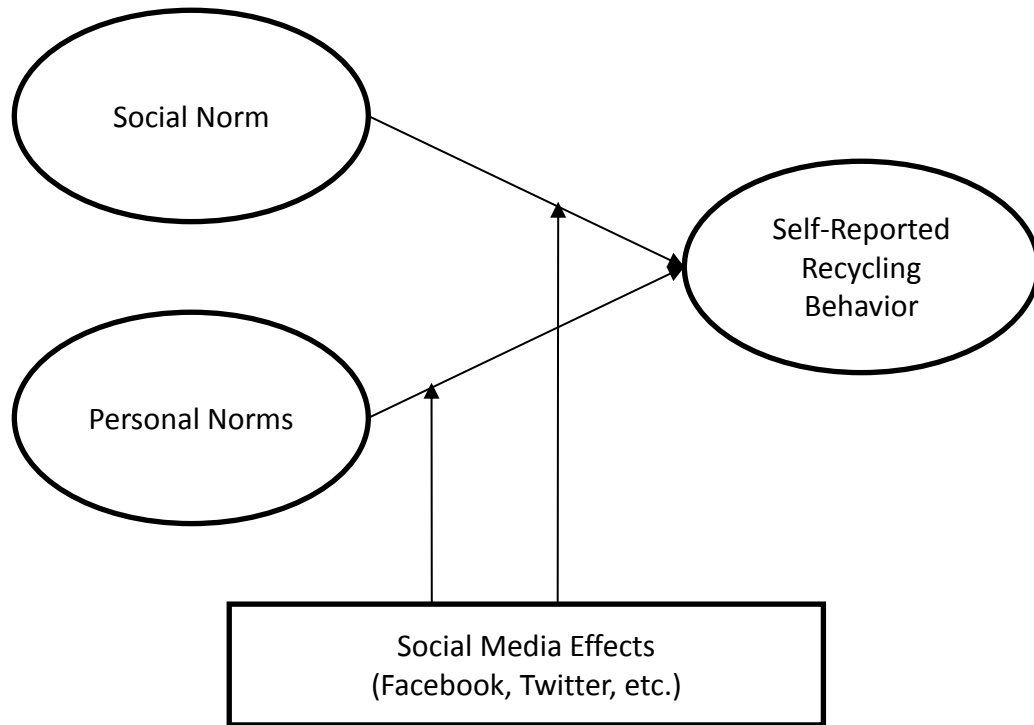


Fig. 1

Based on Fig. 1, we can formulate four hypotheses:

H₁: Social norms are positively related to self-reported recycling behavior among students.

H₂: Personal norms are positively related to self-reported recycling behavior among students.

H₃: Social media acts as a moderator in the relationship between social norms and self-reported recycling behavior.

H₄: Social media acts as a moderator in the relationship between personal norms and self-reported recycling behavior.

Summary of Study

The motivations and attitudes that people have towards recycling can vary as a result of social norms and personal beliefs/values. Whether people recycle because of social pressure from their surroundings or they believe that they can make a positive impact on the environment, one must consider all of the factors that drive people to perform the desired action. It is important to note that initiatives like energy reduction, recycling, and green consumption taken on by an individual only contributes a small increment of environmental benefit and so research should focus on the “social paradigm and consumerist lifestyle within industrializes economies” in order to create sustainable environmental change (Peattie, 2010, p. 119). After all, population growth remains one of the driving factors of environmental degradation, making a shift in the social paradigm a dire need for sustainable environmental change (Osbaldiston & Schott, 2012; Bandura, 2002; Ehrlich & Ehrlich, 2002; Swim et al., 2010). The Bobcats Go Green campaign utilized some of these key theories and concepts in order to find out why people recycled in order to define effective methods that will increase self-reported recycling behavior. Some might recycle because they care about the University and the University brand, while others recycle because they think their actions would ultimately be beneficial for the environment. Hays (2000) discussed in his book, *A History of Environmental Politics Since 1945*, the idea that people only protect what they connect with. Jacques-Yves Cousteau, a man who connected the world with water and the life forms that depend on it through his discoveries in the ocean, once said to his son, “People protect what they love” (Cousteau, 2010). Environmental organizations have used this emotional driver: the

notion that people should protect what they care about in numerous initiatives, campaigns, and marketing efforts.

CHAPTER III

Survey Methodology

The main purpose of the survey was to further understand recycling behavior among Texas State University students. The survey method was chosen in order to reach the whole student body in a relatively time efficient and inexpensive manner. With any survey, there is risk of bias. For instance, this survey contained content that was “green” or environmentally driven which could have elicited answers that would be deemed socially desirable in this context (Lehmenn, Gupta, & Steckel, 1998). Respondents were told that they could be randomly selected for a prize if they participate in the survey. With this notion, participation increased, but there is a risk of respondents leaving items unanswered in order to finish the survey and enter the prize drawing.

Population and Sample

The whole student body at Texas State University was surveyed in order to analyze current recycling behavior on campus. Identifying what motivates students to recycle will allow this study to recommend strategies supported by data that will effectively increase recycling behavior on campus. The survey was e-mailed to the whole student body using the university “NetID” database.

Survey

The survey measured the following variables: values that influence recycling behavior, awareness of consequences, beliefs, social norm, personal norms, attitudes towards recycling, exposure to recycling, past behavior, satisfaction with current

recycling infrastructure on campus, leadership, and social media leadership (see Appendix A).

Independent Variables

Values That Influence Recycling Behavior. Stern's (2000) VBN Theory proposes that values play a key role in predicting pro-environmental behavior. The following questions utilized biospheric (river) and altruistic (university) values in order to help determine what motivates students to take pro-environmental actions on campus. These five items were measured on a 5-point Likert type scale (1 = Not at all important, 5 = Very important). Two variables were created using these items. The two variables were environmental values "VALenv" (M = 4.645, SD = 0.576) comprised of Q5.1 and Q5.2, and university values "VALuni" (M = 3.888, SD = 0.963) comprised of Q5.3 and Q5.4. The overall reliability of VALenv was relatively insignificant with a Cronbach's Alpha of .533 which means that the environmental values item does not significantly predict recycling behavior on campus. Perhaps this is because recycling is considered habitual or mundane to students. It may also be attributed to the fact that recycling behavior is already widely accepted among those who value the environment. The overall reliability of VALuni was acceptable with a Cronbach's Alpha of .719, which shows that school pride, or reputation is a significant factor in predicting recycling behavior among Texas State students (see Table 3-1).

Table 3-1

<i>Items Used to Measure Values</i>	
Number	Item
	How important is each of the following to you?
5.1.	Protecting the Environment
5.2.	The San Marcos River
5.3.	University Pride (Proud to be a Texas State Student)
5.4.	Texas State University Sports
5.5.	Keeping Bobcat Stadium Clean

Awareness of Consequences. The measure of awareness of consequences used in the study was adapted from a Dietz, Stern, & Guagnano (1998) survey. Their question took the form of: “In general, do you think (insert text) is 1 = extremely dangerous for the environment, 5 = not dangerous at all for the environment”. The following items were adapted from the survey and another item “Pollution caused by waste and landfills” was created for the purpose of this study. The items were measured using a 5-point Likert type scale (1 = Not at all dangerous, 5 = Very dangerous). These items were combined to create the Beliefs: Awareness of Consequences “BAC” ($M = 4.578$, $SD = 0.597$) variable. The overall reliability of BAC was significant with a Cronbach’s Alpha of .892. Students may have answered what they deemed as socially desirable in a survey that involved recycling and a “Go Green” tagline. It was not unusual that an environmentally driven survey would foster such a response. See Table 3-2.

Table 3-2

<i>Items Used to Measure Beliefs & Adverse Consequences</i>	
Number	Item
How dangerous do you think each of the following is to the environment?	
6.1.	Pollution caused by industry
6.2.	Pollution of America's air, land, and water
6.3.	Pollution caused by too many cars
6.4.	Pollution caused by waste and landfills

General Questions about Exposure to Recycling. The following items were created for this study in order to measure exposure to recycling and past behavior. All respondents saw items Q7.1-7.3. Items Q7.4a-7.4d were seen by Freshman respondents only. Non-Freshman respondents only saw items Q7.5a-7.5b. See Table 3-3.

Table 3-3

<i>Items Used to Measure Exposure to Recycling & Past Behavior</i>	
Number	Item
7.1.	Have you attended a Texas State football game this season?
7.2.	Are you aware that there is recycling at Bobcat Stadium?
7.3.	Have you recycled at Bobcat Stadium?
7.4a.	Did your high school have recycling?
7.4b.	Did you recycle at your high school?
7.4c.	Was there recycling at your high school's sporting events?
7.4d.	Did you recycle at your high school's sporting events?
7.5a.	Did you attend any Texas State home games last year?
7.5b.	Did you notice that there was recycling at Bobcat Stadium last year?

General Attitudes about Recycling Infrastructure on Campus. The following items were used to measure students' satisfaction with the current recycling infrastructure on campus. Items Q8.3-8.5 were combined to create the University Recycling Program "URprogram" (M = 4.481, SD = 0.635) variable. The overall reliability of the URprogram variable was acceptable with a Cronbach's Alpha of .699. The URprogram variable was significant because it showed that students care about the environmental initiatives that the University undertakes. See Table 3-4.

Table 3-4

<i>Items Used to Measure Satisfaction with Recycling on Campus (URprogram)</i>	
Number	Item
8.1.	I feel that there are enough recycling bins on campus.
8.2.	I feel that the current recycling options at Texas State are good enough for a university of our size.
8.3.	I am glad that Bobcat Stadium now has recycling.
8.4.	I feel that the Bobcat Stadium recycling program should be just as good as or better than the top recycling programs in football stadiums around the nation.
8.5.	I would like to see a compost program in Bobcat Stadium one day.
8.6.	I am familiar with the idea of Zero Waste in a football stadium.

Attitudes about Recycling. The following three items were used in order to measure attitudes. They were combined into one variable, "ATT" (M = 4.803, SD = 0.465), which had a relatively insignificant Cronbach's alpha of .625. The result of this reliability analysis shows that Ajzen's (1991) Theory of Plan Behavior would not effectively predict recycling behavior in this study. The majority of Texas State students agree that recycling is good for the environment; thus, the ATT variable is not a strong predictor of university

recycling program participation. The three items were measured on a ranking type scale with sliding bars (1 = Bad, Foolish, Unfavorable; 5 = Good, Wise, Favorable). See Table 3-5.

Table 3-5

<i>Items Used to Measure Attitudes/Feelings about Recycling</i>	
Number	Item
	I think recycling is...
9.1.	1=Bad 5=Good
10.1.	1=Foolish 5=Wise
11.1.	1=Unfavorable 5=Favorable

Social Norm. The following item was used to measure Social Norm “SN” (M = 3.832, SD = 1.143) in the study. Some studies have shown that if an individual’s friends and family accept a behavior, then that individual will likely adopt that behavior, too (Ajzen, 1991). The simple model used in this study hypothesized that Social Norms is positively related to self-reported recycling behavior. However, the study’s regression model shows that Social Norms is not a strong predictor of self-reported recycling behavior. Perhaps this is attributed to the fact that students feel that recycling is already a societal norm. See Table 3-6.

Table 3-6

<i>Item Used to Measure Social Norm</i>	
Number	Item
13.1.	My family and friends would think that I should recycle.

Beliefs. The following item was used to measure Beliefs. It was adapted from Jansson, Marell, & Nordlund's (2010) study of "ascription of responsibility". By accepting responsibility for environmental problems, one might feel more induced to participate in pro-environmental behaviors. See Table 3-7.

Table 3-7

<i>Item Used to Measure Beliefs</i>	
Number	Item
13.2.	I am partly responsible for the environmental problems related to heavy waste from consumption.

Leadership. These two items were used to measure leadership. If an individual adopts certain behaviors and ideas and influences others to do the same, then that individual would be considered a leader. See Table 3-8.

Table 3-8

<i>Items Used to Measure Leadership</i>	
Number	Item
13.3.	I know more about environmental initiatives than my friends.
13.4.	Other people come to me for information about environmental initiatives.

Personal Norms. These three items were used to measure Personal Norms. They were combined to create one Personal Norm “PN” ($M = 4.351$, $SD = 0.769$) variable. The simple model used in this study hypothesized that Personal Norms is positively related to self-reported recycling behavior. The overall reliability of PN was acceptable with a Cronbach’s Alpha of .800. If recycling were habitual to students because of their exposure to it, a lack of recycling facilities would trigger a response that roots from their personal obligation to recycle. The PN variable in this study shows that students want to recycle on campus, not necessarily because they care about the environment or the University’s brand, but because they feel a personal obligation to do so. See Table 3-9.

Table 3-9

<i>Items Used to Measure Personal Norms</i>	
Number	Item
13.5.	Recycling is important to me.
13.6.	I feel obligated to recycle.
13.7.	I want to be able to recycle everywhere I go.

Social Media Leadership. The following items were used to measure Social Media Leadership. Social media is an outlet that can be highly influential. Thus, it could be used as a form of activism in order to increase pro-environmental behavior. The simple model used in this study hypothesized that social media acts as a moderator in the relationship between social/personal norms and self-reported recycling behavior. See Table 3-10.

Table 3-10

<i>Items Used to Measure Social Media Leadership</i>	
Number	Item
14.1.	I enjoy posting things on social media websites that I know people will be interested in.
14.2.	I like to share my opinions and ideas on social media websites.
14.3.	I believe I have influenced some of my friends and/or followers with things that I have posted on social media websites.
15.1.	I like to read posts that are related to the environment on social media websites.
15.2.	I like to post things related to the environment on social media websites.
15.3.	I like to read posts about college sports on social media websites.
15.4.	I like to post things about college sports on social media websites.

Survey Design & Distribution Method

The survey was designed using the Qualtrics online software. The surveys were sent via e-mail. There were two versions of the survey: non-Freshman and Freshman. Each survey had three different photos (randomly selected) that respondents could see at the beginning of the e-mail (see Appendix A). The subject line of the e-mail stated, “Help Improve Our Odds”. The survey was 8 pages total. Respondents had to be at least 18

years old in order to take the survey. At the end of the survey, respondents were sent to a link that explained the social media contests. The surveys were e-mailed on October 3, 2013.

Descriptives

The following are descriptives for the variables used in this study (see Table 3-11).

Table 3-11

<i>Summary of Variables</i>		
Variable	<i>M</i>	<i>SD</i>
Social Norm	3.832	1.143
Personal Norm	4.351	0.769
Attitudes	4.803	0.465
Environmental Values	4.645	0.576
University Values	3.888	0.963
Beliefs: Awareness of Consequences	4.578	0.597
University Recycling Program	4.481	0.635

Data Analysis

After the data was collected from Qualtrics, it was sorted using Microsoft Excel and then imported into IBM SPSS Statistics software. Of the 600 respondents, 99 of them had incomplete surveys. Any questions that were left blank were replaced with “.” for answers. The completed answers from the incomplete survey were used in the data analysis.

Dependent Variables

University Recycling Program. University Recycling Program “URprogram” was used in the study as a dependent variable in a regression model that sought to predict what factors effectively increase pro-environmental behavior on campus. The following factors were used as predictors in the model: Social Norm “SN”, Personal Norm “PN”, Beliefs: Awareness of Consequences “BAC”, Environmental Values “VALenv”, University Values “VALuni”, and Attitudes “ATT”.

Recycling Behavior. Recycling Behavior was also used in the study as a dependent variable in a regression model. The model was used to identify the factors that instilled recycling behavior among those who claim to recycle. The following factors were used as predictors in the model: Social Norm “SN”, Personal Norm “PN”, Beliefs: Awareness of Consequences “BAC”, Environmental Values “VALenv”, University Values “VALuni”, and Attitudes “ATT”.

Statement on the Use of Human Subjects

Prior to the survey, an application for the use of human subjects was submitted and approved by the Internal Review Boards (IRB) at Texas State University (See Appendix H). The IRB stated that the study posed no risk (physical, emotional, social, or legal) to the students/respondents involved. Surveys were taken online and general demographics were requested. Participants’ responses were kept confidential.

CHAPTER IV

Survey Results

Nonresponse and Incomplete Surveys

Of the 600 respondents, 99 of them had incomplete surveys. A chance to win a prize for taking the survey might have effectively increased the total number of respondents.

Respondent Demographics

The demographics of respondents are shown in Table 4-1. 71.6% of the respondents were male. All were students at Texas State University. See Table 4-1.

Table 4-1

Overall Demographic Characteristics			
Characteristic		Frequency	% Frequency
Age			
	18	80	13.3
	19	92	15.3
	20	95	15.8
	21	79	13.2
	22	63	10.5
	23	35	5.8
	24	21	3.5
	25	20	3.3
	26 and Over	78	13
Gender			
	Male	411	71.6
	Female	163	28.4
Classification			
	Freshman	131	21.8
	Sophomore	80	13.3
	Junior	155	25.8
	Senior	210	35
	Post Baccalaureate	5	0.8
	Doctoral	1	0.2

Frequency Analysis

The following statistics were gathered from frequency analysis.

- Of the respondents who said that they were aware of recycling at Bobcat Stadium,
 - 52% did not attend a Texas State football game during the 2013 season

- 59.4% of the attendees recycled at Bobcat Stadium during the 2013 season
- Of the Non-Freshman who said they were aware of recycling at Bobcat Stadium,
 - 51.5% attended a Texas State home game at Bobcat Stadium during the 2012 season
 - 58.6% of the attendees noticed that there was not any recycling at Bobcat Stadium during the 2012 season
- Of the Freshman who said they recycled at Bobcat Stadium during the 2013 season,
 - 85% recycled at their high schools
 - 68% recycled at their high school sporting events
- Of the Non-Freshman who said they recycled at Bobcat Stadium during the 2013 season,
 - 57% stated that they recycled during the 2012 season*
 - *Since there was not any recycling at Bobcat Stadium during the 2012 season, these respondents might of been thinking about how they recycled while tailgating outside of the stadium
- Of the respondents that were shown a photo of the river,
 - 72% said that the photo makes them think of Texas State

- Of the respondents that were shown a photo of Bobcat Stadium,
 - 78% said that the photo makes them think of Texas State
- Of the respondents that answered “Agree” when asked if they were “glad that Bobcat Stadium now how has recycling”,
 - 48% said that they either “Somewhat Disagree” or “Strongly Disagree” that there were enough recycling bins on campus
 - 94% said that they “Agree” or “Somewhat Agree” that the Bobcat Stadium recycling program should be just as good as or better than the top recycling programs in football stadiums around the nation
 - 81% said that they “Agree” or “Somewhat Agree” that they would like to see a compost program in Bobcat Stadium one day
- Of the respondents that answered “Agree” when asked if they feel obligated to recycle, in general,
 - 72% said that they either “Agree” or “Somewhat Agree” that they were partly responsible for the environmental problems related to heavy waste from consumption

Exploratory Factor Analysis

Exploratory factor analysis was conducted for the VALenv and VALuni items. The following is the factor analysis of the four items measuring value in this study. See Table 4-2.

Table 4-2

<i>Factor Loadings of Items Measuring Value</i>	
Items	Factor Loading
Factor 1: Environmental Values (VALenv)	
5.1. Protecting the Environment	0.862
5.2. The San Marcos River	0.760
Eigenvalue = 1.879	
Variance accounted for = 40%	
Cronbach's alpha = 0.533	
Factor 2: University Values (VALuni)	
5.3. University Pride (Proud to be a Texas State Student)	0.881
5.4. Texas State University Sports	0.882
Eigenvalue = 1.083	
Variance accounted for = 74%	
Cronbach's alpha = 0.719	

Environmental Values. Environmental Values was created from items Q5.1-5. The Cronbach's alpha was .533, which is significantly lower than the target of .700. This

shows that environmental values do not effectively predict recycling behavior at Bobcat Stadium. Factor 1 accounted for 40% of the variance with a 1.879 Eigenvalue.

University Values. University Values was created from items Q5.3-5.4. The Cronbach's alpha was .719, which is over the target of .700. Factor 2 accounted for 74% of the variance with a 1.083 Eigenvalue.

Regression

Recycling Behavior. An initial linear regression analysis that used the stepwise method was conducted using SPSS statistical software. The variable BehaveREC was the dependent variable. The independent variables were: VALenv, VALuni, PN, BAC, ATT, and SN. The Adjusted R^2 of the model was 6.8%. Thus, the linear combination of all recycling behavior predictors in this study did not sufficiently predict Recycling Behavior in this study. With a $p < .01$, it was significant but insufficient in predicting BehaveREC. As a result, a second regression model was conducted.

University Recycling Program. A second linear regression analysis was conducted using the stepwise method in SPSS. The variable URprogram was the dependent variable. See Table 4-3.

Table 4-3

<i>Items Used to Create URprogram Variable</i>	
Number	Item
8.3.	I am glad that Bobcat Stadium now has recycling.
8.4.	I feel that the Bobcat Stadium recycling program should be just as good as or better than the top recycling programs in football stadiums around the nation.
8.5.	I would like to see a compost program in Bobcat Stadium one day.

See Table 4-4 for second regression model. The independent variables were: VALenv, VALuni, PN, BAC, ATT, and SN. With an Adjusted R^2 of 37.2%, it is a significant improvement over the first regression model in terms of Adjusted R^2 . Throughout each step of the stepwise analysis, the R^2 increased. The increase from Model 1 to Model 2 (in which VALenv was added) is relatively large compared to the other R^2 changes. This shows that VALenv and PN are more closely related to each other than the other variables. Personal norms that root from environmental values are positively correlated to pro-environmental behavior (Stern, Dietz, Kalof, & Guagnano, 1995; Stern, 2000).

The standardized coefficients decrease with each model as additional independent variables are added into the regression model. Thus, as more variables are added to each stepwise model, the individual effects that the independent variables have on the dependent variable goes down. R^2 , however, continues to increase in each step.

Model 2 shows that PN ($\beta = .437$) and VALenv ($\beta = .222$) significantly predicts URprogram. In Model 3, ATT ($\beta = .154$) was shown to significantly predict URprogram,

however, the addition of the variable decreased the predictive ability of PN and VALenv. In Model 4, VALuni ($\beta = .118$) significantly predicted URprogram. Once again, the β of the other variables decreased with the addition of a new variable. BAC ($\beta = .127$) significantly predicts URprogram in Model 5. The β of the other variables also decreased in Model 5. The R^2 increased at every step of the regression model (see Table 4-3). Social Norm “SN” was never added into the stepwise regression model by the SPSS software. Therefore, the regression model (see Table 4-4) suggests that SN does not significantly predict recycling participation among students at Texas State University.

Table 4-4

<i>University Recycling Program (URprogram)</i>					
Model	Variables	β	R^2	Adjusted R^2	F of Change in R^2
1	PN	0.543 ***	0.295	0.294	
2	PN	0.437 ***			
	VALenv	0.222 ***	0.333	0.330	27.868 ***
3	PN	0.378 ***			
	VALenv	0.213 ***			
	ATT	0.154 ***	0.353	0.349	14.801 ***
4	PN	0.396 ***			
	VALenv	0.175 ***			
	ATT	0.143 ***			
	VALuni	0.118 **	0.365	0.360	9.751 **
5	PN	0.358 ***			
	VALenv	0.154 ***			
	ATT	0.135 ***			
	VALuni	0.122 ***			
	BAC	0.127 **	0.378	0.372	10.176 **

* $p < .05$. ** $p < .01$. *** $p < .001$.

Summary of Results

As the regression model suggests, Social Norm does not significantly predict recycling participation among students at Texas State University. Since 85% of the freshmen survey respondents recycled at their high schools, it is evident that students already see recycling as a societal norm, and so the only barrier that hinders their participation is the access to recycling facilities/infrastructure. The fact that ATT and BAC came later in the model suggests that recycling has become habitual or mundane to students. Students' attitudes towards recycling (ATT) and their beliefs regarding adverse consequences (BAC) are already at a level where they feel that recycling is important. Thus, increasing recycling behavior on campus is not effectively implemented through education, because the majority of the students already agree that recycling is good for the environment. Frequency analysis shows that 52% of the survey respondents feel that there are currently not enough recycling bins on campus. Therefore, efforts should be focused towards increasing recycling facilities/infrastructure on campus to accommodate for the expectations of Texas State students. Ultimately, students do not have to be environmentalists to adopt recycling behavior and/or agree with recycling practices and policies at their universities. Instead, universities should accommodate for the students' desire to recycle, which is a habit that has developed from their steadily increasing exposure to recycling facilities and infrastructure.

This study supported H₂ with the stepwise regression models. Although not shown to be significant after running regression, social norms are still positively related to self-reported recycling behavior. For the purpose of this study, however, H¹ was

deemed insignificant. The study supported H^2 , that personal are positively related to self-reported recycling behavior among students, with the stepwise regression models.

H_1 : Social norms are positively related to self-reported recycling behavior among students.

H_2 : Personal norms are positively related to self-reported recycling behavior among students.

CHAPTER V

Bobcats Go Green Recycling Program Report

“Campuses have long relied on sports achievement to help define and promote their institutional identity. Increasingly, environmental stewardship is also becoming part of a college or university’s brand. Sports greening can integrate sustainability into some of the institution’s strongest marketing and communications platforms” (Henly, 2013, p. 14).

Branding: College Football is Going Green

Green movements on college campuses have continued to grow all across the United States. Greening college athletics facilities is a trend that incorporates sustainability principles into facilities operations and business practices. Greening these facilities helps build up a university’s environmental image and puts that university’s brand ahead of its competitor. This notion is reinforced as universities find that operation costs go down and new marketing opportunities go up as a result of greener practices. A university that has taken initiative on environmental issues would benefit from extending its initiatives into the athletics department. By saving water, reducing energy use and pollution, and minimizing waste, a university can show its student body and community the benefits that come from sustainable facilities and business practices. Thus, college sports are an effective platform to educate and instill ideas of environmentally responsible behavior because its fan base is so diverse. College sports bring communities together, thus, the utilization of environmental initiatives in college sports facilities exposes mass amounts of people to the idea of sustainability. A shift in thinking can arise from this idea of sustainability. This shift will inspire change that will benefit the

environment. Thus, a university can create leaders in the environmental movement by building a diverse educational foundation in which students can actively participate and learn about ecological issues and solutions. These student leaders will one day be leaders in their communities and their desires to protect the environment for future generations will stand firm as a result of their experiences as a students.

Greening college sports provides “business leadership in ecological sustainable practices” and engages students and fans in “nonpolitical public education about environmental protection” (Henly, 2013, p. 12). The National Collegiate Athletic Association (NCAA) reported that college football games received 353 million television or online views in 2013 and approximately 49 million people attended at least one college football game in 2012 (National Football Foundation, 2013).

Ecologically Sustainable Business Practices in College Sports include (Henly, 2013, p. 13).

- Recycling
- Composting
- Energy Efficiency
- Renewable Energy
- Water Conservation
- Alternative Transportation
- Safer Chemicals
- Environmentally Preferable Procurement
- Greener Building Practices

Universities all over the nation have begun to adopt these environmentally responsible practices in their college sports facilities. The colleges that have committed to their ecological responsibilities can make a positive impact on the environment if everyone does their part in the movement. A Princeton Review survey found that 62

percent of 14,125 prospective students (and some parents) from all 50 states said that a college's environmental commitments would "strongly" or "very much" contribute to their assessment of the school (The Princeton Review, 2013). In 2012, UCLA's Higher Education Research Institute conducted a survey and found that 26.5 percent of entering students from 283 institutions felt that it is "essential" or "very important" to help clean up the environment. Moreover, approximately 40 percent of first-year students believe it is "essential" or "very important" to adopt green practices to protect the environment (UCLA, 2012). Universities should maintain a strong environmental image for prospective and current students by implementing greener practices that will keep the campus clean and lessen the impact on the environment.

Universities that adopt these environmental initiatives are leaders in the greening movement of college sports. Furthermore, these universities will influence suppliers, companies, and businesses that are partners or corporate sponsors to adopt "ecologically better products" (Henly, 2013). The greening movement in college sports will further communicate the importance of environmental initiatives that will help sustain the planet's natural resources for future generations.

In 2013, the University of Arizona surveyed staff from 148 institutions across the nation and found the following statistics (Henly, 2013, p 18).

- 97 collegiate athletics departments have installed recycling infrastructure throughout their sports facilities
- 41 collegiate athletics departments have sought out LEED green building design certifications for new facilities, major renovations, and/or existing facilities

- 60 collegiate athletics departments have invested in more energy-efficiency by upgrading their lighting and controls
- 50 collegiate athletics departments have adopted greener cleaning products
- 50 collegiate athletics departments have increased their water-efficiency by changing fixtures
- 30 collegiate athletics departments have implemented an environmentally preferable paper purchasing policy
- 8 collegiate athletics departments have installed onsite solar energy production systems on their facilities
- 11 collegiate athletics departments have implemented an environmentally preferable purchasing policy
- 50 collegiate athletics departments have conducted an energy audit
- 56 collegiate athletics departments have a solidified tailgating recycling program
- 34 collegiate athletics departments have a student recycling team
- 18 collegiate athletics departments have composting bins and infrastructure in non-public places and 10 athletics departments have composting bins in public facilities
- 5 collegiate athletics departments sport environmentally preferable gear and equipment

Planning and Preparation

As a guideline to discuss factors that limited behavior change during the Bobcats Go Green campaign, the study used Stern's (1999) "Principles for Intervening to Change Environmentally Destructive Behavior" (p. 475).

Duy Le, a graduate student in the Sustainability Studies program, submitted a proposal for a recycling and composting "zero waste" program to the President's Cabinet late February 2013. However, it was not until May 2013 that a decision was made to go forth with recycling but not composting. After discussing the feasibility of composting at Bobcat Stadium with leaders of the Environmental Service Committee and Bobcat Blend, it seemed that a lack of resources and time were the main limiting factors. Nonetheless, there was now a new environmental initiative on campus, and with only a few months until the start of the season, planning and preparation had to begin immediately. A major limiting factor during this process was the fact that Le was going to be in Washington, D.C. for a Marketing/Corporate Relations internship until mid-August. He was en route to Washington, D.C. when he received word that his proposal had been accepted. The utilization of technology would become vital to the success of the planning and preparation process of the program.

There were initial phone meetings with representatives from the University's Recycling & Waste Management, Facilities and Game Operations Management, Environmental Service Committee, and University Marketing, as well as, xpedx and Texas Disposal Systems which were companies that would supply the recycling bins and front loaders for the program. The Graduate Advisor of the Sustainability Studies

Program and the Presidential Fellow, Dr. Gwendolyn Hustvedt, guided Le and would sit in on all of the initial phone meetings. An initial budget was created and there would be a maximum spending limit of \$25,000. An additional \$2,000 would be given to the program by xpedx as corporate sponsorship money.

A stadium walkthrough was scheduled on July 1, 2013 in order to discuss the placement and quantity of recycling bins and posters. Recycling and Waste Management, Facilities and Game Operations Management, and Dr. Hustvedt were present at the walkthrough. Initially, the recycling receptacles were going to be x-frame bins in order to be economical and convenient. Convenience was a factor because the recycling bins would have to be moved in and out of storage before and after each game. This is because there are other events besides football games that were scheduled at Bobcat Stadium during the football season, and without student volunteers for each of those events, there would be no one facilitating the recycling because custodians are not responsible for recycling at the stadium. Moreover, the concourse of the stadium is an area that was usually windy and the Athletics Directors felt that x-frames would not be able to withstand the wind velocity. After further discussion, 40 Rubbermaid "Glutton" containers with the Bobcats Go Green logo emblazoned on each bin were ordered for the campaign. The decision to go with xpedx instead of Texas Disposal Systems was based on the responsiveness and professionalism that each company exuded. Due to schedule constraints, timeliness was crucial and xpedx inspired confidence with their guidance and experience. Texas Disposal Systems would supply the recycling front loaders because they currently provide front loaders for Texas State University.

The Bobcats Go Green tagline was the final choice from a pool of three taglines: 1) Green ‘Em Up, Cats, 2) Bobcat Fans Recycle, and 3) Bobcats Go Green. “Green ‘Em Up Cats” was ruled out because the Athletics Department did not want it to interfere with the current “Eat ‘Em Up Cats” tagline. “Bobcat Fans Recycle” was ruled out because it was seen as a limiting tagline if the campaign was to go beyond recycling one day. Additionally, the two focus groups that were conducted before the launch of the campaign favored the “Bobcats Go Green” tagline. Thus, “Bobcats Go Green” became the official tagline of the campaign. The logo consists of the tagline in a sports influenced font with the Texas State Athletics Power Cat logo above the tagline. Once the logo was finalized, the design was sent to xpedx in order to have it emblazoned on each of the recycling bins. With the logo ready, a website and social media platforms (Facebook, Instagram, Twitter) were prepped and awaiting the launch date. University Marketing designed the campaign launch posters and the poster paper was provided by xpedx. After organizing the student volunteers who came from environmental organizations on campus, all that was left before the first game of the 2013 football season was the delivery of the recycling bins. The morning of the delivery (September 6: the day before the first home game of the season), Le went to pick up an electric cart that was put aside for the program at the Texas State Recycling Center. The cart was fully charged but was not able to function. As a result, Le had to intercept the packages, move them upstairs, unpack them, and then set-up 32 (out of 40) recycling bins with only a trolley cart and the assistance of a few Bobcats Go Green volunteers. The next day, the Supervisor of Recycling & Waste Management secured an electric cart exclusively for the program to use during the football season.

Facing the Challenges of a New Recycling Campaign

After the start of the campaign, additional logistics had to be considered.

Recycling in Bobcat Stadium had not been in the agenda of the Athletics Department or Facilities and Game Operations Management, at least, since the 2009 stadium expansion. The structure of the stadium's waste management system proved to be a roadblock in itself. One issue would be the fact that recycling bins would have to be moved in and out of storage before and after each game because there are other events besides football games that were scheduled at Bobcat Stadium during the football season. Without student volunteers present at each of those events, there would be no one facilitating the recycling because custodians were only in charge of the trash receptacles. This meant that the student volunteers would have to move the bins out of storage and then set each one of them up before every home game. After the game, the volunteers would have to break down each bin and then place them back into storage. This was a physically challenging task because the Rubbermaid Glutton Containers were heavier than the x-frame recycling bins that were deemed unfit to withstand the wind speed generated within the concourse. An alternative solution to this physically challenging task was proposed during the ordering process of the Glutton Containers. Additional lid inserts and/or stickers with the words "Do Not Use" printed on them would be ordered and installed on each bin during non-Texas State Football events in order to insure that the recycling bins would not be used. However, that solution was not a viable option according to Facilities and Game Operations Management because it would not be effective in halting the use of the recycling bins. The idea that additional measures were to be taken in order to halt recycling between each game seemed ironic. Ultimately, it was a telling indicator of the

current waste management structure of the stadium, which was a structure that did not allow recycling to make a seamless transition.

Since the student volunteers would have to set-up the bins before each home game, the Fridays before game days would become the designated set-up days. An e-mail had to be sent to the Athletic Directors before each Friday in order to have someone unlock the storage room that was located in the middle of the concourse because keys were not provided to Le and his student volunteers for the campaign. Since the storage room for the bins doubled as a Fan Information Stand on game days, nothing could be stored inside of the room during each game. In other words, everything had to be removed before each game because it was not a dedicated storage room for the Bobcats Go Green program. Upon arrival of the stadium, the student volunteers would have to locate someone with keys to the gates in order to gain access to a ramp for the use of an electric cart. An electric cart was used in order to increase the efficiency of the set-up and break-down of the recycling bins. Additionally, it was used to transport the bags full of recycling to the recycling front loaders at the far corner of the Bobcat Club/Reserved RV Parking Lot. Some of the Bobcat Club donors that were located near the newly installed front loaders expressed negative feelings towards the location of the recycling front loaders to Le and an Athletics Director. The donor felt that the “trash cans” would be unpleasant to his fellow tailgaters but the Athletics Director reminded him that the front loaders were only used for recycling and not trash. Moreover, the Athletics Director asked that there be enough space near the fence that surrounds the parking lot for an electric cart so that Le could easily access the recycling front loaders. Ultimately, some of the Bobcat Club donors dumped their trash bags into the recycling front loaders and

access to the front loaders with an electric cart became difficult at times with the clusters of cars, RVs, and people that gathered around the far corner of the Bobcat Club parking lot. The location of the front loaders, though convenient for Texas Disposal Systems, proved to be inconvenient at times for the Bobcats Go Green volunteers.

Game Day Logistics

After the recycling bins are set-up and bagged throughout the stadium, the volunteers would meet back up again 2-3 hours before kick-off on game day. An average of about 10 volunteers was present at each game. Each game that a student organization volunteers for earns them \$500 for their organization. As a quick side note, only volunteers that pass background checks through the University Police Department before each home game can work the game. Due to the fact that volunteer numbers rarely were above 10, only 32 (out of 40) recycling bins were set-up throughout the stadium each game. The phone app “GroupMe” was used to set-up a group text messaging system in order to communicate with all of the volunteers during the game. Recycling efforts started after discussing the locations of all the bins and designating roles for each volunteer. Most of the recycling that was collected at Bobcat Stadium was from tailgaters who brought their drinks to the stadium gates. There, they would be asked to finish their drinks because outside food or drinks were not allowed in the stadium. The stadium staff at the gates did a phenomenal job reminding people to recycle. A dozen recycling bins were dispersed throughout the North and West Side of the stadium (Gate 1-6). The bins were set-up next to entrances and ticket booths. Additionally, some volunteers held bags and acted as recycling bins in highly trafficked areas in order to insure recycling. For example, a couple of volunteers would hold bags at the railroad crossing near Gate 3

where students and tailgaters crossed the tracks to enter the stadium in high volume. When bags were full, the volunteers would use the GroupMe app to tell the “runners (volunteers without a designated role or location)” to come pick up the bags. The bags would then be carried or pushed by a trolley cart to the electric cart that was parked next to Gate 2. Once the truck bed of the electric cart is full, a few volunteers would drive the electric cart to the far end of the Bobcat Club/Reserved RV parking lot and empty the bags contents into the front loaders. Since the bags were not recyclable, they had to be disposed of after the recyclables were emptied into the front loaders. As a side note, if there was composting at the stadium, the option to buy compostable bags are available through xpedx.

The Bobcats Go Green volunteers would work outside of the stadium from 4:30-6:30pm. Kick-off is at 6pm and so by 6:30pm, most of the fans should be seated. After changing out the bags and finishing up outside, the volunteers would go inside of the stadium in order to check up on the 20 recycling bins that were strategically placed throughout the concourse. Facilities and Game Operations management only permitted one exit point for full bags coming from inside of the stadium. This measure, according to management, was taken in order to minimize the amount of fan exposure to volunteers carrying bags out of the stadium. The designated exit point was the access ramp located between Gate 1 and Gate 3. There was a locked gate at the entrance of the access ramp. Since the gate was supposed to be locked at all times, a volunteer was required (by management) to guard the gate the whole game because a key was not provided to Le. Recycling within the stadium was not as active as the recycling along the outskirts of the stadium. This is because Bobcat Fans had already disposed of their drinks before they

entered the stadium, and once they were inside, most did not buy another beverage. An interesting observation was the fact that Lower Reserved and West Side Reserved seating recycled more material than Student, Visitor, and General seating.

Near the end of each game, volunteers emptied all recyclables from the bins outside of the stadium and then prepare the bins for the electric cart to pick-up by stacking them together. Once the bins are stacked, the electric cart will pick them up and wait till the stadium is clear of fans. At that point, the electric cart will drive up the access ramp located at Gate 8 in order to deliver the bins from outside into the stadium storage room. Volunteers will then empty all recyclables from the bins inside of the stadium and then move those bins into the storage room. The average time that the volunteers were finished at the stadium is approximately 10:30pm. On the sixth and final home game of the season, each bin was wiped down with cleaning wipes. The bins were then moved to the West Warehouse Storage Unit, where they will remain until next season.

Understanding Attitudes Towards Recycling

The Director of University of Colorado-Boulder's Environmental Center, Dave Newport, stated this about fan engagement, "We are just beginning to scratch the surface of sports greening as a fan engagement tool. Many pro sports teams have figured this out already. However, in a town with Boulder's consciousness about sustainability, many fans see these efforts as baseline, not extraordinary. Engaging these more knowledgeable fans will require unique leadership" (Henly, 2013). It is important to note that recycling has recently become "baseline" or "mundane" to people (Wahlen, 2012; Comber et al. 2013). This can be attributed to the fact that recycling has become a widespread, adopted

practice in society. Yet, some institutions and cities are just beginning to build or expand their recycling efforts. Newport stated that Boulder's "consciousness about sustainability" was a hindering factor in creating more fan engagement. In San Marcos, there is an environmental presence due to the natural resources in the surrounding area; however, many of Texas State's students come from other places besides San Marcos. To increase fan engagement and recycling efforts, there has to be an incentive or benefit of doing so. That incentive or benefit does not have to be prizes or money. It could utilize University pride or Environmental consciousness as a motivator for change. Ohio State University Buckeyes' football stadium has the highest waste diversion rate in the nation with a rate of 87.2% in 2012, the same season that they achieved a single game diversion rate of 98.2%. Ohio State uses this to increase fan engagement, as well as recycling and composting efforts. Buckeyes' Fans want to remain the best in the nation, and so that gives them more incentive to participate. Recycling is only half of the equation for Bobcats Go Green. The introduction of composting to Bobcat Stadium will allow Texas State to be competitive with some of the best schools in the nation. As a side note, Texas State entered the Gameday Recycling Challenge in order to compete with 88 schools across the nation in reducing and diverting waste. Unfortunately, Texas State had to drop out of the competition because Texas Disposal Systems miscalculated the metrics for the October 19th "Green Game".

Throughout the season, praise was given to the Bobcats Go Green volunteers by some of the Bobcat Fans for recycling at the stadium. Most of these fans were Texas State Alumni, faculty, or non-student fans. Unfortunately, some students expressed negative attitudes towards recycling to Bobcats Go Green volunteers. Moreover, students

were seen blatantly throwing cans and bottles on the ground at the railroad crossing entrance near Gate 3. These students were coming from the tailgating parking lot where there continues to be an issue with post-game clean-ups and recycling efforts. The Bobcats Go Green campaign does not cover tailgating due to the lack of volunteers and resources. A few student organizations have attempted to recycle at the tailgating parking lot but efforts have been mostly inconsistent. Perhaps these negative attitudes and resistance to change in regards to green initiatives at Bobcat Stadium has to do with the current precedent that is evident at the tailgating parking lot.

The tagline Bobcats Go Green is a call to action. It is a statement of change, as well as the belief that when given the right circumstances (e.g., knowledge, incentives, convenience), Bobcat Fans will make the greener choice. For instance, when a Bobcats Go Green recycling bin was isolated, more trash was found in the bins because some fans found it more convenient to put their trash in the closest container to them. However, when a bin was paired with a trash can, fans were seen pausing above the receptacles (indicating choice) before choosing to recycle. Thus, if there was a recycling bin next to every trash can at Bobcat Stadium, recycling rates will go up. Unfortunately, the lack of Bobcats Go Green volunteers and resources did not make this a feasible notion. It would be ideal if there was an equal amount of recycling bins as trash cans and those bins could stay out all season long (as opposed to putting them in storage after every home game).

Education efforts during the campaign helped outline Bobcat Fans' current attitudes towards recycling. Technology was utilized to educate fans about the presence of recycling at Bobcat Stadium and recycling in general. PSAs were created at the stadium and a social campaign was launched in order to educate and engage fans. During

the first home game, white boards and dry erase markers were given to Bobcats Go Green volunteers in order to engage fans by asking them to finish a statement that started with the words/hashtag “#iGoGreenBecause”. The point of the exercise was to gauge the general attitudes towards green initiatives, as well as engage fans by asking them to post the photo of them holding the dry erase boards on social media platforms (Facebook, Instagram, Twitter). Ultimately, participation in the exercise was minimal. It seemed that the many distractions of a college football game outweighed the motivation to learn more about recycling. It seems that without an incentive, participation will be minimal. For instance, on the Bobcats Go Green Facebook Page there were 20 “Recycling Facts” that were posted throughout the campaign that had an average “Total Reach” of 26. At the end of the campaign, the Bobcats Go Green Facebook Page offered fans a chance to win free 16oz Nalgene brand water bottles if they left a comment with a recycling fact on the Facebook post. The post had a “Total Reach” of 474.

Convenience also seems to be factor in determining participation and engagement. The Bobcats Go Green San Marcos River Photo Contest received 15 entries while the Bobcat Stadium Recycling Video Contest received no entries. Taking a photo is more convenient than making a video. Moreover, there are more chances to take photos involving the San Marco River than capturing video footage during a Texas State football game. There was participation that was not incentivized, as well. A handful of social media posts used the #BobcatsGoGreen hash tag without any incentives as a motivator. This showed a sense of pride for Texas State’s environmental presence. This was a promising sign for the future of the Bobcats Go Green campaign and an indicator of the capabilities that social media platforms have as a form of environmental activism.

Expectations for the Future

With the experience and knowledge gained from the first year of the campaign, the Bobcats Go Green program should adjust accordingly in order to improve performance next season. More intervention techniques should be created with the strengths and weaknesses of current intervention techniques in mind. The primary goal should be to increase participation using innovative techniques and not be too reliant on incentivizing environmental behavior. Accurate results are crucial to justifying the efforts put towards the campaign. Texas Disposal Systems failed to deliver accurate metrics; however, a back-up plan should have been created as an alternative form of measurement. Additional implications, recommendations, and strategies will be detailed throughout the rest of this report.

The following are notable statistics from the study.

- Of the respondents who said that they were aware of recycling at Bobcat Stadium,
 - 59% of the attendees recycled at Bobcat Stadium during the 2013 season
- Of the Non-Freshman who said they were aware of recycling at Bobcat Stadium,
 - 52% attended a Texas State home game at Bobcat Stadium during the 2012 season
 - 59% of the attendees noticed that was not any recycling at Bobcat Stadium during the 2012 season

- Of the Freshman who said they recycled at Bobcat Stadium during the 2013 season,
 - 85% recycled at their high schools
- Of the respondents that answered “Agree” when asked if they were “glad that Bobcat Stadium now how has recycling”,
 - 48% said that they either “Somewhat Disagree” or “Strongly Disagree” that there were enough recycling bins on campus
 - 94% said that they “Agree” or “Somewhat Agree” that the Bobcat Stadium recycling program should be just as good as or better than the top recycling programs in football stadiums around the nation
 - 81% said that they “Agree” or “Somewhat Agree” that they would like to see a compost program in Bobcat Stadium one day
- Of the respondents that answered “Agree” when asked if they feel obligated to recycle, in general,
 - 72% said that they either “Agree” or “Somewhat Agree” that they were partly responsible for the environmental problems related to heavy waste from consumption

Game Metrics

Information was incomplete due to difficulties with Texas Disposal Systems measurement systems. See Appendix M.

Focus Groups

Two focus groups were conducted in order to gain insight on general attitudes and perceptions during the preparation process of Bobcats Go Green.

PSA on Game Days in Bobcat Stadium

PSA #1 was announced during each home game of the 2013 Bobcat Football season.

PSA #2 was announced during the October 19th “Green Game”.

- PSA #1 stated "Bobcat Fans, are you ready to Go Green? Now, you can recycle plastic bottles in Bobcat Stadium. Look for Bobcats Go Green volunteers near the recycling bins for more information. Let's all take care of Bobcat Stadium today."
- PSA #2 stated "Today, Texas State will be taking the Game Day Recycling Challenge. Please remember to recycle in Bobcat Stadium today in order to help us beat out Texas A&M, Texas Tech, and UT; who are also taking on the Challenge to recycle the most pounds per person."

KTSW 89.9 Radio

A radio interview with Duy Le was conducted on KTSW 89.9 Radio's Other Side Drive show in September 2013. Due to the miscalculations of game metrics, there was not a follow up interview in order to showcase the success of the program in diverting

waste. The following is a download link to the interview.

<http://ktsw899.wordpress.com/2013/09/16/bobcats-go-green/>

CHAPTER VI

Social Media Campaign

Social Media Accounts

- Facebook: <https://www.facebook.com/BobcatsGoGreen>
- Twitter Handle: @BobcatsGoGreen
- Instagram Handle: @BobcatsGoGreen

Social Media Contests

- A poster was created to advertise the following contests. See Appendix F.
- The rules were outlined on the Texas State webpages. See Appendix G.

Education: Posting Facts about Recycling Using Social Media

- 20 Facts posted on Facebook, linked to Twitter. See Appendix E.
 - Incentivized posts received more participation.

Social Media Analytics

- Bobcats Go Green used the Facebook Insights Statistics. See Appendix E.

Hash Tags

The campaign utilized hash tags in order to increase connectivity with Texas State University students. Hash tags and social media have become powerful marketing tools for many different types of campaigns all around the world. Hash tags allow mass amounts of information and/or media to be more interconnected by compiling similar

tags together. The following are hash tags that were used throughout the Bobcats Go Green campaign.

- #BobcatsGoGreen
 - Used as the primary hash tag for all social media posts and marketing material
 - The main goal was to use this hash tag as a “call to action” for more environmental initiatives on campus
 - It was used a few times outside of the Bobcats Go Green recycling campaign which is an indicator of its potential for future applications
- #iGoGreenBecause
 - This hash tag was used for the education/participation activity conducted during the September 7, 2013 game in which fans were asked to write why they “Go Green” on a dry erase board and then take a photo in order to post on social media with the #iGoGreenBecause

The following hash tags were used to compile contest submissions throughout the 2013 season.

- #SanMarcosRiverPhotoContest
- #BobcatsGoGreenContest
- #BobcatStadiumVideoContest

Incentives

The following were incentives that were offered throughout the campaign.

- Nalgene brand 16oz Water Bottles
 - Bobcats Go Green was emblazoned on 40 re-useable bottles

- Bottles were given to a random list of Bobcats Go Green survey respondents
- Bottles were also given to participants of the Facebook post (12/2/2013) that stated, “Want a free Bobcats Go Green Nalgene? Like this status update and then comment below with a recycling fact for a chance to win one of many Nalgene’s that we are giving away this week!”
- Patagonia brand Micro-D Fleece Jackets and Beanies
 - These products were offered as prizes for the winners of the Bobcats Go Green social media contests
 - Patagonia is an environmentally responsible brand of outdoor equipment and active wear
 - Patagonia Micro-D Fleece Jackets/Micro-D Beanies are made of 15% polyester and 85% recycled polyester derived from recycled plastic bottles, unusable second quality fabrics, and worn out garments

CHAPTER VII

Conclusion

Implications

Universities all across the nation are responding to a growing trend in campus sports: the greening of athletics facilities. Many of the students who attend these universities have been exposed to recycling in their high school and their homes. Thus, they expect their universities to provide ample access to recycling infrastructure. The greening of campus sports can be used as a branding tool that will allow a university to call itself an environmental leader. Ultimately, greening a whole campus will separate a university from the rest. A university that commits to pro-environmental initiatives will leave a lasting impression on the environmental consciousness of the students. Furthermore, environmental leaders from all disciplines will respect institutions that seek solutions to the problems that plague our world today. This reputation will draw in speakers, professors, and students who are considered environmental leaders. Whether students connect with the environment or university brands, they can all agree that simple solutions such as ample recycling and composting infrastructure are worth investing in.

Recommendations

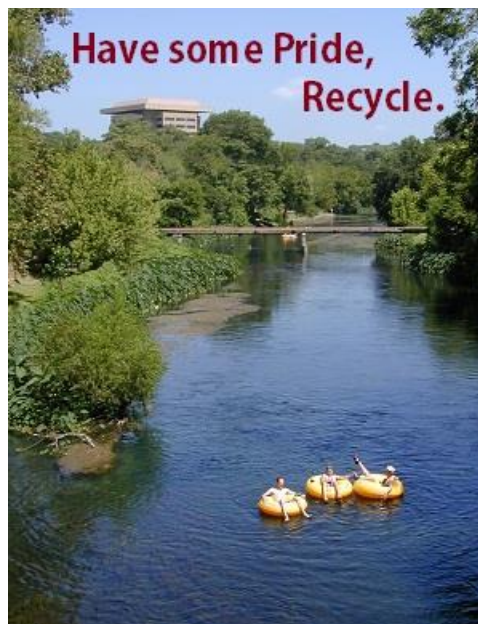
- Texas State should provide reliable and efficient recycling infrastructure in all Athletic Facilities
- Tailgating recycling efforts should be more organized and consistent
 - Providing more incentives to student organizations will increase participation

- All Athletics Facilities recycling should be managed by Custodial Staff with the assistance of Recycling and Waste Management
 - It is the same amount of trash but sorted
 - 8 student volunteers were more than enough to manage 32 recycling bins that were moved in and out of storage each game day because there is currently no recycling infrastructure for non-Texas State Football events at Bobcat Stadium
 - Each Waste Bin should be matched with a Recycling Bin in order to make recycling more convenient for people
- Create a Sustainability Panel (include the Environmental Service Committee) that will plan and implement pro-environmental initiatives on campus
 - More funding (beyond the ESC funding) will be needed to move towards large scale solutions such as “Zero-waste Recycling & Composting”
 - Professors, students, and professionals should be put into the panel in order to be truly effective
- Use the Bobcats Go Green brand to promote pro-environmental initiatives on campus
 - Utilize Bobcats Go Green Social Media accounts to promote pro-environmental initiatives on campus
 - Use hash tags such as #bobcatsgogreen in order to further connect students to these campus wide pro-environmental initiatives
- Become an environmental leader and foster a university setting that will inspire the next generation of leaders to make a positive impact on the planet

APPENDIX SECTION

Appendix A

Survey Screenshots





Dear ,

The Texas State University campus is a beautiful place. Everyone appreciates your effort to put trash and recycling into the right containers at tailgating and in our great sports facilities. Keep up the good work this weekend.

On October 19, 2013, Texas State will be taking the Green Game Day Challenge at Bobcat Stadium. Come out to Bobcat Stadium and recycle on Game Day to help us beat out Texas A&M, Texas Tech, and UT, who are also taking on the Challenge to recycle the most pounds per person.

Take a short survey to help us improve recycling at Texas State and you could win a prize!

Follow this link to the Survey:

[Take the Survey](#)

Or copy and paste the URL below into your internet browser:

https://acsurvey.qualtrics.com/WRQualtricsSurveyEngine/?SID=SV_4HnVLoyGld4qLrf&Preview=Survey&_#1

Thank you,

Duy Le
Texas State BobcatsGoGreen Program Coordinator

Follow the link to opt out of future emails:

[Click here to unsubscribe](#)

We are conducting a short survey to help us make recycling at Texas State better. This survey is confidential and any contact information we have for you will only be used to contact the 50 random winners of the Nalgene bottles.

In accordance with Institutional Review Board human subject policies at Texas State University, all data obtained from participants will be kept confidential and will be used for research purposes only, without identifying individual respondents. You must be 18 years or older to participate and your participation in this research study is completely voluntary. By completing the survey, you are providing your consent to participate in this study. If you have questions about participants' rights or other related concerns, you may contact the chair of Texas State University's Institutional Review Board, Dr. Jon Lasser, (512) 245-2314. If you have any other questions regarding this study, you may contact the main investigator at Texas State University, Gwendolyn Hustvedt (gh21@txstate.edu) at 512-245-4689.

What is your age? (Note: You must be at least 18 years old in order to take this survey)

>>

Gender

- ☐ Male
- ☐ Female

What is your major?

What does this picture make you think of? (Choose all)



- | | | |
|---------------------------------|--------------------------------------|-----------------------------------|
| <input type="checkbox"/> Fall | <input type="checkbox"/> Nature | <input type="checkbox"/> Tubing |
| <input type="checkbox"/> Trash | <input type="checkbox"/> Tailgating | <input type="checkbox"/> Summer |
| <input type="checkbox"/> Fun | <input type="checkbox"/> Recycling | <input type="checkbox"/> Outdoors |
| <input type="checkbox"/> Sports | <input type="checkbox"/> Texas State | <input type="checkbox"/> Litter |

How important is each of the following to you?

	Not at all Important	Unimportant	Neither Important nor Unimportant	Somewhat Important	Very Important
Keeping Bobcat Stadium clean	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Texas State University Sports	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Protecting the Environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The San Marcos River	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
University Pride (Proud to be a Texas State Student)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

In general, how dangerous do you think each of the following is to the environment?

	Not at all Dangerous	Somewhat Dangerous	Neutral	Dangerous	Very Dangerous
Pollution caused by waste and landfills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pollution caused by too many cars	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pollution caused by industry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pollution of America's air, land, and water	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please answer these general questions about your exposure to recycling.

	Yes	No
Have you attended a Texas State football game this season?	<input type="radio"/>	<input type="radio"/>
Are you aware that there is recycling at Bobcat Stadium?	<input type="radio"/>	<input type="radio"/>
Did you recycle at your high school?	<input type="radio"/>	<input type="radio"/>
Was there recycling at your high school's sporting events?	<input type="radio"/>	<input type="radio"/>
Did you recycle at your high school's sporting events?	<input type="radio"/>	<input type="radio"/>
Did your high school have recycling?	<input type="radio"/>	<input type="radio"/>
Have you recycled at Bobcat Stadium?	<input type="radio"/>	<input type="radio"/>

The following six items are Freshman Only Questions.

Please answer these general questions about your exposure to recycling.		
	Yes	No
Was there recycling at your high school's sporting events?	<input type="radio"/>	<input type="radio"/>
Did you recycle at your high school's sporting events?	<input type="radio"/>	<input type="radio"/>
Have you attended a Texas State football game this season?	<input type="radio"/>	<input type="radio"/>
Are you aware that there is recycling at Bobcat Stadium?	<input type="radio"/>	<input type="radio"/>
Did you recycle at your high school?	<input type="radio"/>	<input type="radio"/>
Have you recycled at Bobcat Stadium?	<input type="radio"/>	<input type="radio"/>
Did your high school have recycling?	<input type="radio"/>	<input type="radio"/>

Please answer the following questions regarding recycling on campus.					
	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree
I would like to see a compost program in Bobcat Stadium one day.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am familiar with the idea of Zero Waste in a football stadium.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the current recycling options at Texas State are good enough for a university of our size.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that the Bobcat Stadium recycling program should be just as good as or better than the top recycling programs in football stadiums around the nation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that there are enough recycling bins on campus.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am glad that Bobcat Stadium now has recycling.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please rate your feelings about recycling.

	Bad					Good
	1	2	3	3	4	5
I think recycling is...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Foolish					Wise
	1	2	3	3	4	5
I think recycling is...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Unfavorable					Favorable
	1	2	3	3	4	5
I think recycling is...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please answer these general questions.

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree
My family and friends would think that I should recycle.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other people come to me for information about environmental initiatives.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recycling is important to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am partly responsible for the environmental problems related to heavy waste from consumption.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I want to be able to recycle everywhere I go.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel obligated to recycle.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I know more about environmental initiatives than my friends.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please answer the following questions regarding social media.

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree
I believe I have influenced some of my friends and/or followers with things that I have posted on social media websites.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to share my opinions and ideas on social media websites.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy posting things on social media websites that I know people will be interested in.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please answer these general questions regarding social media.

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree
I like to read posts that are related to the environment on social media websites.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to post things related to the environment on social media websites.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to read posts about college sports on social media websites.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to post things about college sports on social media websites.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Participate in our social media contests leading up to our first Green Game for a chance to win even more prizes!

Which contest would you like to find out more information about?

- ☐ The San Marcos River Photo Contest
- ☐ Bobcat Stadium Recycling Video Contest

Appendix B


Website Screenshots


Social Media Contests

Online Resources


- Academic Calendar
- Bobcatmail
- Catsweb
- TRACS
- Pay Tuition

Join the Conversation

Facebook 

Share this page 

Bobcats Go Green



BOBCATS GO GREEN

Bobcat Fans, are you ready to Go Green?


Now, you can recycle at Bobcat Stadium. Look for Bobcats Go Green recycling bins and volunteers at each home game. Let's all take care of Bobcat Stadium!

News & Updates

- Check out our new Social Media Contests! Enter for a chance to win \$50 gift cards.
 - Deadline for submissions: October 27, 2013**
- Texas State will be taking the Game Day Recycling Challenge this season!
 - The Texas State University Bobcats Game Day Recycling Challenge is on October 19, 2013**

Football Schedule

Find us on: Facebook.com/BobcatsGoGreen
Follow us on Twitter and Instagram: @BobcatsGoGreen



@BobcatsGoGreen
Want a free Bobcats Go Green Nalgene?
Like this status update and then comment

Online Resources

- Academic Calendar
- Bobcatmail
- Catsweb
- TRACS
- Pay Tuition

Join the Conversation

Facebook 

Share this page 

Social Media Contests

Enter for a chance to win prizes!

- The San Marcos River Photo Contest
- Bobcat Stadium Recycling Video Contest
- Bobcats Go Green Contest

Deadline for submissions: October 27, 2013.
Winners will be announced after the last home game of the season, November 23, 2013

<p>Online Resources</p> <p>Academic Calendar</p> <p>Bobcatmail</p> <p>Catsweb</p> <p>TRACS</p> <p>Pay Tuition</p> <p>Join the Conversation</p> <p>Facebook </p> <p>Share this page </p>	<p>The San Marcos River Photo Contest</p> <p>Do you love the San Marcos River? Show us how much you love and appreciate the San Marcos River by submitting a photo featuring the San Marcos River.</p> <ul style="list-style-type: none"> • Submit your photo with the following hash tags: #BobcatsGoGreen #SanMarcosRiverPhotoContest • The best photo will win a Patagonia Micro-D Fleece Jacket made of recycled plastic bottles • The runner-up photo will win a Patagonia Micro-D Fleece Beanie made of recycled plastic bottles • Deadline for submission: October 27, 2013. Winners will be announced after the last home game of the season, November 23, 2013 <p>Rules and Regulations:</p> <ol style="list-style-type: none"> 1. No negative messages will be accepted. Submissions should be funny, creative, artistic, etc. 2. Photos can be submitted via Instagram, Twitter/Vine, or Facebook. 3. Please do not forget the appropriate hash tags (e.g., #BobcatsGoGreen) 4. Photos must not contain sexual content, alcohol, or drugs of any kind. 5. Please do not be vulgar or use profanity. 6. The contest winners will be decided by a panel of BobcatsGoGreen volunteers. 7. Winners will receive their prizes by December 5, 2013.
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<p>Online Resources</p> <p>Academic Calendar</p> <p>Bobcatmail</p> <p>Catsweb</p> <p>TRACS</p> <p>Pay Tuition</p> <p>Join the Conversation</p> <p>Facebook </p> <p>Share this page </p>	<p>Bobcat Stadium Recycling Video Contest</p> <p>Want to help keep Bobcat Stadium environmentally friendly? Show other Bobcat Fans how great recycling is by submitting a Vine or Instagram video that promotes recycling at Bobcat Stadium.</p> <ul style="list-style-type: none"> • Submit your video with the following hash tags: #BobcatsGoGreen #BobcatStadiumVideoContest • The best photo will win a Patagonia Micro-D Fleece Jacket made of recycled plastic bottles • The runner-up photo will win a Patagonia Micro-D Fleece Beanie made of recycled plastic bottles • Deadline for submission: October 27, 2013. Winners will be announced after the last home game of the season, November 23, 2013 <p>Rules and Regulations:</p> <ol style="list-style-type: none"> 1. No negative messages will be accepted. Submissions should be funny, creative, artistic, etc. 2. Videos can be submitted via Instagram, Twitter/Vine, or Facebook. 3. Please do not forget the appropriate hash tags (e.g., #BobcatsGoGreen) 4. Videos must not contain sexual content, alcohol, or drugs of any kind. 5. Please do not be vulgar or use profanity. 6. The contest winners will be decided by a panel of BobcatsGoGreen volunteers. 7. Winners will receive their prizes by December 5, 2013.
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<p>Online Resources</p> <p>Academic Calendar</p> <p>Bobcatmail</p> <p>Catsweb</p> <p>TRACS</p> <p>Pay Tuition</p> <p>Join the Conversation</p> <p>Facebook </p> <p>Share this page </p>	<p>Bobcats Go Green Contest</p> <p>Bobcats, it's time to Go Green! Show us what it means to Go Green! Submit a photo or video of what going green means to you.</p> <ul style="list-style-type: none"> • Submit your photo or video with the following hash tags: #BobcatsGoGreen #BobcatsGoGreenContest • The best photo will win a Patagonia Micro-D Fleece Jacket made of recycled plastic bottles • The runner-up photo will win a Patagonia Micro-D Fleece Beanie made of recycled plastic bottles • Deadline for submission: October 27, 2013. Winners will be announced after the last home game of the season, November 23, 2013 <p>Rules and Regulations:</p> <ol style="list-style-type: none"> 1. No negative messages will be accepted. Submissions should be funny, creative, artistic, etc. 2. Videos and photos can be submitted via Instagram, Twitter/Vine, or Facebook. 3. Please do not forget the appropriate hash tags (e.g., #BobcatsGoGreen) 4. Videos and photos must not contain sexual content, alcohol, or drugs of any kind. 5. Please do not be vulgar or use profanity. 6. The contest winners will be decided by a panel of BobcatsGoGreen volunteers. 7. Winners will receive their prizes by December 5, 2013.
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Appendix C

Twitter Screenshots





paola-jaramillo 🌿 @paolaaa_67

3 Oct

Recycling every day! #BobcatsGoGreen ☐

pic.twitter.com/FmP1Q8nZZD

📷 Hide photo

↩ Reply

↻ Retweeted

★ Favorited

📌 Pocket

⋮ More



1

RETWEET

2

FAVORITES



7:36 PM - 3 Oct 13 · Details

Flag media



txstASG @txstASG

7 Oct

RT "@paolaaa_67: Recycling every day! #BobcatsGoGreen ☐

pic.twitter.com/ZDNdA8GWeL"

📷 Hide photo

↩ Reply

↻ Retweeted

★ Favorited

📌 Pocket

⋮ More



Home

Connect

Discover

Me

Search

**BobcatsGoGreen** @BobcatsGoGreen 2 Dec
Want a free Bobcats Go Green Nalgene? Like this status update and then comment below with a recycling fact for a... <fb.me/6zPJkz17z>
Retweeted by Nalgene Outdoor
Collapse Reply Delete Favorited Pocket More
1 RETWEET 1 FAVORITE
11:00 AM - 2 Dec 13 - Details
Reply to @NalgeneOutdoor

**Nalgene Outdoor** @NalgeneOutdoor 2 Dec
Sounds like a good plan: RT @LukeDavis13: I wish I could give everyone a big blue Nalgene full of ice water. #happiness
Expand Reply Retweet Favorite More

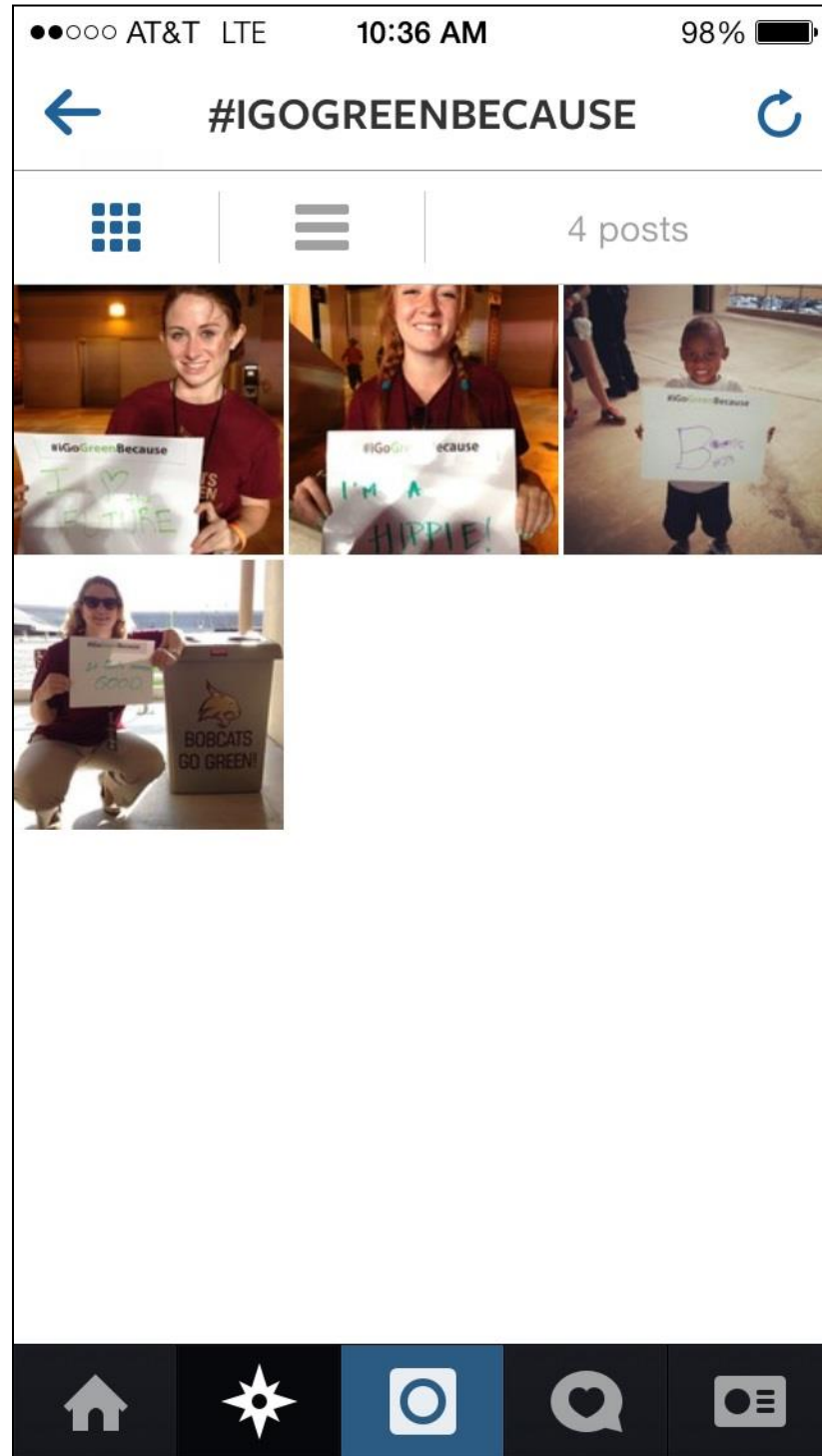
**TheAmericanMadeGuide** @TAMGIL 26 Nov
#MadeInTheUSA at @REI bit.ly/1geH6MS @NalgeneOutdoor @JadeYoga @GoMojl @TiGrLock @dakinenews @OriginalWD40 @WD40Bike @GearAid
Retweeted by Nalgene Outdoor

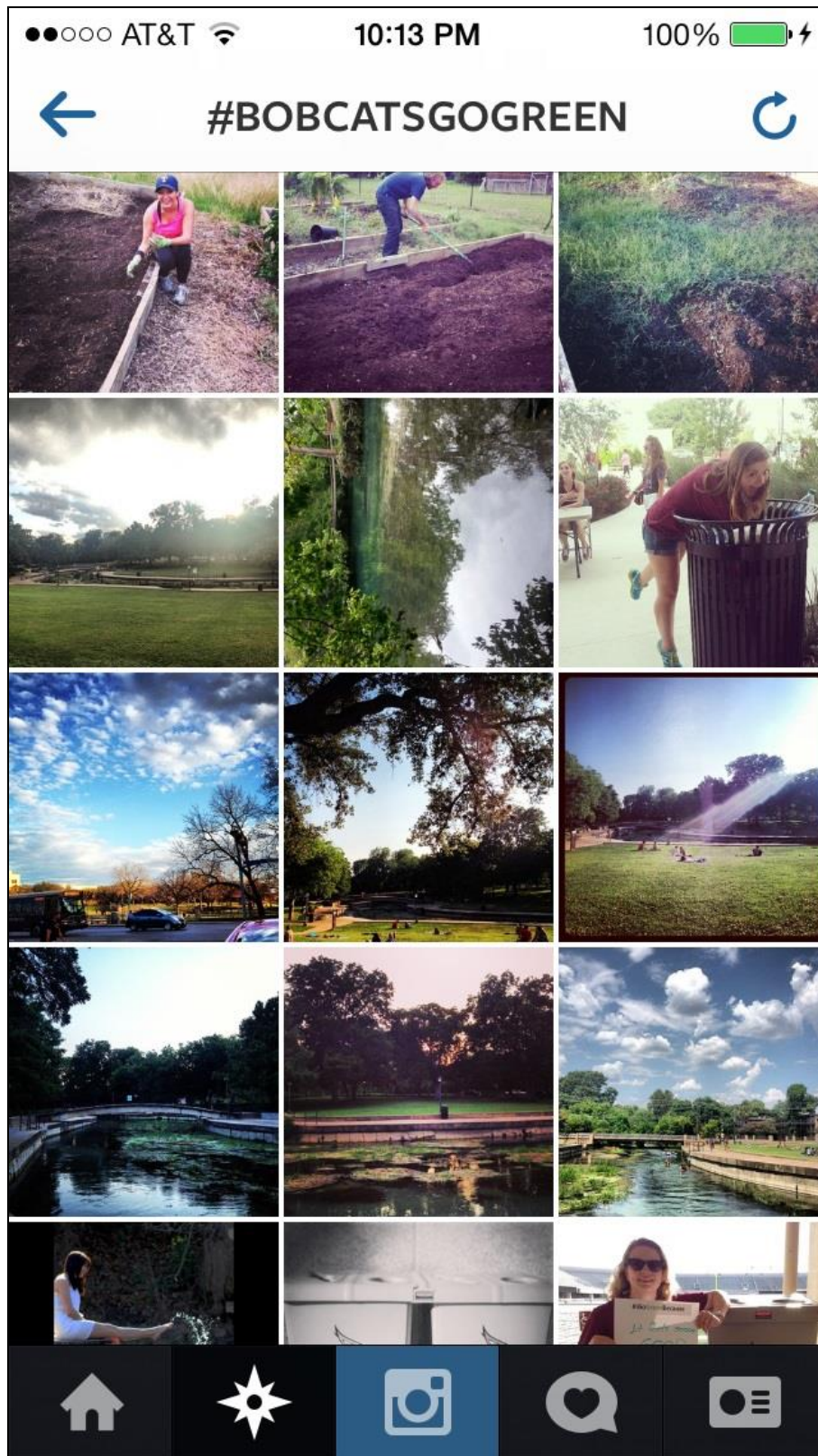


90

Appendix D

Instagram Screenshots





Appendix E

Facebook Screenshots





Bobcats Go Green - Texas State University shared a link.
October 15

Recycling Fact #2:

"Recycling" is the last step in the waste reduction hierarchy. First, you should "Reduce" how much you consume in general. Then, you should "Reuse" items like water bottles or purchase previously owned products!

To find out more about the waste reduction hierarchy:
<http://www2.epa.gov/recycle>



Reduce, Reuse, Recycle | US EPA

www2.epa.gov

The federal government is currently shut down. The EPA website and social media channels will not be updated until the federal government reopens. En la

Like · Comment · Share

25 people saw this post

Boost Post ▼



Bobcats Go Green - Texas State University shared a link.
October 16

Recycling Fact #3:

Did you know that recycled plastic bottles can be turned into a variety of household items?

For example, this beautiful home used 40,000 plastic bottles for insulation!

<http://www.gizmag.com/tvzeb-zero-energy-home-in-italy/26583/>



Zero energy home uses 40,000 recycled plastic bottles for insulation

www.gizmag.com

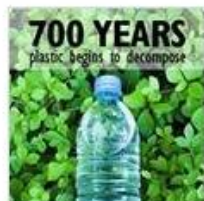


Bobcats Go Green - Texas State University shared a link.
October 18

Recycling Fact #4:

"Plastic is made from petroleum. Making the plastic water bottles used in the U.S. in one year takes enough oil and energy to fuel a million cars." -The Story of Bottled Water

<http://www.kleankanteen.com/about/plastics.php>



Klean Kanteen: Facts on Plastic, Bottled Water and the Environment

www.kleankanteen.com

Info about plastics and single-use water bottles. Alternatives on how you can reduce garbage, protect the environment and improve your

Like · Comment · Share

21 people saw this post

Boost Post



Bobcats Go Green - Texas State University shared a link.
October 21

Recycling Fact #5:

Plastic bottles can be made into a variety of everyday things!

<http://earth911.com/news/2012/08/16/8-things-made-from-recycled-plastic-bottles/>



8 Things Made from Recycled Plastic Bottles - Earth911.com

earth911.com

Recycling empty plastic bottles might seem humdrum when you're tossing them into that blue bin, but what they can become after that might surprise you. Earth911 and the International Bottled Water Association are working together to show that the possibilities ...

Like · Comment · Share



Bobcats Go Green - Texas State University · 83 like this

October 23 at 10:00am · 🌐

Recycling Fact #6:

Many companies are starting to find new and innovative ways to reuse and recycle worn out products. Check out these 100% recyclable flip-flops!

<http://www.thecleanestline.com/2013/07/re-imagining-rubber-plusfoams-flip-flop-recycling-revolution.html>



Re-Imagining Rubber – PLUSfoam's Flip-Flop Recycling Revolution

www.thecleanestline.com

By Ethan Stewart Even the most tender-footed outdoor enthusiasts amongst us are familiar with the scenario. You are walking back to camp from a quick creek swim, or perhaps making your way home after a day spent chasing the

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Bobcats Go Green - Texas State University · 83 like this

October 24 at 9:43am · 🌐

Recycling Fact #7:

Within the waste hierarchy, "Reduce, Reuse, Recycle", is a hidden (easily forgotten) step: Repair.

So a more complete waste hierarchy would be, "Reduce, Repair, Reuse, Recycle"!

Here are a couple of links to some great websites that show you how to make or fix a variety of things:

<http://www.ifixit.com/>

<http://www.instructables.com/>



DIY Instructables - Share What You Make

www.instructables.com

Instructables is a place that lets you explore, document, and share your DIY creations.

Like · Comment · Share



Write a comment...

Press Enter to post.

14 people saw this post

Boost Post



Bobcats Go Green - Texas State University shared a link.
October 24

Recycling Fact #8:

"Researchers have calculated that the energy required to produce bottled water is up to 2,000 times more than the energy required to produce tap water."

Read more at: <http://phys.org/news156506896.html#jCp>



How Much Energy Goes Into Making a Bottle of Water?

phys.org

(PhysOrg.com) -- Most people who buy bottled water have access to clean drinking water virtually for free (in the

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14 people saw this post

Boost Post



Bobcats Go Green - Texas State University shared a link.
October 25

Recycling Fact #9:

"For every six water bottles we use, only one makes it to the recycling bin."

Buy reusable water bottles like Nalgene to reduce the amount of plastic we use! (<http://www.target.com/c/coolers-water-bottles-sports-outdoors/nalgene/-/N-5xt58Z5d8jm>)

<http://kids.nationalgeographic.com/kids/stories/spacescience/water-bottle-pollution/>



Water Bottle Pollution -- National Geographic Kids
kids.nationalgeographic.com


Bobcats Go Green - Texas State University shared a link.

October 28

Recycling Fact #10:

Micro-plastics and plastics have littered our planet's beaches and oceans. This video shows how some birds are affected by micro-plastic.

Please dispose of your plastics properly, and recycle when possible.

<https://vimeo.com/25563376>



MIDWAY a Message from the Gyre
: a short film by Chris Jordan

MIDWAY, a Message from the Gyre is a short film. It is a powerful visual journey into the heart of an astonishingly symbolic environmental tragedy. On one

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21 people saw this post

Boost Post


Bobcats Go Green - Texas State University · 83 like this


October 29 at 5:40pm

Recycling Fact #11:

Most plastic water bottles are made of poly-carbonate plastic which can contain BPA (Bisphenol-a) which is a risk to human health. Use BPA free plastic water bottles like our Bobcats Go Green Nalgene's (50 random Bobcats Go Green survey respondents will win these) in order to protect yourself from BPA.

For more information on BPA:
<http://science.howstuffworks.com/environmental/green-science/bpa.htm>




Bobcats Go Green - Texas State University shared a link.


October 30

Recycling Fact #12:

Some companies are asking their customers to return their products when they are done with them in order to re-purpose them. For example, Patagonia has the Common Threads Partnership that aims to close the loop on the product life cycle by recycling products that they have made and then making something new with it.

This video will inspire you to get outside this weekend!

<https://vimeo.com/64836684>



Common Threads Partnership

Our Common Threads Partnership aims to close the loop on the product life cycle – to make old clothes into new and keep them from ever reaching a landfill or incinerator.....

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24 people saw this post

Boost Post


Bobcats Go Green - Texas State University shared a link.

October 30

Recycling Fact #13:

"Americans spend \$15 billion on bottled water every year." Watch this video to see how much more expensive bottled water is compared to tap water:

<http://www.theatlantic.com/video/index/278580/why-is-bottled-water-so-expensive/>



Why Is Bottled Water So Expensive?

www.theatlantic.com

Business editor Derek Thompson looks at how such a simple commodity became as pricey as soda.

Like · Comment · Share

18 people saw this post

Boost Post


Bobcats Go Green - Texas State University shared a link.
 November 6

Recycling Fact #14:

"Recycling efforts in the United States divert 32 percent of waste away from landfills. That prevents more than 60 million tons (54.432 million metric tons) of garbage from ending up in landfills every year" [source: EPA]

<http://science.howstuffworks.com/environmental/green-science/recycling2.htm>



HowStuffWorks "How Recycling Works"
science.howstuffworks.com
 Recycling involves taking something useful and turning it into something new instead of throwing it away. Learn about recycling and the many types of recycling.

Like · Comment · Share

23 people saw this post

Boost Post


Bobcats Go Green - Texas State University shared a link.
 November 11

Recycling Fact #15:

What's going on in your community?

In San Antonio, water is recycled by treating it and then sending the wastewater effluent (just shy of being drinkable) to the River Walk and golf courses, as well as industrial customers like the Toyota Manufacturing Plant, Microsoft Data Center, USAA Insurance. This process alleviates pressure off of the Edwards Aquifer, which is San Antonio's main water supply.

<http://www.npr.org/2011/10/01/140937267/recycled-water-quenches-san-antonios-thirst>



Recycled Water Quenches San Antonio's Thirst
www.npr.org

Bobcats Go Green - Texas State University shared a link.
November 14

Recycling Fact #16:

Tomorrow is America Recycles Day! Make a pledge to Reduce, Reuse, and Recycle!

<http://blog.epa.gov/blog/2013/11/america-recycles-ay-together/>



Let's Celebrate America Recycles Day Together! | It's Our Environment
blog.epa.gov

America Recycles Day is November 15, and we want to celebrate with you. On

Like · Comment · Share

Kim Porterfield and CommunityRelations Txtst like this.

Write a comment...
Press Enter to post.

32 people saw this post


Boost Post

Bobcats Go Green - Texas State University shared a link.
November 18

Recycling Fact #17:


Many football stadiums and even some cities have gone to "Zero Waste" programs. This is when recycling AND composting is implemented into waste management. Imagine a world where we divert almost everything from landfills...

<http://footprint.osu.edu/zero-waste-ohio-stadium/>



Buckeye Footprint - The Ohio State University
footprint.osu.edu


Ohio Stadium is the largest stadium in the country to achieve zero waste, which refers to diverting 90% or more of materials from the landfill by recycling and composting. Ohio State is setting a new standard for collegiate stadium recycling.


Bobcats Go Green - Texas State University · 83 like this
November 20 at 2:48pm ·

Recycling Fact #18:

There are many unique ways to recycle something...


<https://www.pinterest.com/cindylouwho38/unique-recycling/>





unique recycling
www.pinterest.com

Cindy Stem is using Pinterest, an online pinboard to collect and share what inspires you.

Like · Comment · Share


 Megan Marie Clary likes this.





Press Enter to post.

42 people saw this post

 Boost Post


Bobcats Go Green - Texas State University shared a link.
November 21

Recycling Fact #19:

Did you know you can recycle wine corks?

Click on the following link to see 13 other unique things that can be recycled.

<http://www.mnn.com/lifestyle/recycling/stories/things-that-can-be-recycled-14-unique-items>



Things that can be recycled: 14 unique items
www.mnn.com

Check with your local department of public works because in many areas, you can recycle more than ever.


Bobcats Go Green - Texas State University shared a link.
 November 22

Recycling Fact #20:

As technology continues to grow rapidly, it is more important than ever to recycle your electronics. Remember to Reduce the amount of new electronics you buy and Reuse electronics that still function.

<http://www.epa.gov/osw/conserve/materials/ecycling/donate.htm>

Where Can I Donate or Recycle My Used Electronics? | US EPA
www.epa.gov

Disclaimer: These sites are listed for informational purposes only. US EPA does not endorse any of these entities nor their services.

Like · Comment · Share

19 people saw this post

Boost Post


Bobcats Go Green - Texas State University · 83 like this
 December 2 at 1:00pm

Want a free Bobcats Go Green Nalgene? Like this status update and then comment below with a recycling fact for a chance to win one of many Nalgenes that we are giving away this week!




Like · Comment · Share

1

Jessica Legendre, Frankie Alfano, Courtney Blake Eberhard and 13 others like this.
 Top Comments


 Write a comment...

Press Enter to post.

Appendix F

Campaign Posters



Appendix G

Campaign Contest Rules



**BOBCATS
GO GREEN**



**SOCIAL MEDIA CONTEST
CALL FOR ENTRIES**

Tweet every time you recycle
Post a photo of yourself recycling
Submit a creative or funny video involving recycling

#BobcatsGoGreen for a chance to win prizes
Submission deadline October 27, 2013

Find us on Facebook.com/BobcatsGoGreen for rules and regulations.
Follow us on Instagram and Twitter @BobcatsGoGreen

POWERED BY THE TEXAS STATE UNIVERSITY SYSTEM | Texas State University is a tobacco-free campus.

**TEXAS
STATE
UNIVERSITY**
The rising tide of Texas

xpdx

The San Marcos River Photo Contest

Do you love the San Marcos River? Show us how much you love and appreciate the San Marcos River by submitting a photo featuring the San Marcos River.

- Submit your photo with the following hash tags: #BobcatsGoGreen
#SanMarcosRiverPhotoContest
- The best photo will win a Patagonia Micro-D Fleece Jacket made of recycled plastic bottles
- The runner-up photo will win a Patagonia Micro-D Fleece Beanie made of recycled plastic bottles
- Deadline for submission: October 27, 2013. Winners will be announced after the last home game of the season, November 23, 2013

Rules and Regulations:

1. No negative messages will be accepted. Submissions should be funny, creative, artistic, etc.
2. Photos can be submitted via Instagram, Twitter/Vine, or Facebook.
3. Please do not forget the appropriate hash tags (e.g., #BobcatsGoGreen)
4. Photos must not contain sexual content, alcohol, or drugs of any kind.
5. Please do not be vulgar or use profanity.
6. The contest winners will be decided by a panel of BobcatsGoGreen volunteers.
7. Winners will receive their prizes by December 5, 2013.

Bobcat Stadium Recycling Video Contest

Want to help keep Bobcat Stadium environmentally friendly? Show other Bobcat Fans how great recycling is by submitting a Vine or Instagram video that promotes recycling at Bobcat Stadium.

- Submit your video with the following hash tags: #BobcatsGoGreen
#BobcatStadiumVideoContest
- The best photo will win a Patagonia Micro-D Fleece Jacket made of recycled plastic bottles
- The runner-up photo will win a Patagonia Micro-D Fleece Beanie made of recycled plastic bottles
- Deadline for submission: October 27, 2013. Winners will be announced after the last home game of the season, November 23, 2013

Rules and Regulations:

1. No negative messages will be accepted. Submissions should be funny, creative, artistic, etc.
2. Videos can be submitted via Instagram, Twitter/Vine, or Facebook.
3. Please do not forget the appropriate hash tags (e.g., #BobcatsGoGreen)
4. Videos must not contain sexual content, alcohol, or drugs of any kind.
5. Please do not be vulgar or use profanity.
6. The contest winners will be decided by a panel of BobcatsGoGreen volunteers.
7. Winners will receive their prizes by December 5, 2013.

Bobcats Go Green Contest

Bobcats, it's time to Go Green! Show us what it means to Go Green! Submit a photo or video of what going green means to you.

- Submit your photo or video with the following hash tags:
#BobcatsGoGreen #BobcatsGoGreenContest
- The best photo will win a Patagonia Micro-D Fleece Jacket made of recycled plastic bottles
- The runner-up photo will win a Patagonia Micro-D Fleece Beanie made of recycled plastic bottles
- Deadline for submission: October 27, 2013. Winners will be announced after the last home game of the season, November 23, 2013

Rules and Regulations:

1. No negative messages will be accepted. Submissions should be funny, creative, artistic, etc.
2. Videos and photos can be submitted via Instagram, Twitter/Vine, or Facebook.
3. Please do not forget the appropriate hash tags (e.g., #BobcatsGoGreen)
4. Videos and photos must not contain sexual content, alcohol, or drugs of any kind.
5. Please do not be vulgar or use profanity.
6. The contest winners will be decided by a panel of BobcatsGoGreen volunteers.
7. Winners will receive their prizes by December 5, 2013.

Appendix H

Campaign Proposal

TEXAS STATE UNIVERSITY PROPOSAL FOR RECYCLING PROGRAM: JIM WACKER FIELD AT BOBCAT STADIUM

“The challenges facing Texas State students are many, but a central topic of concern revolves around sustainability.” -2010/2011 Texas State Common Experience: Sustainability

Overview

Duy Le, a graduate student of the Sustainability Studies program, is pleased to submit this proposal for a recycling program at the Jim Wacker Field at Bobcat Stadium in order to support Texas State University in its goal of moving towards a more environmentally friendly campus. The addition of a recycling program to Bobcat Stadium will be a positive step for Texas State University’s commitment to the environment and sustainability. Recycling is an issue that affects the students, staff, faculty, and administrators of Texas State, as well as the San Marcos community. In calendar year 2012 (August), 12.85 tons of single stream recycling was collected on campus. In 2013 and beyond, Texas State University should confirm its commitment to the environment and sustainability by extending its current recycling efforts around campus to Bobcat Stadium.

Objectives

An important part of being an environmentally responsible institution is the commitment to “Reduce, Reuse, and Recycle” within the community. Bobcat Football brings the San Marcos community together. Thus, a recycling program at Bobcat Stadium will further connect the community by combining football with an environmentally friendly initiative that will benefit the San Marcos community and the environment. The following are overall objectives of the proposed recycling program:

- Install recycling bins throughout the stadium
- Create a “Green Game” during the campaign: become the 80th university and the 4th Texas university to take the EPA Game Day Challenge (supported by the Environmental Protection Agency) next football season
- Encourage attendees to minimize waste
- Educate attendees about the waste hierarchy: reduce, reuse, and recycle and the positive impact that people can have on the environment when they are aware about their consumption and disposal of products

Opportunities

The opportunities that will arise from implementing the aforementioned objectives are as follows:

- Reduce the environmental impact of Texas State University football games

- Cut down costs associated with landfill waste by recycling and/or composting most of what is purchased at each football game
- Increase participation and awareness of waste reduction programs like recycling and composting
- Demonstrate Texas State's commitment to sustainability and the environment

Proposal

Currently, Texas State University's recycling bins around campus are supplied by Texas Disposal Systems (TDS). Bobcat Stadium is one of the facilities on campus that do not currently have recycling bins. TDS could potentially satisfy one of the proposed objectives by installing Clearstream X-Frame recycling bins near concession stands, restrooms, and exits within the Bobcat Stadium. Another option for a recycling bin provider would be a company called xpedx. xpedx has a service center in Houston, TX that can efficiently supply the university with recycling bins. xpedx could potentially provide branded bins or temporary paper bins for all home games.

These "Green Games" will increase the participation and awareness of recycling and composting, as well as, educate the attendees of the game about the waste hierarchy: reduce, reuse, and recycle. The game will show them the positive impact that people can have on the environment when they are aware about their consumption and disposal of products.

As a university that is committed to Sustainability, Texas State should motivate the community to help the university take on the EPA supported "Game Day Challenge" where the university will compete with 3 other Texas football programs who participate in the nationwide challenge. There are currently 79 football programs nationwide participating in the challenge, and I believe Texas State should be the 80th school to join the fun and exciting "Game Day Challenge". The Game Day Challenge should be scheduled during a game that is expected to have high attendance (e.g. during Family Weekend or Homecoming).

These are initiatives that will demonstrate Texas State University's commitment to sustainability and the environment. Additionally, these initiatives will cut waste management costs for the university. Ultimately, these initiatives will benefit the environment and gain respect from all the students, staff, faculty, and administrators of Texas State, as well as the San Marcos community.

Rationale

- Most construction standards for football stadiums do not require recycling containers; Texas State should strive to be above that standard
- During the Texas State vs. Texas Tech game, which had the highest attendance on record for the university's football program (33,006), it is estimated that over 8000 plastic bottles were sold in the stadium that night
- The Texas State University Common Experience theme in 2010-2011 was Sustainability: Science, Policy, and Opportunity. That same school year, Texas State unveiled the plans to expand Bobcat Stadium; however,

recycling was not part of the final plans. This will be a good opportunity to demonstrate Texas State's dedication to sustainability and the environment.

Execution Strategy 1: Recycling during all home games of the 2013 football season

I suggest we implement this project using the following steps. This will be a large group effort and staying organized throughout the process will be crucial to success. The following strategy is similar to Ohio State University's Zero Waste project. Ohio State had the highest diversion rate of waste out of all the universities that participated in the 2012 Game Day Challenge. Thus, their success can be a reliable model for our execution strategy.

Step 1: First and foremost, the Athletics Department needs to be on board with implementing a recycling program into next season. Administration, facilities and game operations, as well as marketing and promotions sectors of the Athletics Department will be notified of the project.

Step 2: A committee should be formed with the following groups:

- Facilities sector of the Athletics Department
- Stadium management
- Waste management
- Food vendor
- Marketing
- Recycling bin providers
- Organizations that help with collection of the recycling during and after each game

Step 3: Under the guidance of the newly formed committee, we should research other schools that have successful football stadium recycling programs like Ohio State University, University of Colorado-Boulder, and Penn State University. Contact these schools for advice and feedback throughout the development of the main strategies.

Step 4: Before we can think about "recycle" in the waste hierarchy, we have to consider "reduce and reuse". The committee should re-evaluate the current products being sold in the stadium and then consider working with the food vendor to switch to more compostable and recyclable products.

Step 5: Improve the current waste infrastructure of the stadium by conducting an inventory and mapping of the existing waste containers inside Bobcat Stadium.

- Decide how many recycling bins and composting bins should be installed in the stadium and figure out how much it is going to cost
- The committee should pursue sponsorship and/or grants to help fund the initiative
- Finally, reconfigure the waste infrastructure to optimize the recycling and composting efforts of everyone in the stadium

Step 6: Design Education and Outreach programs

- Education intervention strategies should be designed and implemented.
 - Trash containers should have appropriate signage in close proximity in order to remind attendees to recycle
 - Recycling containers should have educational signage on and in close proximity of each container
- Students and Bobcats Fans should be exposed to the pros and cons as well as the environmental impact of recycling throughout the football season
 - Student volunteers will be facilitating information by hand (e.g. small cards containing QR codes as opposed to pamphlets), verbally, and electronically via surveys
- Develop a marketing plan that will educate and engage the fans to be actively recycling and composting throughout each game
 - Announcements could be made or a message can be displayed on the jumbotron
 - Other materials include banners, advertisements, pamphlets, cards, stickers
- Motivate the fans by becoming the 80th university and the 4th Texas university to take the Game Day Challenge (Game Day Challenge is supported by the Environmental Protection Agency)
 - Create an overall marketing strategy to promote this “green game”
 - Consider scheduling this “green game” during the weekend following the Texas Recycles Day campaign or during Family weekend. Additionally, Homecoming is a viable option to due to the high attendance rate
 - Create a name for the initiative as well as a slogan
 - Work with food vendors to optimize the marketing strategy

Step 7: Develop the best strategy for the in-progress game collection process

- Develop an understanding of the waste disposal throughout each game
- Create a new strategy with the newly installed recycling and composting bins
 - A plan must be devised to logistically be efficient in the collection and disposal of recycling throughout the game

Step 8: Post-game cleanup process can be inefficient and expensive if the current waste management crew has to deal with recycling and compost after each game. Logistics like the type of bags to use as well as the hauling process of the bags will also need to be identified. The following are a list of groups that can potentially assist with post-game cleanup:

- Student Organizations and/or volunteers
 - ECO
 - Net Impact
 - WaterAid
 - Heat
- Community Service Groups

- Local ROTC or Boy Scouts organizations

Step 9: Implement the execution strategy

- Create data capture plan for each home game in order to monitor progress
 - Data analysis via surveys handed out pre- and post-game
- Hold meetings with the project committee in order to make readjustments and additions to the initiative throughout the season

Step 10: Review

- Complete a year end review
- Work with sports marketing to make improvements and secure funding for the next football season

Resources

- Texas Disposal Systems (www.texasdisposal.com)
- xpedx (www.xpedx.com)
- Environmental Service Committee (www.txstate.edu/esc/)
- Chartwells (www.chartwellshighereducation.com/)
- Game Day Challenge (EPA) (www.gamedaychallenge.org)
- Ohio State University Zero Waste Program (<http://sustainability.osu.edu/>)
- Texas State University Athletics Department (www.txstatebobcats.com)

Timeline for Execution

Description	Start Date	End Date
Planning Phase	May 2013	Mid-August 2013
-Outline plan, define roles, secure funding		
Prep Phase	June 2013	August 2013
-Order materials and then start installation		
-Develop marketing and communications plan		
Implementation Phase	September 2013	November 2013
-Control and monitor progress with data capture plan		
Review Phase	November 2013	December 2013
-Committee reviews end of the year results		
-Develop plans for the future of initiative		

Pricing Estimates

The following are estimates of some of the costs that will be incurred based off of Ohio State University's financial estimates for their Zero Waste program. Ohio Stadium is the 4th largest on-campus facility in the nation and has a seating capacity of 102,329. The Bobcat Stadium is a third of the size of Ohio Stadium. Thus, the costs will only be a fraction of what Ohio State University incurred. The Environmental Service Committee will be funding this pilot program.

Costs

- Containers, signage, front loading dumpster, and carts to transport bags = \$18,000
- Marketing and communication during game (e.g. Jumbotron, banners, advertisements, pamphlets, cards, stickers) = \$900
- Data gathering costs (e.g. surveys for data capture plan) = \$50
- Education and Outreach initiatives = \$3,000

Staff Costs

- \$500 will be allotted per game for Student Organizations that volunteer, thus, 6 home games = \$3,000
- Gloves, bags, and cleaning supplies = \$50

Rough Estimate of Total Costs: \$25,000

Conclusion

I look forward to working with everyone in supporting Texas State University's efforts to bring recycling into Bobcat Stadium. I am confident that our team can meet the challenges that lay ahead. With sustainability and the planet in mind, we will educate and motivate our Bobcat Football fans to be stewards of the environment. I truly believe that these initiatives will connect our community and inspire environmentally responsible behavior within it.

If you have questions about this proposal, feel free to contact me at your convenience by email at DL1172@txstate.edu or by phone at (832)380-9972. I hope to discuss this initiative further with anyone who is interested in supporting it.

Thank you for your time,

Duy Le

Appendix I

IRB Proposal

Research Objectives

This study aims to measure the effects of social media on recycling behavior at a college football stadium. A social media campaign will be developed for the Bobcats Go Green recycling campaign at the Texas State University Bobcat Stadium. The Texas State Bobcats, an NCAA Division 1 (FBS) football program, and its fans will be the subjects of the social media campaign. The questions that this study seeks to answer are:

1. What influences recycling behavior?
2. What are the effects of social media on recycling behavior?
3. Does recycling at a college football stadium change students' attitudes towards recycling?
4. Does recycling at a college football stadium increase the awareness of other environmental initiatives at a university?

Surveys will be administered online throughout the 2013 Texas State Bobcats football season in order to measure the effects of the social media campaign. The surveys will be administered during different time frames throughout the season. The date that the surveys will be administered will be noted in order to measure progress. Results that show an increase in social media participation during the marketing campaign positively affecting recycling behavior at the Bobcat Stadium would be beneficial to the study.

This study and the results from focus groups and surveys will be used in a thesis/project.

Subject Recruitment

- a. Subject Characteristics: The participants in this study will include Texas State University students that are 18 years of age or older.
- b. Selection: Students that take the survey online or in-game will do so voluntarily. Focus groups will consist of students of a class that is interested in participating.
- c. Recruitment Source: Texas State University
- d. Informed Consent Process: Focus groups will sign a letter of consent before interview.

Methods and Procedures

This study will hold focus groups and surveys with students throughout the season. After every home game, one focus group will be organized in order to gauge the progress of the campaign. Focus groups will provide insight to students' reactions and receptiveness to the social media marketing campaign. Surveys will be administered in-game via tablet or laptop on a voluntary basis. All attendees of the football games with a valid Texas State e-mail address can take the survey. Additionally, surveys will be administered online during specific time frames between each home game.

- a. Site of Focus Groups: Texas State University
- b. Dates of Study: September 7-December 15, 2013

c. Data to be collected: Survey and Focus Groups Data

- Recordings of focus group participants will be audio only, will be kept in a safe, encrypted location (TRACS) and will be destroyed with the study is over

Benefits to Subjects

Potential Benefits to the students/respondents include:

- Participate in social media contests
- Chance to win prizes for taking surveys
- Learn more about recycling
- Be a part of an environmentally responsible initiative

Risks to Subjects

This study poses no risks (physical, emotional, social, or legal) to the students/respondents involved. The exemption based on category 2 completely covers the intended research. Participation in focus groups and surveys is voluntary. Surveys will be anonymous in terms of identity but general demographics will be requested. Surveys will be taken online, and there will not be a time limit for completion.

- Exemption Category: Category 2 covers research involving the use of survey and observation procedures. In this study the information obtained will be recorded in such a manner that human subjects cannot be identified, directly or through identifiers linked to the subjects. There is nothing in the study that, if disclosed

could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation. Also, the surveys will not cover any sensitive or personal topics that may cause stress to study participants and the project will not involve anyone under the age of 18.

Costs, Compensation, and Incentives

Students who take the survey will be able to participate without any costs to them. There will be no compensation for participation. As incentives for participation, students who take the surveys will have multiple chances to win prizes.



Institutional Review Board Application

Certificate of Approval

Applicant: Duy Ba Le

Application Number : 2013R9493

Project Title: Bobcats Go Green: Using Social Media to Influence Recycling Behavior at a College Football Stadium

Date of Approval: 07/31/13 13:34:48

Expiration Date: None(Application Approved - Exempt)

Assistant Vice President for Research
and Federal Relations

Chair, Institutional Review Board

Appendix J

SPSS Syntax

```
COMPUTE VALuni=(Q5_3 + Q5_4) / 2.  
EXECUTE.  
COMPUTE VALenv=(Q5_1 + Q5_2) / 2.  
EXECUTE.  
COMPUTE SN=Q13_1.  
EXECUTE.  
COMPUTE BAC=(Q6_1 + Q6_2 + Q6_3 + Q6_4) / 4.  
EXECUTE.  
COMPUTE ATT=(Q9_1 + Q10_1 + Q11_1) / 3.  
EXECUTE.  
COMPUTE PN=(Q13_5 + Q13_6 + Q13_7) / 3.  
EXECUTE.  
COMPUTE URprogram=(Q8_3 + Q8_4 + Q8_5) / 3.  
EXECUTE.  
RELIABILITY  
  /VARIABLES=Q5_3 Q5_4  
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Appendix K

Final Budget

Budget: Bobcats Go Green (ESC Funding)		
Transaction	Credit	Debit
ESC Funding 2013	\$25,000.00	
xpedx: Glutton 2-Stream Recycling Station (Qty: 25, Each: \$397.03)		\$9,925.75
xpedx: Glutton 4-Stream Recycling Station (Qty: 15, Each: \$702.31)		\$10,534.65
xpedx: Recycle decals "PLASTIC ONLY" white letters (Qty: 40, Each: \$4.89)		\$195.60
Can Liners		\$209.92
Student Volunteers (6 Home Games, \$500 available each game)		\$3,000.00
TDS: Delivery of 5- 8yd front load recycling containers		\$1,235.00
Signage and posters for the Stadium and throughout campus (Qty: 200)		\$120.27
Posters for Social Media Contests (Qty: 100)		\$60.13
Total	\$25,000.00	\$25,281.32

Budget: Bobcats Go Green (xpedx Corporate Sponsorship)		
Transaction	Debit	Credit
xpedx: Corporate Sponsorship	\$2,000.00	
Prizes for Social Media Contests		\$90.00
Bobcats Go Green custom logo 16 Ounce Wide-Mouth Nalgene Bottles		\$377.00
Boardwalk General-Purpose Latex-Free Vinyl Gloves		\$27.52
Rubbermaid Utility-Duty Triple Trolley Cart		\$166.99
Lanyards for Volunteers Credentials		\$27.00
Total	\$2,000.00	\$688.51

Appendix L

Bobcats Go Green Checklists

Campaign Logistics Checklist.

- ☐ Discuss and finalize budget with Nancy Nusbaum (nnusbaum@txstate.edu) and the Environmental Service Committee
- ☐ Contact environmental student organizations to volunteer for games (e.g., H.E.A.T., Net Impact, ECO, WaterAid, Wildlife Society, Horticulture)
- ☐ Retrieve and transfer recycling bins from the West Warehouse to Bobcat Stadium (Contact: David Bisett – db62@txstate.edu)
- ☐ Secure storage space at Bobcat Stadium for the season (Contact Jeremy Stolfa, Assistant Director of Athletics – j_s335@txstate.edu)
- ☐ Submit order to Texas Disposal Systems for recycling specific front load dumpsters (Contact: Jen Sembera, Recycling & Composting Coordinator for TDS – jseembera@texasdisposal.com)
- ☐ Develop plan for quantifying waste diversion rates and metrics
- ☐ Contact Mario Garza (Supervisor of Recycling & Waste Management - mg18@txstate.edu) to secure electric cart for the season. A safety test will have to be taken by all drivers of the cart through TRACS. The cart will be stored at the Grounds Operations facility between The Meadows Center (Aquarena) and the golf course with

permission from Jay Cody (Assistant Director of Grounds Operations – jc22@txstate.edu)

Marketing Checklist.

- ☐ Manage Social Media accounts (Facebook, Twitter, Instagram)
- ☐ Take GATO Training Course in order to manage Texas State webpages (Contact: Chris Reynolds, Coordinator of Facilities Inventory – cr20@txstate.edu)
- ☐ Create social media contests in order to educate and engage fans
- ☐ Design posters with help from University Marketing (Contact: Diana Harrell, Director of University Marketing – dh32@txstate.edu)
- ☐ Print posters for contests and general marketing. Use paper from xpedx (Contact: Nan Faessler, xpedx contact & corporate sponsor – nan.faessler@ipaper.com) and then print at University Printing Shop (Contact: printshop@txstate.edu)
- ☐ Generate PSA for game days (Contact: Bryan Miller, Director of Athletics Marketing & Promotions – bryanmiller@txstate.edu)

Game Day Preparation Checklist.

- ☐ Get names and Texas State e-mails of all possible volunteers for game and then send list to UPD's Rolando Belmares (Rolando@txstate.edu) and Alexander Villalobos (alex-villalobos@txstate.edu)
- ☐ Contact Jeremy Stolfi (Assistant Director of Athletics – j_s335@txstate.edu) in order to access stadium and storage area

- ☐ Pick up electric cart and drive it to the stadium
- ☐ Pull out recycling bins from the storage area and then set them up inside and outside of the stadium. Be sure to double bag each bin
- ☐ Train volunteers and describe/designate roles for game day
- ☐ Provide T-shirts and lanyards with worker passes for volunteers before the game

Game Day Checklist.

- ☐ Bins should already be set-up the day before the game. On game day, instruct volunteers to arrive approximately one hour before the stadium gates open at 4pm. When they arrive, proceed with discussion of logistics and roles
- ☐ Provide volunteers with bin liners and latex-free gloves
- ☐ Use GroupMe app in order to communicate with volunteers throughout the game
- ☐ Transfer full bags to the back of the electric cart that will be parked on the lawn in front of Gate 1 & 2
- ☐ When electric cart is full, drive load to the back of the Bobcat Club parking lot where the TDS recycling front loaders will be. Bags are not recyclable, so empty contents into the front loaders and dispose of the bags

Post-Game Day Checklist.

- ☐ Have volunteers wipe down each recycling bin with disinfectant wipes
- ☐ Use the cart to stack bins and then drive them to the storage area to put away

☐ \$500 a game will be distributed to the accounts of the student organization/s that volunteered (Contact: Carolyn Holesovsky, Senior Administrative Assistant of FSS Planning – ch26@txstate.edu)

Appendix M

Game Metrics

Home Game	5 Front Loaders	1 Front Loader	Weight in LBs	Game Attendance
07-Sep	120	16	136.00	20,136
28-Sep	N/A	N/A	N/A	22,150
12-Oct	720	820	1540.00	15,210
19-Oct	580	N/A	580.00	15,684
26-Oct	N/A	140	140.00	18,140
23-Nov	N/A	N/A	N/A	17,051

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