ASSESSING THE IMPACT OF ACADEMIC PROGRAMS ON STUDENT INTENTIONS TOWARD SELECTING AN ENVIRONMENTALLY SUSTAINABLE WORKPLACE

by

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ABSTRACT

The ecosystem has been negatively impacted by the growth of population, an increase of industrial enterprise and an improper use of resources. As humans are the main catalyst of this global change, we have entered the Anthropocene epoch. Worldwide discussions contribute to an overall awareness that corporations need business strategies that incorporate environmentally sustainable initiatives. This poses many challenges as the majority of change initiatives fail. Creating this change requires leadership that is educated about environmental sustainability. Higher education institutions play a role in moving society toward environmental sustainability by integrating this education within the curricula and university culture. The purpose of this study was to assess the impact of academic programs on student intentions toward the selection of an environmentally sustainable workplace. The theory of planned behavior was used to determine, among students, the relationship between attitude, subjective norms and perceived behavioral control toward environmentally sustainable behavior and the intention to select an environmentally sustainable workplace. A survey was distributed to students attending a public university in the southeastern United States enrolled in three different degree programs. While the results statistically showed no significance between the groups, the research models did show that attitudes and subjective norm lead toward the students intentions to select an environmentally sustainable workplace, while their college major program is not a significant path to intention. Finally, there are thoughts on future research and ideas for future integration within higher education.

DEDICATION

This thesis is dedicated to my girls, Avery and Maggie. You were my inspiration and motivation to begin this journey and we will see where this leads us on our adventure together. Keep moving forward.

ACKNOWLEDGMENTS

I am pleased to say that I have had so much support during this arduous process. My most sincere acknowledgment goes to Michael. Your encouragement to begin a graduate degree program has been a pivotal decision in my life. You have believed in me and supported me from the moment I enrolled in my first class, all the way to graduation. Through the tears of joy and frustration, you have been instrumental in my success within this program. Knowing that you were always there to lean on, I am forever grateful. Avery and Maggie, you are my inspiration to succeed. I will never forget the late nights when we all had homework. Your patience, understanding and love has made this experience even more memorable and enjoyable. I hope to be a role model for you to never stop learning. My entire family has been there, lifting me up when I doubted myself and my abilities when things got tough. What an incredible family of strong, hard-working women that I am a part of. I must not forget the girls at work, Jo, Rosa, and Anne, also pursuing their own graduate degrees. I remember how nervous we were when we all started. Well, look at us now, we will all finish at the same time so it's time to celebrate! We did it! I must thank my thesis committee for their time, knowledge, and support; Dr. Yeonho Shin, Dr. Kimberly Severt, Dr. Andrew Billings, Dr. Melvin Lewis, and Dr. Seung Jung. Good luck to you with your future research as I now have a better appreciation for what you do.

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INTRODUCTION

This paper defines sustainability and emphasizes how creating a global change to protect the environment depends on human actions. This global change sparks international discussions that bring awareness to the importance for business and industry to build environmental sustainability within their business strategy. To address these business strategies that potentially lead to higher profits, properly educated leadership must be in place. This need for education means that universities serve as a bridge between students who will soon enter the workforce and industry.

Background

As defined in the Brundtland Report, "sustainability is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtlant, 1987, p. 37). Paletta, Fava, Ubertini, Bastioli, Gregori, La Camera and Douvan (2019) mention that sustainable practices have been integrated into the structure and systems of universities since the 1990's. Dmochowski, Garofalo, Fisher, Greene and Gambogi (2016) state how sustainability is not only limited to the overall mission of universities, but to also include it within the curricula. Organizations are available as resources to assist higher education leadership with this implementation. Certain institutions also have toolkits and training to assist faculty with modifying curriculum to encompass environmental sustainability.

Universities continue to improve and promote their environmentally sustainable

initiatives and behaviors on campus and within their communities, as well as integrating environmentally sustainable curricula (ULSF, 1990; Dyer & Dyer, 2017). As more universities build curricula with sustainable initiatives, students exiting college may decide to choose a workplace that has environmental sustainability as part of its mission. There may be variables that influence a student's choice to work for such a company. These variables may include their own personal attitudes toward environmental sustainability, possibly their perceptions of others opinions and actions around them pertaining to environmental sustainability, as well as, if they feel as if they are prepared to work for such a company based on what has been learned within their specific college major program. In response to this concern, this research investigates which of these variables that influence students to select an environmentally sustainable workplace. The results may give higher education administrators and faculty better insight into how to positively influence students to apply what is learned within the college setting and apply that knowledge toward a job with the same environmentally sustainable motives.

Significance

With the need for a workforce educated on environmental sustainability and a growing number of university curricula teaching sustainability, does this affect the intentions of college students to select an environmentally sustainable workplace that reflects what they know about environmental sustainability? Ajzen's (1985) theory of planned behavior was used to look closely at the variables that lead to behavioral intentions. These variables consist of attitude, subjective norms, and perceived behavioral control. Existing research using the theory of planned behavior, shows how having knowledge about environmental sustainability does not necessarily lead to actually engaging in sustainable behaviors (Ajzen, Joyce, Sheikh & Cote,

2011; Heeren, Singh, Zwickle, Koontz, Slagle & McCreery, 2016). While these studies focus on student's sustainability education compared to performing actual sustainable behaviors, it does not address how a sustainable education pertains to their career intention, more specifically, to work for a company who engages in sustainable behaviors. For a greater comparison, it would be beneficial to determine any differences between students who are educated with curricula that is integrated with environmental sustainability compared to those students who are not exposed to that within their university major program.

This research could ultimately be applied to the K-12 curricula since according to Isa, (2017) educating on the obligation of sustainability and protecting the environment starts at an early age. According to Frisk and Larson (2011), in order to change the behavior of individuals, there must be a collective action that is motivated to achieve a sustainable future, meaning a move toward sustainable education.

Purpose

Cornuel, Hommel and Dyllick (2015) show that there is not only a knowing-doing gap, meaning that students have acquired knowledge but they are not able to practice what they have learned, but also a doing-being gap, meaning that the students' judgement in a professional setting must be driven by their knowledge and technical skills. This research may provide insight into current or potential college curricula pertaining to sustainability to ensure that the students are not only educated on this subject, but also intend to extend this knowledge into their professional careers. This research aimed to identify the drivers or influences on the students and how it affects their career intention, related to environmental sustainability. This information can also be used for future research to mold a new generation of people who choose to behave with

the environment in mind.

The following sections are a literature review including an overview of environmental sustainability, a look into environmental sustainability as it relates to the workplace, as well as in university curricula. The theory of planned behavior is discussed and its application in prior research is demonstrated. The methodology is explained including population and sample, survey instruments, and statistical analysis. Survey questions and scales are also noted in the Appendix.

LITERATURE REVIEW

Placing an emphasis on the sustainable education of university students is of utmost importance due to them being future leaders in industry responsible for stewardship and sustainability (Hassan, Othman & Yaacob, 2018). The aim of this study was to determine if academic programs that include environmental sustainable curricula impact student's intentions toward selecting an environmentally sustainable workplace.

Environmental Sustainability

In 1969, the U.S. committed to sustainability with the passing of the National Environmental Policy Act (NEPA). The NEPA states that as a nation, we are to "create and maintain conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations" (United States Environmental Protection Agency, 2016, What is Sustainability? section, para. 1). As defined by the Brundtland Commission, sustainability is "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland, 1987, p. 37). Morelli (2011) elaborated on this definition by adding that environmental sustainability is more specifically "a condition of balance, resilience, and interconnectedness that allows human society to satisfy its needs while neither exceeding the capacity of its supporting ecosystems to continue to regenerate the services necessary to meet those needs nor by our actions diminishing biological diversity" (p. 5). Mistreating air we breathe, the ground that grows our food or the water we drink is quite the opposite of this

definition of sustainability. The depletion of the earth's natural resources, contamination of the environment, global warming and extreme weather conditions are part of the delicate stage of our planet's evolutions called Anthropocene (Rose, van Dooren, Chrulew, Cooke, Kearnes & O'Gorman, 2012; O'Brien, 2013). A Nobel Prize winner for Chemistry, Paul Crutzen, coined this term that suggests that humans are the main catalyst of global change (Crutzen & Stoermer, 2000). This aligns with the thought process presented by De Young (2000) that the major source of environmental problems begins with self-interest. Conversely, this also means that self-interest could be a solution to the environmental problems. As more and more corporations place a focus on sustainability and environmentally responsible behavior within their business strategy there must be a workforce that is knowledgeable of these initiatives.

Environmental Sustainability and the Workplace

The worldwide discussions of environmental sustainability bring about an awareness for corporations to build their business strategies that incorporate sustainable initiatives within their framework (Winn & Kirchgeorg, 2005). By undertaking the approach of creating an environmentally sustainable framework, this requires change and innovation of the entire business and supporters (Faber, Jorna & Van Engelen, 2010). Evans, Holgado, Van Fossen, Yang, Silva and Barlow (2017) noted the many challenges that must be addressed to create a sustainable business model and are as follows:

1. Triple bottom line - creating and balancing
2. Mind-set – shift toward new guidelines and performance metrics
3. Resources – properly allocated for change
4. Technology innovation – proper integration

5. External relationships – increased effort for external stakeholders
6. Business modelling methods and tools – difficult to find methods and tools that are driven by sustainability

Recognizing the challenges that businesses must address demonstrates the level of change needed. This could be problematic as, according to Burnes and Jackson (2011), approximately 70 percent of all change initiatives are considered to fail. This shows the need for properly educated leadership to fully understand the implementation of change to a sustainable business model. If properly educated leadership are in place and change can be made, Chang and Kuo (2008) have determined a parallel between the level of sustainability of a business and profitability. They showed that businesses that committed to higher sustainability initiatives also had higher profitability. The sector of the business plays an important role relating to that profitability. Lo (2010) indicates that sustainable businesses in the consumer staple, financial, industrial, and technology information sectors perform better financially than other, non-sustainable businesses. Investors do not yet consider the value of a business's sustainability, which could hurt businesses (Lo, 2010).

An example of industry needing to incorporate environmental sustainability within their framework is the engineering field. Sustainable practices are now commonly expected within the engineering profession (Desha, Hargroves, & Smith, 2009). As the expectations increase, there is what Desha et al. (2009) call a time lag dilemma. This means that using the standard renewal process of university curricula may be too slow and lagging behind industry expectations and demands regarding environmental sustainability. With this demand for knowledge and how it relates to business and industry, universities are beginning to revise curricula to reflect these

needs to produce graduates well versed in environmental sustainability.

Environmental Sustainability in University Curricula

In 1997, UNESCO (United Nations Educational Scientific and Cultural Organization) generated a report stating that "education is the most effective means that society possesses for confronting the challenges of the future. Indeed, education will shape the world of tomorrow" (Frisk & Larson, 2011, pg. 2). This same report also discusses what a key role education plays in bringing on the necessary changes required to get closer to sustainability. While education appears to be an important factor, Kollmuss and Agyeman (2002) say that most researchers are in agreement that a slim percentage of pro-environmental behaviors are associated with having awareness and knowledge of the environment.

Since the 1990's, higher education institutions have begun to integrate sustainable practices into their structure and systems (Paletta et al., 2019). Lozano, Lukman, Lozano, Huisingh and Lambrechts (2013) noted that the importance of addressing sustainable development with over 1000 academic leaders committing to promote sustainable universities. One example of this commitment is the signing of the Talloires Declaration (ULSF, 1990). A direct quote from this declaration acknowledging the importance of the role universities play in the education of sustainability is as follows:

> "'Sustainability' implies that the critical activities of a higher education institution are ecologically sound, socially just and economically viable, and that they will continue to be so for future generations. A truly sustainable college or university would emphasize these concepts in its curriculum and research, preparing students to contribute as working citizens to an environmentally healthy and equitable society. The institution would

function as a sustainable community, embodying responsible consumption of energy, water, and food, and supporting sustainable development in its local community and region" (ULSF, 1990, About section, para. 4).

While it may seem like a new idea to teach sustainability, Kavaloski (1979) explored this notion five decades ago. Kavaloski (1979) noted the importance of the approach of reciprocity between teachers and learners, that being a central driver for successfully implementing sustainability into higher education. It is now agreed upon that sustainability must not only be integrated into the overall mission of universities, such as facilities, operations and their business practices, but to also include it into their outreach to the community, the student and faculty lifestyles as well as integration within the curriculum (Dmochowski et al., 2016).

In 2006, the Association for the Advancement of Sustainability in Higher Education (AASHE) was founded. This association strives to be a change agent and driver of sustainability innovation by supporting higher education. This is done by providing resources and toolkits to better prepare future leaders to deal with sustainability challenges (AASHE, 2019). The American College and University Presidents' Climate Commitment (ACUPCC) was also launched in 2006. This is a network of approximately 700 higher education institutions in all 50 state have signed the ACUPCC meaning they are not only committed to neutralizing their own greenhouse gas emissions but to also accelerate the research, education and community engagement on the importance of living in a sustainable society (Dyer & Dyer, 2017). Institutions may be removed either voluntarily or if they are unable to fulfill their commitment to the program requirements.

Some universities (e.g. Elon University, Tufts University, University of Colorado Bolder,

and University of Massachusetts) offer one-time lectures or workshops to educate faculty on strategies on how to integrate sustainability into curricula. Other programs (e.g. Auburn University, Dickenson College, University of Vermont and Western Illinois University) not only offer similar faculty workshops with topics on the integration of sustainability into curricula but also follows up with the faculty to discuss best shared practices and results of adjusting their curricula (Dmochowski et al., 2016).

Dmochowski et al. (2016) discuss how Penn State started the Integrating Sustainability Across the Curriculum (ISAC) program. The ISAC program pairs undergraduate student research assistants with faculty who will work together during the summer for eight weeks to either create or modify a course to introduce sustainability as an underlying theme. There are a series of workshops, lectures and field trips. At the end of the summer, students present their course development in a poster session to the other students, faculty and staff in the program. The research by Dmochowski et al. (2016) shows that the ISAC program at Penn State helped faculty to think at a deeper level about their current or new courses and how to connect them with sustainability. Involving students in this research created a collaborative environment that proved to be rewarding for the students and faculty.

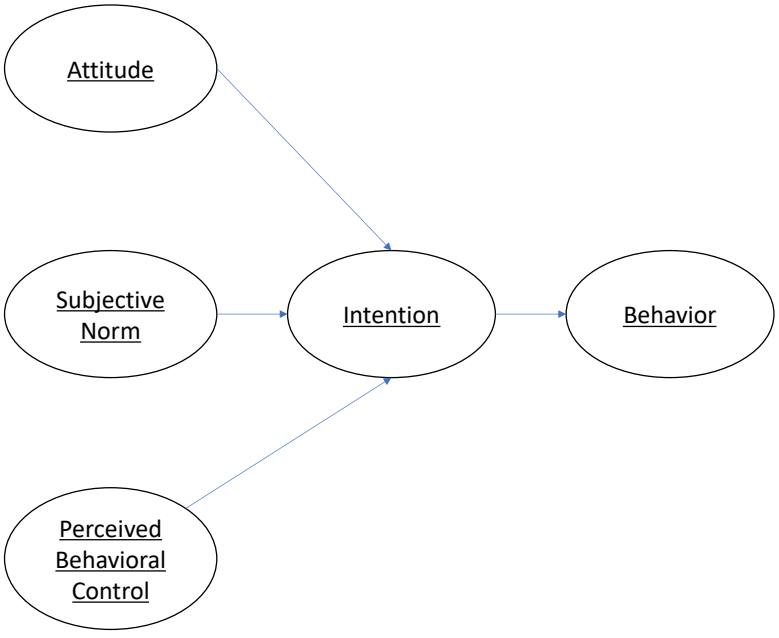
Research shows that business and industry demand change to a more sustainable business model. This creates the need for a workforce that is educated on sustainable initiatives. This leads to the founding of organizations such as AASHE, ACUPCC, as well programs like the ISAC program at Penn State, along with the many universities who are already integrating sustainability within their curricula. As students are educated with curricula embedded with sustainability, what is the outcome? Does this encourage students to select an employer who is

also aligned with environmental sustainability? Certain factors may influence this decision. These influences are further explained by using the theory of planned behavior.

THEORY OF PLANNED BEHAVIOR

The theory of planned behavior (TPB) focuses on the intention of an individual to perform a certain behavior, as well as, looking into the occurrence of behaviors without the accord of an individual (Hassan et al., 2018). Ajzen (1985) postulated that TPB has three different variables that predict behavioral intentions (Figure 1). These variables consist of the individual attitudes towards the behavior, the social norms regarding the influence to do the behavior and perceived behavioral control, which is the belief in the capacity to perform the behavior. TPB is one of the most commonly used theories to describe how these variables lead an individual's intention to participate in a specific behavior (Heeren et al., 2016).

Figure. 1 – Theory of Planned Behavior Model



Attitude

Rokeach (1968) defines attitudes as a subjective assessment of an object and are the most commonly researched in social psychology. Heeren et al. (2016) state that attitudes can be indicators of behavior, but on their own, attitudes account for only a minor portion of actual behavior. In regards to environmental sustainability, their research shows that attitudes are more foretelling about specific environmentally sustainable behaviors than an individual's attitudes toward overall environmental sustainability. As suggested by the TPB, people who have a more positive attitude toward pro-environmental behavior believe that their significant others are already engaging in the behavior and believe that the behavior should be done (Gatersleben, Murtagh & Abrahamse, 2014). According to Ajzen (2005), attitudes can easily be changed when given new information or exposed to different circumstances. For the purpose of this study, according to Swaim, Maloni, Napshin, and Henley (2014), attitude is representative of the personal feeling that the student has toward environmental sustainability. These feelings could be negative or positive, meaning they may strongly disagree or strongly agree with environmental sustainability.

Subjective Norm

Human behavior may also be influenced by social norms, more precisely having a perception whether to perform or not perform a specific behavior due to social pressures(Ajzen, 1991). Research shows the importance of informal education, for example, obtaining information through media, the Internet or social interaction, such as family and friends (Vicente-Molina, Fernández-Sáinz, & Izagirre-Olaizola, 2013). More important for this research, informal education, more specifically from family and friends, is necessary to acquire environmentally

sustainable positive attitudes (Ballantyne, Connell, Fien, 1998). If the student feels social pressure to from external factors (e.g., family, friends or college professors or other students) to engage in environmentally sustainable behaviors, they may be more inclined to have also have the same behavioral intention. Emmanuel and Delaney (2014) point out that individuals' beliefs are formed and influenced by external environments, such as a classroom setting. This environment presents students' and instructors' beliefs which could affect personal attitudes. Hindeman (2002) notes that while college students may continue to hold onto their beliefs formed during their upbringing, the college experience can provide a community atmosphere to begin discussions about their personal attitudes, beliefs and values. These discussions enable students to examine and consider topics with more of a worldview. Swaim et al. (2014) shows how subjective norm is impactful for the behavioral intention to purchase environmentally safe products and food, as well as environmentally friendly practices, such as composting. While family and educators play an important role in shaping an individual's attitudes, peer groups in school, beginning during adolescence, are also an important factor to consider. This peer effect, also known as the endogenous effect, occurs when someone engages in a behavior based on their peer group engaging in that same behavior (Duarte, Escario, & Sanagustín, 2017). This shows a need to evaluate the influence classmates have on students attitudes toward environmental sustainability. For the purpose of this study, based on Fishbein and Ajzen (1980), the subjective norm, being family, friends, college professors and other students, may have feelings about environmental sustainability where they are not concerned at all or are extremely concerned. These influences may be not at all influential to extremely influential for the student.

Perceived Behavioral Control

Next, Ajzen, (1991) mentions that behavior is influenced by perceived behavior control (PBC). This takes into consideration if the individual trusts that they can employ a specific behavior. The individual is more prone toward the intention to perform and to eventually perform the behavior if they feel like they have the ability and means to do so (Ajzen, 1991). Killmus & Agyeman, (2002) note that pro-environmental behavior does not increase based on having detailed knowledge of this subject matter. There is no direct correlation between knowledge and behavior. For this study, the PBC focused on the degree program of study for the student and if they strongly disagree or strongly agree that they have been educated in environmental sustainability.

Theory of Planned Behavior in Sustainable Research

Ajzen et al. (2011) used the TPB to question how knowledge of a subject predicts behavior. One study directly correlated with energy conservation and showed that having knowledge of conservation and sustainability was not a predictor of performing behavior pertaining to conservation. By using the TPB, if was shown that attitudes, subjective norms and perceived behavioral controls had a greater influence on behavior compared to having knowledge on the subject matter.

The TPB was used by Heeren et al. (2016) to examine the association between university students' knowledge of sustainability and the actual engagement of sustainable behaviors. Research showed that the PBC was a significant factor in predicting whether or not they participated in sustainable behaviors, but when analyzing all of the specific sustainable behaviors, there were differences depending on the behavior. This demonstrates that different

behaviors have different motivators. A second finding in this study that is similar to Ajzen et al. (2011), is that educating students on sustainable behaviors does not create an increase in those actual behaviors being performed. While this study focuses on student's sustainability education compared to performing actual sustainable behaviors, it does not address how a sustainable education pertains to their career intention, more specifically, to work for a company who engages in sustainable behaviors. Heeren et al. (2016) also had one sample of undergraduate students. For a greater comparison, it would be beneficial to determine any differences between students who are educated in a formal program that is integrated with responsible management education, students within a program with sustainability woven within its mission and students who are not exposed to any official environmental sustainability throughout their university major program.

The specific hypotheses of this research were the following:

H1. Attitude toward environmentally sustainable behavior has a positive relationship with the intention to select an environmentally sustainable workplace.

H2. Subjective norms toward environmentally sustainable behavior has a positive relationship with the intention to select an environmentally sustainable workplace.

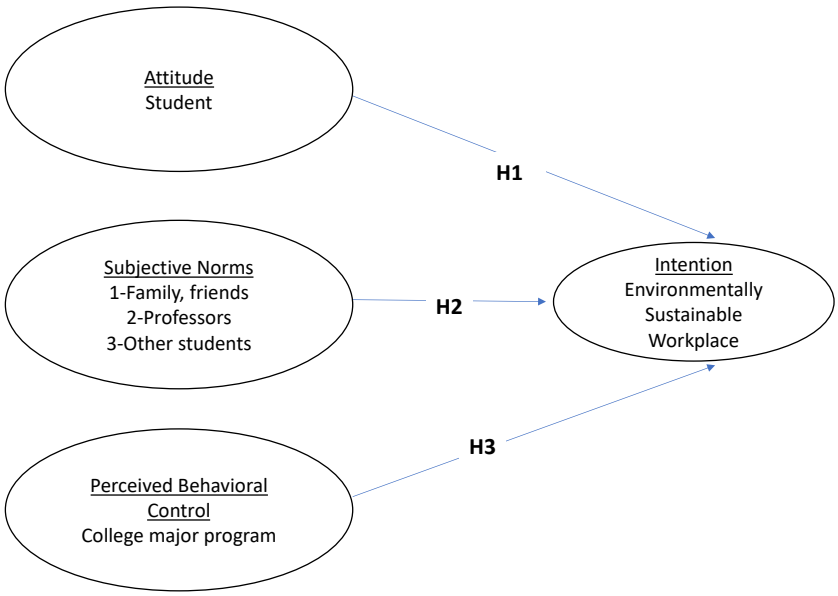
H3. Perceived behavioral control toward environmentally sustainable behavior has a positive relationship with the intention to select an environmentally sustainable workplace.

H4. The relationship between attitude, subjective norm, perceived behavioral control, and intention between the three groups of students is different.

By using Ajzen's (1985) Theory of Planned Behavior (TPB) model, this helps to better

understand the importance of attitudes, subjective norms and perceived behavioral control which may affect the student's intentions to select a workplace that practices environmentally sustainable behaviors. The influences from these constructs naturally lead to an intention to select an environmentally sustainable workplace that may or may not actually mimic what they are learning within their academic studies (Figure 2).

Figure 2 – Research Model



METHODOLOGY

This study consisted of a cross-sectional research design. The purpose was to explore the variables that influence students' intention to select a workplace that is committed to environmental sustainability. These variables were attitude, subjective norms and perceived behavioral control and how those lead to behavioral intentions, better known as the theory of planned behavior (Ajzen, 1985). In order to study these research hypotheses, the platform used to gather the data was Qualtrics. This user-friendly tool was utilized to create the survey for this study. Once the survey was created in Qualtrics, the link for the survey was distributed via email or listed as a link on the digital learning platform. The results from the survey were then viewed and downloaded into reports that were then sharable for collaborative efforts. The data gathered were stored on Qualtrics secure servers and were only viewable by the person who created the survey and those with whom it has been shared. Statistical analyses included comparing the mean differences of the constructs of each group by using a one-way ANOVA. This test was used to determine the differences between the three populations being surveyed in relation to the variables (attitude, subjective norms, perceived behavioral control, and intention). In order to test the relationship among the attitudes, subjective norm, perceived behavioral control, and intention, a partial least squares structural equation modeling (PLS-SEM) was used. PLS-SEM multigroup analysis (MGA) was also used to test for differences in the relationships among attitude, subjective norm, and perceived behavioral control, and intention.

Population and Sample

For this study, the stratified sample was taken from a population at a large university located in the southeastern United States that has approximately 36,000 total students. In the fall semester in 2018, the total population of undergraduate students was 32,274. Of these undergraduate students, 75% were full time students and 25% were part time students. The research samples were selected from a business college (Group 1), a degree program pertaining to sustainability (Group 2) and degree programs in humanities and social sciences (Group 3).

Group one was from a business college that is part of an initiative that is supported by the United Nations called the Principles for Responsible Management Education. PRME works with business and management schools around the world, providing responsible management education to future leaders. This includes balancing not only economic goals but sustainability goals, as well. Every student in the college is exposed to a curriculum that is embedded with sustainability initiatives. Group two was from a program that has environmentally sustainable initiatives within its mission and each class within the curriculum is developed with that in mind. Group three was from humanities and social science degree programs and does not have a formal or structured approach to teaching sustainability and is not embedded within their curriculum.

Survey questions were derived from previous literature. Students were surveyed using slider and Likert scales to gather quantitative data. The survey was distributed through Qualtrics, an online survey platform. The survey link was sent directly to student email addresses and posted within the D2L Brightspace Learning Management System for the specific sample of students. The total strata of students/graduates surveyed is an approximate total of 12,100. The survey was launched in August, 2019.

1. Group one:

   Consisted of a sample of students from degree programs where the curricula were part of a structured program consisting of relevant educational material pertaining to responsible management education and sustainability. This group is from a business college.

2. Group two:

   Consisted of a sample of students from a degree program where the curriculum consists of relevant educational material pertaining to environmental sustainability that is woven into the mission of the program. This group is from an environmentally sustainable degree program.

3. Group three:

   Consisted of a sample of students from degree programs where the curricula do not consist of relevant educational material pertaining to environmental sustainability. This group is from humanities and social science degree programs.

Survey Instruments

Attitude pertains to the individual's values and beliefs and was measured using five items as listed in the Appendix and adapted from Swaim et al. (2014). Survey responses used a 7-point Likert scale to indicate a level of agreement (1=strongly disagree to 7=strongly agree). These questions survey the respondents own personal attitudes toward environmentally sustainable behaviors.

Subjective norm was measured using six items as listed in the Appendix and adapted from Swaim et al. (2014). Survey responses used a 7-point Likert scales to indicate a level of concern (1=not concerned at all to 7=extremely concerned) and the level of influence (1=not at all influential to 7=extremely influential). These questions surveyed the respondent's own thoughts of how they perceive the level of concern for environmental sustainability of their family/friends, their university professors and other students. It also determines the level of influence their family/friends, university professors and other students have on them to perform environmentally sustainable behaviors.

Perceived behavioral control was measured using five items as listed in the Appendix and adapted from (Maloni, Forthcoming). Survey responses were based on a 7-point Likert scale to indicate a level of agreement (1=strongly disagree to 7=strongly agree). Perceived behavioral control would be the influence from their specific college major within an academic program. These questions surveyed the extent to which the survey respondent feels confident in their education on environmentally sustainable behaviors based on their program of study.

Intention to select an environmentally sustainable workplace was measured using four items adapted from Swaim, Maloni, Henley, & Campbell (2016) and one item adapted from Montgomery & Ramus (2011). The first four survey responses (Swaim et al., 2016) were based on a 7-point Likert scale to indicate a level of agreement (1=strongly disagree to 7=strongly agree). The fifth survey response (Montgomery & Ramus, 2011) is a slider question. The respondent dragged a slider handle to indicate their answer. A custom start position was set in the center of the bar. To help eliminate survey bias, the respondent must click on and slightly move the handle on the bar order for the question to be marked as answered.

Statistical Analyses

A one-way ANOVA was used to determine the differences between the means of three populations surveyed in relation to attitude, subjective norms, perceived behavioral control, and intention. The three populations consisted of students within a business college with a structured program teaching responsible management practices and sustainability (Group 1), students within a degree program pertaining to sustainability (Group 2) and students within degree programs in humanities and social sciences (Group 3).

In order to test the relationship among the variables (attitude, subjective norms, perceived behavioral control, and intention), partial least squares structural equation modeling (PLS-SEM) was used. This demonstrated any significance in the paths (i.e. relationships) in the research model. According to Hair, Hult, Ringle and Sarstedt (2014), it is suggested that when using PLS-SEM, the sample size must be ten times the number of paths pointing toward the latent variable, which for this study would be three, therefore the minimum sample size, per research model, is thirty. Hair, Ringle, and Sarstedt (2011) explain how PLS-SEM is growing in popularity as an effective research method. Normality tests were run on the data with the Shapiro-Wilk test. This indicated that the data does not follow normal distributions so covariance-based SEM is not appropriate, but that PLS-SEM is appropriate. It is also noted that no assumptions are to be made about the data when using PLS-SEM (Hair et al., 2014).

PLS-SEM multigroup analysis (MGA) was also used to test for differences in the relationships among the variables (attitude, subjective norms, perceived behavioral control, and intention) between the three groups being surveyed. MGA showed how the research models may appear to have significant difference for each group (Sarstedt, Henseler & Ringle, 2011).

Using these statistical methods illustrated differences or correlations between variables and groups being surveyed. This may further demonstrate how students are influenced to select an environmentally sustainable workplace based on their college curriculum. This data could be beneficial for developing future curricula, educating faculty and promoting environmentally sustainable behaviors in communities.

RESULTS

Data Collection

A pilot survey was distributed to 48 business students to assess validity and reliability of the proposed questions and scales. This showed that certain questions pertaining to demographics could be eliminated as they just lengthened the survey for information that wouldn't necessarily be relevant to this study. The launch of all surveys was administered electronically to all three groups being studied either via student email addresses or directly posted within the university learning platform. There was a total of 97 survey responses, including the pilot survey results, from Group 1, twelve were discarded due to incomplete survey information given for a total of 85 viable surveys. Group 2 had a total of 60 survey responses, with seven discarded due to incompletion, for a total of 53 surveys that could be included. Group 3 had a total of 73 surveys with 17 being discarded, also for being incomplete, for a total of 56 surveys that were used. There was a total of 194 usable survey responses (Table 1).

Table 1: Participating programs and responses

Program	Group 1[1]	Group 2[2]	Group 3[3]
Sustainable Curriculum	Yes	Yes	No
Responses (n)	83	53	56

[1] Business college – member of PRME

[2] Sustainability degree program – integrated into the mission

[3] Humanities & social science degree programs

Descriptive Statistics

Table 2 displays the demographics of all survey respondents. For all groups combined, there more approximately 17% more female survey respondents than male. While Group 2 had approximately 42% more female respondents and Group 3 had approximately 33% more female respondents, group 1 had approximately 10% more male respondents. When analyzing the number of classes taken within their major, Group 1 was in the beginning to the middle of their major, having taken 3-15 classes. Group 2 was farther along, by taking 6-20 classes within their major. Group 3 had the least number of classes within their major with 1-10 classes taken.

Table 3 illustrates the mean responses from all groups combined, as well as individually. Survey items for attitude show a means just above a value of six (seven represents "strongly agree") for all programs combined and individually, with Group 2 students having the highest mean for attitude. This indicates that the students agree that caring for the environment is important. Survey items for subjective norm show a means just below five for all programs, with the exception of Group 2, which is just above a means of five. This indicates that the students somewhat agree that others have a level of concern for environmental sustainability and were somewhat motivated to comply with others positions. There is greater disparity between the mean of perceived behavioral control. Cumulatively, the students were neutral to somewhat agree that they have learned about environmental sustainability in their college classes and were prepared to utilize these skills upon entering the workforce. Group 2 had a mean that is closer to six, showing they agree on their knowledge and abilities, while Group 3 had a mean showing that they somewhat disagree or were neutral in their knowledge and abilities. Survey items for intention show that all students surveyed somewhat agree that they will pursue employment with

a company that is environmentally sustainable. Interestingly, when students selected a dollar amount of what they would give up in their salary annually to work for an environmentally sustainable company, the mean dollar amount for all groups was $10,951, while students in Group 3 would give up the most and Group 1 students would give up the least. While there were minor variations in means, there were no statistical differences between survey groups.

In order to determine if there were any significant differences between the three groups surveyed, in relation to the means, a one-way ANOVA test was used and shown in Table 4. This showed that is some cases Group 2 means were larger. This hinted that there were some differences meaning that Group 2 students were affected by sustainability in their program.

Table 5 depicts the correlation matrix. It should be noted that there were two survey question discarded (I3, I4) during the analyses due to the variance inflation factor (VIF) being greater than 5. According to Hair et al. (2014), this multicollinearity means that the items were too similar to one another and should be removed.

Table 2: Respondent demographics

Program		All	Group 1[1]	Group 2[2]	Group 3[3]
Gender	Female	110	37	37	36
	Male	78	45	15	18
	Transgender	0	0	0	0
	Prefer not to answer	4	1	1	2
Classes Taken In Major	1-2	19	8	0	11
	3-5	47	25	3	19
	6-10	50	25	13	12
	11-15	28	11	15	2
	16-20	28	4	19	5
	21+	16	9	3	4
Age (Mean) in years		22	23	22	22

[1] Business college – member of PRME
[2] Sustainability degree program – integrated into the mission
[3] Humanities & social science degree programs

Table 3: Descriptive statistics

		ALL	Group 1[1]	Group 2[2]	Group 3[3]
Construct	**Item**	**Mean**	**Mean**	**Mean**	**Mean**
Attitude[a]	A1	6.53	6.50	6.58	6.52
	A2	5.39	5.35	5.32	5.54
	A3	6.44	6.46	6.57	6.29
	A4	6.19	6.12	6.32	6.16
	A5	6.41	6.39	6.66	6.20
Subjective Norm[b]	SN1	4.88	4.92	5.04	4.68
	SN2	5.09	4.87	5.70	4.86
	SN3	5.01	4.87	5.19	5.04
	SN4	4.88	5.08	4.92	4.54
	SN5	4.98	4.77	5.62	4.68
	SN6	4.73	4.58	4.96	4.71
Perceived Behavioral Control[a]	PBC1	4.26	3.82	6.25	3.05
	PBC2	4.59	4.24	6.00	3.79
	PBC3	4.48	4.17	5.70	3.80
	PBC4	4.69	4.45	5.75	4.05
Intention (I1-I4)[a] (I5)[c]	I1	4.88	4.80	5.25	4.64
	I2	5.29	5.22	5.51	5.21
	I3	5.34	5.31	5.51	5.21
	I4	5.4	5.44	5.55	5.21
	I5	$ 10,951	$ 9,210	$ 11,196	$ 13,377

[a] 1 strongly disagree to 7 strongly agree

[b] 1 not concerned at all to 7 extremely concerned

[c] $0K-$40K

[1] Business college – member of PRME

[2] Sustainability degree program – integrated into the mission

[3] Humanities & social science degree programs

Table 4: ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
A1	Between Groups	0.243	2	0.122	0.143	0.867
	Within Groups	161.850	190	0.852		
	Total	162.093	192			
A2	Between Groups	1.609	2	0.804	0.439	0.646
	Within Groups	348.464	190	1.834		
	Total	350.073	192			
A3	Between Groups	2.113	2	1.056	1.338	0.265
	Within Groups	149.257	189	0.790		
	Total	151.370	191			
A4	Between Groups	1.375	2	0.687	0.467	0.628
	Within Groups	279.910	190	1.473		
	Total	281.285	192			
A5	Between Groups	5.901	2	2.951	3.172	0.044
	Within Groups	176.762	190	0.930		
	Total	182.663	192			

Table 4: ANOVA continued

SN1	Between Groups	3.704	2	1.852	0.955	0.387
	Within Groups	368.555	190	1.940		
	Total	372.259	192			
SN2	Between Groups	26.735	2	13.367	8.257	0.000
	Within Groups	307.586	190	1.619		
	Total	334.321	192			
SN3	Between Groups	3.394	2	1.697	1.009	0.367
	Within Groups	319.601	190	1.682		
	Total	322.995	192			
SN4	Between Groups	10.216	2	5.108	2.030	0.134
	Within Groups	478.043	190	2.516		
	Total	488.259	192			
SN5	Between Groups	30.548	2	15.274	6.575	0.002
	Within Groups	441.369	190	2.323		
	Total	471.917	192			
SN6	Between Groups	4.676	2	2.338	0.938	0.393
	Within Groups	473.770	190	2.494		
	Total	478.446	192			

Table 4: ANOVA continued

SN1&4	Between Groups	252.147	2	126.073	0.838	0.434
	Within Groups	28569.977	190	150.368		
	Total	28822.124	192			
SN2&5	Between Groups	3080.161	2	1540.081	11.039	0.000
	Within Groups	26507.984	190	139.516		
	Total	29588.145	192			
SN3&6	Between Groups	381.478	2	190.739	1.396	0.250
	Within Groups	25966.584	190	136.666		
	Total	26348.062	192			
PBC1	Between Groups	306.551	2	153.276	63.176	0.000
	Within Groups	460.972	190	2.426		
	Total	767.523	192			
PBC2	Between Groups	151.997	2	75.998	28.276	0.000
	Within Groups	510.667	190	2.688		
	Total	662.663	192			
PBC3	Between Groups	112.511	2	56.255	20.489	0.000
	Within Groups	521.676	190	2.746		
	Total	634.187	192			
PBC4	Between Groups	87.504	2	43.752	16.984	0.000
	Within Groups	489.460	190	2.576		
	Total	576.964	192			

Table 4: ANOVA continued

SN1&4	Between Groups	252.147	2	126.073	0.838	0.434
	Within Groups	28569.977	190	150.368		
	Total	28822.124	192			
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	Within Groups	489.460	190	2.576		
	Total	576.964	192			

Table 5: Correlation matrix for Measurement Model

	Attitude	Subjective Norm	Perceived Behavioral Control	Intention
Attitude	1.00			
Subjective Norm	0.49	1.00		
Perceived Behavioral Control	0.24	0.42	1.00	
Intention	0.52	0.52	0.34	1.00

PLS-SEM

The measurement model and structural model were assessed by applying partial least squares structural equation modeling (PLS-SEM). According to Hair et al. (2014), the measurement model is analyzed for validity and reliability of the survey scales. This is represented in Table 6. The measures for subjective norm were constructed by combining normative belief strength and motivation to comply as recommended by Ajzen (2006). Reliability is proven when the composite reliability values were greater than 0.80. Evidence of convergent validity is shown due to the factor loadings being greater than 0.70, the recommended value, with the exception to one (A2). Also, the average variance extracted (AVE) is greater than the value of 0.50, which is expected. The Cronbach's Alpha values also demonstrate validity based on the assessment of George and Mallory (2003) which states that values over 0.8 are a reasonable goal, but 0.7 are acceptable and 0.9 are excellent. The purpose of discriminant validity is to show that two constructs are distinctly different from one another. Each combination of variables must be considered. As shown in Table 7, according to Henseler, Ringle, & Sarstedt, (2015), when the heterotrait-monotrait (HTMT) ratios are below the

recommended maximum of 0.85, discriminant validity is validated. The last two columns of Table 7 show the confidence interval for this ratio. The upper end should not include a value of 1.00.

Table 6: Measurement model results

Construct	Item	Factor Loading	Cronbach's Alpha	Composite Reliability	AVE[1]
Attitude	A1	0.76	0.85	0.89	0.63
	A2	0.69			
	A3	0.82			
	A4	0.86			
	A5	0.83			
Subjective Norm	SN1&4	0.75	0.75	0.86	0.67
	SN2&5	0.88			
	SN3&6	0.82			
Perceived Behavioral Control	PBC1	0.84	0.93	0.95	0.82
	PBC2	0.93			
	PBC3	0.94			
	PBC4	0.92			
Intention	I1	0.91	0.74	0.86	0.67
	I2	0.92			
	I5	0.58			

[1] Average Variance Extracted

Table 7: Discriminant Validity

HTMT ratios	HTMT ratio	Confidence Interval 2.50%	97.50%
2 SN -> 1 Attitude	0.61	0.48	0.73
3 PBC -> 1 Attitude	0.26	0.15	0.41
3 PBC -> 2 SN	0.50	0.34	0.64
Intention -> 1 Attitude	0.64	0.45	0.81
Intention -> 2 SN	0.69	0.53	0.83
Intention -> 3 PBC	0.38	0.21	0.53
Benchmark	**< 0.85**		**< 1.00**

Structural Model

The structural model was analyzed with a bootstrapping procedure to test the statistical significance of PLS-SEM results. Bootstrapping is part of the approach for PLS-SEM, therefore it must be used. Typical statistical tests cannot be used because the data is not assumed to come from normal distributions (Hair et al., 2014). Results are depicted for all programs in Figure 3 and Table 8. For all programs combined, the r^2 (predictive accuracy) for intention is 0.37, which according to Hair et al. (2014), would be considered weak to moderate. For all programs combined, the Q^2 (predictive relevance) for intention is 0.23, which according to Hair et al. (2014), would be considered medium to large. For all programs, the effect size ($f^2 = 0.14$) between attitude and intention is moderate compared to subjective norm to intention ($f^2 = 0.09$) and perceived behavioral control to intention ($f^2 = 0.02$) which are considered weak (Hair et al., 2014). This also shows that attitude (H1) was the strongest predictor of intention compared to the subjective norms and perceived behavioral control. Subjective norm (H2), while weak, was still considered a predictor of intention. This shows H3 (perceived behavioral control) was not a predictor of intention. These results demonstrate that the attitudes of the students and the

subjective norm (family, friend, professors, classmates) were the predictors leading toward intention. The students perception of what they learned within their college major program, perceived behavioral control, was not a predictor of intention, meaning that the students don't feel as confident with their knowledge to select an environmentally sustainable workplace.

Figure 3: Structural model results – All Programs Combined

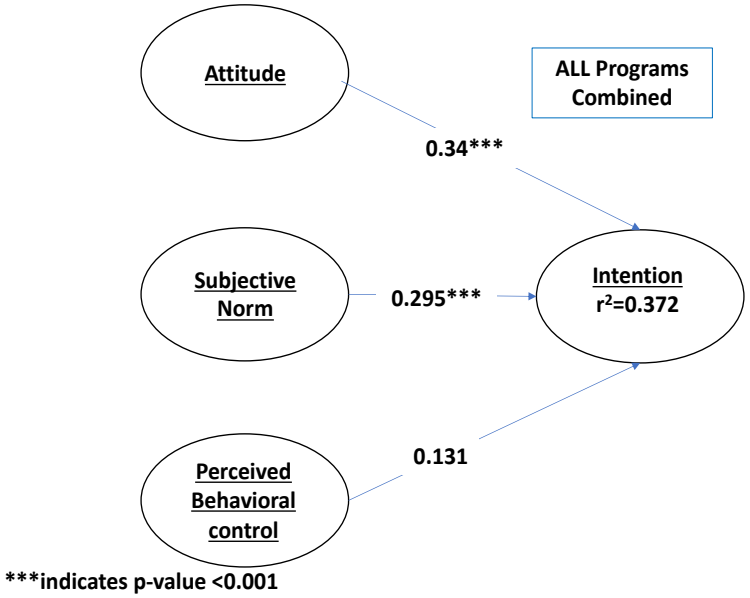

Table 8: Structural model results – direct effects - ALL programs

Path			Weight	p-value	f^2
Attitude	to	Intention	0.34	0.00***	0.14
Subjective Norm	to	Intention	0.295	0.00***	0.092
Perceived Behavioral Control	to	Intention	0.131	0.064	0.023
r^2, Q^2 (intention)				0.372, 0.229	

*** indicates p-value < 0.001

Multi-Group Analysis

PLS-SEM multi-group analysis (MGA) was used to compare each program to one another. Table 9 shows that there were no significant differences in paths between the programs. This is indicated by the p-values not falling below 0.05 or above 0.95. This means that there were no significant differences in the paths within the TPB research model when comparing each of the programs to one another, therefore H4 is not proven since the differences between the three groups are not significantly different.

Table 9: Multi-group analysis (MGA) results by Program

Group 1[1] vs. Group 2[2] Path			Path weight difference	p-value	Significance*
Attitude	to	Intention	0.084	0.307	Not significant
Subjective Norm	to	Intention	0.057	0.366	Not significant
Perceived Behavioral Control	to	Intention	0.042	0.619	Not significant

Group 1[1] vs. Group 3[3] Path			Path weight difference	p-value	Significance*
Attitude	to	Intention	0.127	0.257	Not significant
Subjective Norm	to	Intention	0.083	0.324	Not significant
Perceived Behavioral Control	to	Intention	0.062	0.368	Not significant

Group 2[2] vs. Group 3[3] Path			Path weight difference	p-value	Significance*
Attitude	to	Intention	0.043	0.414	Not significant
Subjective Norm	to	Intention	0.026	0.442	Not significant
Perceived Behavioral Control	to	Intention	0.104	0.285	Not significant

*Significance is p-value < 0.05 or > 0.95

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[2] Sustainability degree program – integrated into the mission

[3] Humanities & social science degree programs

DISCUSSION

In regards to college students and their career intentions relating to environmental sustainability, the TPB shows research model demonstrates the importance of attitude, subjective norm, and perceived behavioral control leading toward intention. The differences between the groups surveyed were not large enough to show a statistical difference. This means there was no difference between the three groups surveyed, even though they each have different curricula, and their intention to choose an environmentally sustainable workplace after exiting college. It should be noted that based on these constructs, student attitudes and subjective norm (family, friends, professors, other classmates) are slightly significant while perceived behavioral control (education within their college major program) is not significant. Higher education needs to find a way to make more of an impact on students in regards to environmental sustainability. According to this study, attitudes and their family, friends, professors, and other classmates have the most impact, where their confidence in the knowledge obtained from their college major program does not have a significant path leading to intention.

Attitude

Ajzen (1991) notes that attitudes in the TPB are formed from ones beliefs and values. When considering attitude as a motivator toward environmental sustainability, this is created and shaped throughout one's life. Beginning with parents and early education, this construct can additionally be addressed within the creation of university curricula by encouraging students to

consider their personal values and beliefs and strengthen them. A consideration by Borkowski and Ugras (1998) is that faculty can assist by teaching ethics using case studies to help students internalize responsible decision making.

Subjective Norm

After attitudes, the subjective norms did show some differences between the three groups surveyed and how they look at influential people in their lives and their motives to comply. Group 1 students placed more value on the actions of their family and friends compared to the Group 2 students who place their actions more with their professors. It is interesting to see that the students in Group 3 were more likely to comply with their college classmates, in regards to environmental sustainability. It is important to note that the subjective norm may be an antecedent to attitudes as family and friends play an important role in shaping attitudes and values. This could then change during the college experience as professors may be a catalyst for new values and beliefs. Davis, Edmister, Sullivan and West (2003) mention that "the goal of education should not be viewed simply as a mastery of subject matter but rather the mastery of one's person. The knowledge attained by an educated person carries with it the responsibility to ensure that knowledge is well used by society" (p. 169).

Perceived Behavioral Control

While perceived behavioral control is a direct path to intention, in this study, it is not a significant path. It is not surprising that the students in Group 3 felt the least confident in their abilities relating to environmental sustainability, based on their college classes compared to Group 1 and Group 2, being the most confident. Group 2 has environmental sustainability built directly within their curriculum with the course requirements and objectives, text books, guest

speakers, internships, etc. It is required that all faculty incorporate environmental sustainability within the classroom.

Intention

Even though the statistical outcome is not significant, it is encouraging to see that all groups surveyed somewhat agree that they intend on working for a company that has an interest in environmental sustainability. Once again, Group 2 takes the lead, following with Group 1 and Group 3. What is most surprising is that the students in Group 3 would give up more of their salary to work for one of these companies, with Group 1 students willing to give up the least of their salary.

In a similar study, Tang (2019) shows that current engineering students at a Malaysian university were required to take an engineering sustainable development course. The results showed that after taking that class, a significant number of respondents said they preferred to work for a company that is committed to environmental sustainability and would personally make changes to their lifestyle to mirror those behaviors. The research also showed that education and knowledge are necessary to form positive attitudes about sustainability. This shows an example of how one course within a curriculum can make an impact on engineering students.

Additional Impacts

While students in Group 2 appear to be the most motivated to have an interest in environmental sustainability, Barber, Deale, and Goodman (2011) point out the differences in perceptions from the three key stakeholders within the hospitality management curriculum. These stakeholders consist of the faculty, students and industry professionals. While each agree

that environmental sustainability is important and must be taught, they each have their own ideas of what is most necessary, thus creating difficulties in building a curriculum that meets the needs of all stakeholders.

Regarding Group 1 and the PRME affiliation, one may think that those students would hold environmental sustainability with higher regard. It is noted that of the existing PRME participants, only a few have been able to adequately embed responsible management concepts within their curriculum (Godemann, Herzig, Moon & Powell, 2011). With unclear reporting requirements and no way to measure quality assurance, it is difficult to truly determine how many schools have properly implemented PRME (Rasche & Gilbert, 2015). PRME is not necessarily an initial impetus for pedagogical change (Burchell, Kennedy & Murray, 2015). Also, Louw (2015) comments that a curriculum embedded with PRME does not sufficiently challenge the values and interests of corporations relative to management education. When building curricula, oftentimes, classes pertaining to responsible management or environmental sustainability will be added in as electives versus required core courses. This limits the integration of this subject matter to all students within the programs (Rasche & Gilbert, 2015).

Another impact is one of decoupling, meaning that universities communicate externally (e.g., accreditation agencies) their commitment, whether to responsible management education (or environmentally sustainable education, etc.), thus helping them achieve legitimacy, but opposite of what is communicated, there is insufficient implementation of sed education into curriculum, which would lead to a positive change (Snelson-Powell, Grosvold, Millington, 2016). In a sense, the schools do not walk the talk (Rasche & Gilbert, 2015). According to Rasche and Gilbert (2015), decoupling manifests in a few ways. First would be the failure to

adequately redesign their curriculum to accommodate these new teachings. This means that the relevant content must be evenly distributed across all disciplines. Second, decoupling occurs when the curriculum changes never make it into the classroom. Lastly, schools decouple by failing to implement responsible management education (or environmentally sustainable education) into their own organizational culture.

Even though the scope of this project is narrow, it does provide some direction for the work that needs to be done in curriculum development, more specifically pertaining to environmental sustainability. Students become motivated by different factors, whether it is their own personal attitudes or those of others, experiences from childhood or those in the college classroom, they all influence their values and beliefs. Theoretically, it appears that students' attitudes, influences from others and their environmentally sustainable college major would lead them to an intention to select a workplace with those same sustainable initiatives. In reality, there are several factors, known and unknown, that affect a student's workplace intention. Attitudes may change over time, different people become influencers over time and factors within different curricula play a role in shaping students' intentions.

With attitude being a strong indicator of intention, it is necessary to begin forming environmentally sustainable attitudes early in life. As older generations may be more likely to prevent harm to the environment and may be prone to conservation of natural resources (M. Wiernik, Ones & Dilchert, 2013), there is a chance that these values would be passed down to younger generations. Since humans have damaged the environment, (Crutzen & Stoermer, 2000), actions must quickly be taken to make a difference. Initially, society must begin to make changes in their lifestyle. Businesses can be instrumental in shaping how society views this issue

and modifies their behaviors. Environmental sustainability is being further integrated within corporate initiatives and employees who support these practices are more valued (Swaim et al., 2014). Some corporate initiatives that appear to be evident in communities may be grocery stores eliminating plastic bags and encouraging the use of reusable bags. Another example would be the movement to eliminate plastic straws from restaurants. Swain et al. (2014) notes how these actions from business leaders make an impact on people's attitudes and also notes the importance of politicians and how they can be influential, as well. As more and more people begin creating a habit of environmentally sustainable behaviors, it may eventually be taught to the younger generations. It would appear that the reinforcement within a child's K-12 education would be beneficial but there are barriers in doing so. The main barrier being a shift from lecture style teaching for standardized tests to a more hands-on and experimental, real-world approach to teaching the material (Redman, 2013). Observing their schools being sustainable, as well as learning about it in the classroom, these youth may then grow up with environmental sustainability being woven throughout their upbringing, which will then possibly continue to the next generation. Upon entrance to college, students attitudes, intentions and behaviors may eventually lean more heavily toward living a life that is more sustainable. As universities continue to create a culture campus wide and into the community (Dyer & Dyer, 2017; ULSF, 1990), this could spread into the curricula, which would then be reinforced in the classroom. Upon graduation, these students have been exposed to environmentally sustainable behaviors throughout their lifetime within their family, community, businesses, social influencers, and early education through higher education. This could possibly then be carried into the workplace, thus continuing to create behaviors that protect the environment.

LIMITATIONS AND FUTURE RESEARCH

The most notable limitation to this research is the sample size. The small sample size may not be fully representative of the entire population. A broader sample of students from other universities, with and without curricula pertaining to environmental sustainability, may also be beneficial as well as providing more significant results. Another limitation would be the distribution of the surveys. Group 1 distributed surveys directly to the students email accounts. While this eliminates any bias from a professor, it can also be overlooked by the students, lowering the response rate. Group 2 and Group 3 distributed surveys directly to faculty, who then distributed it to their students within the Desire 2 Learn (D2L) platform. There could have been bias by the faculty if the survey pertained to a topic of interest to them. If a professor was not interested in the subject matter, they may choose to not distribute it to their class. Group 2 has this topic engrained within their culture, where Group 3 may not.

Future research could include focus groups for a qualitative approach. This would allow for more open-ended questions and discussions. There could also be more specific questions about the constructs to get a better sense of the students motivations. If there were a larger sample size, further evaluation, once again using the TPB in relation to the number of classes taken within their major may be of interest. Instead of combining the results of each group within the subjective norm, the results for each question and group could be analyzed individually, in addition to further analysis of other influencers in students' lives. Another consideration would be to go one step further in the TPB and measure the path from intention to behavior. This would

require an additional survey group consisting of alumni from the programs.

CONCLUSION

Environmental sustainability has become a global issue and steps have been taken to move toward protecting the Earth. As businesses continue to innovate and grow, it is becoming more apparent that sustainable initiatives must be integrated within their strategy. Employees of those businesses must also have the proper skill set in order to accomplish those initiatives. The need for employees educated about environmental sustainability requires curricula within higher education to give to prepare students upon graduation to enter the workforce. This study assessed how impactful academic programs were on student intentions in regards to selecting a workplace that is environmentally sustainable. While the results of this study showed that an environmentally sustainable curricula did not necessarily make a difference compared to other curricula regarding the intention to select an environmentally sustainable workplace, it is important to note that students do believe that it is important to protect the Earth. By understanding how students' attitudes, influences from others and having confidence in what was learned within their academic curriculum, higher education administrators and faculty may be better equipped to grasp what is needed to produce graduates with a desire to work for a company with environmentally sustainable initiatives. Why does that matter? Education is knowledge and knowledge is power. As more people become educated about environmental sustainability and share their knowledge with in their jobs, it helps spread these initiatives within the community and ultimately around the world. Although it's one small step to help solve a great problem, it's at least a start.

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APPENDIX

SURVEY QUESTIONS

Attitude

In my personal opinion	*Strongly disagree*	*Disagree*	*Somewhat Disagree*	*Neither agree nor disagree*	*Somewhat agree*	*Agree*	*Strongly agree*
A1 - It is important to protect the environment	①	②	③	④	⑤	⑥	⑦
A2 - I actively practice environmental sustainability at home (e.g., reduce, reuse, recycle)	①	②	③	④	⑤	⑥	⑦
A3 - Everyone is responsible for caring for the environment	①	②	③	④	⑤	⑥	⑦
A4 - I am concerned about the long-term future of the environment	①	②	③	④	⑤	⑥	⑦
A5 - In my opinion, it is important to conserve natural resources	①	②	③	④	⑤	⑥	⑦

Subjective Norm

*Please rate the overall **level of concern for environmental sustainability** of the following people based on their actions about the environment.*

	Not concerned at all	*Moderately unconcerned*	*Slightly unconcerned*	*Neither unconcerned nor concerned*	*Slightly concerned*	*Moderately concerned*	*Extremely concerned*
SN1 - My family and friends	①	②	③	④	⑤	⑥	⑦
SN2 - My college professors	①	②	③	④	⑤	⑥	⑦
SN3 - Other students in my college classes	①	②	③	④	⑤	⑥	⑦

*Given the environmental sustainability positions of the people below, please indicate **your level of motivation to comply** with their positions.*

	Not motivated at all	*Moderately unmotivated*	*Slightly unmotivated*	*Neither unmotivated or motivated*	*Slightly motivated*	*Moderately motivated*	*Extremely motivated*
SN4 - My family and friends	①	②	③	④	⑤	⑥	⑦
SN5 - My college professors	①	②	③	④	⑤	⑥	⑦
SN6 - Other students in my college classes	①	②	③	④	⑤	⑥	⑦

Perceived Behavioral Control

*Based on my **COLLEGE CLASSES** so far*	*Strongly disagree*	*Disagree*	*Somewhat disagree*	*Neither agree nor disagree*	*Somewhat agree*	*Agree*	*Strongly agree*
PBC1 - I have learned a lot about environmental sustainability my major program	①	②	③	④	⑤	⑥	⑦
PBC2 - I have the skills to apply the learned environmentally sustainable practices in my future career	①	②	③	④	⑤	⑥	⑦
PBC3 - I feel well-trained to assist my future employer in achieving their environmentally sustainable objective	①	②	③	④	⑤	⑥	⑦
PBC4 - I have the ability to lead environmentally sustainable practices in my future career	①	②	③	④	⑤	⑥	⑦

Intention

*As I begin my job search **after college graduation**, I plan to ...*	*Strongly disagree*	*Disagree*	*Somewhat disagree*	*Neither agree nor disagree*	*Somewhat agree*	*Agree*	*Strongly agree*
I1 - Work for a company that pursues environmental activities	①	②	③	④	⑤	⑥	⑦
I2 - Work for a company that supports environmental initiatives	①	②	③	④	⑤	⑥	⑦
I3 - Work for a company that seeks out ways to support the environment	①	②	③	④	⑤	⑥	⑦
I4 - Work for a company that takes a role in reducing harm to the environment	①	②	③	④	⑤	⑥	⑦

I5 - How much **salary per year** would you be **willing to give up** in order to work for a **company that commits to environmental sustainability**?

Place an **X** along the spectrum

In thousands of dollars ($K)

_____

$0K $5K $10K $15K $20K $25K $30K $35K $40K

Demographic Characteristics of Survey Respondents

D1 – How many **classes** have you taken within **your specific major** so far (including this semester)?

□ 1-2 classes □ 3-5 classes □ 6-10 classes □ 11-15 classes □ 16-20 classes □21+classes

D2 - What is your **year of birth**? _____

D3 - How do you **identify** yourself?

□ female □ male □ transgender □ prefer not to answer

IRB APPROVAL

Version Date: 8/12/2011

Institutional Review Board (IRB)/Independent Ethics Committee (IEC) Authorization Agreement

Name of Institution or Organization Providing IRB Review (Institution/Organization A):
____Kennesaw State University_____
IRB Registration #: _IRB00001469_____ Federalwide Assurance (FWA) #, if any:
__00004584____
Name of Institution Relying on the Designated IRB (Institution B):
The University of
Alabama_____
FWA #: _ 00004939_____
The Officials signing below agree that The University of Alabama may rely on the designated IRB
for review and continuing oversight of its human subjects research described below: (check one)
(___) This agreement applies to all human subjects research covered by Institution B's FWA.
(_X_) This agreement is limited to the following specific protocol(s):
Name of Research Project: Assessing the Impact of Environmentally Sustainable Academic Programs on Student Intentions Toward their Career Choice
Name of Principal Investigator:__[redacted] _____
Sponsor or Funding Agency: _____ _____ Award Number, if any: _____
The review performed by the designated IRB will meet the human subject protection requirements of
Institution B's OHRP-approved FWA. The IRB at Institution/Organization A will follow written procedures for reporting its findings and actions to appropriate officials at Institution B. Relevant minutes
of IRB meetings will be made available to Institution B upon request. Institution B remains responsible for
ensuring compliance with the IRB's determinations and with the Terms of its OHRP-approved FWA. This
document must be kept on file by both parties and provided to OHRP upon request.
Signature of Signatory Official (Institution/Organization A):
_____ Date: __7/17/19_____
Print Full Name: _[redacted]___ Institutional Title: _Director, Human Subjects Research_____

Signature of Signatory Official (Institution B):
_____ Date: _____
Print Full Name: [redacted] __ Institutional Title: VP for Research & Economic Development

7/16/2019

[redacted]
Coles College of Business - Office of Events and Creative Communications

RE: Your followup submission of 7/16/2019, Study #20-009: Assessing the Impact of Environmentally Sustainable Academic Programs on Student Intentions Toward their Career Choice

Hello [redacted],

Your application for the new study listed above has been administratively reviewed. This study qualifies as exempt from continuing review under DHHS (OHRP) Title 45 CFR Part 46.101(b)(2) - Educational tests, surveys, interviews, observations of public behavior. The consent procedures described in your application are in effect. You are free to conduct your study.

NOTE: All surveys, recruitment flyers/emails, and consent forms must include the IRB study number noted above, prominently displayed on the first page of all materials.

Please note that all proposed revisions to an exempt study require submission of a Progress Report and IRB review prior to implementation to ensure that the study continues to fall within an exempted category of research. A copy of revised documents with a description of planned changes should be submitted to irb@kennesaw.edu for review and approval by the IRB.

Please submit a Progress Report to close the study once it is complete.

Thank you for keeping the board informed of your activities. Contact the IRB at irb@kennesaw.edu or at (470) 578-6407 if you have any questions or require further information.

Sincerely,

[redacted]
KSU Institutional Review Board Director and Chair