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COLLEGE AND UNIVERSITY SUSTAINABILITY OFFICERS' EXPERIENCES
WITH GREEN OFFICE PROGRAMS: A QUALITATIVE INVESTIGATION

by

Logan Lamb

A THESIS

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COLLEGE AND UNIVERSITY SUSTAINABILITY OFFICERS' EXPERIENCES WITH GREEN OFFICE PROGRAMS: A QUALITATIVE INVESTIGATION

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University of Nebraska, 2016

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The number of sustainability programs in higher education continues to increase. Green office programs have become a cornerstone of sustainability programming on college and university campuses across the country. This exploratory qualitative study involves college and university sustainability officers and investigates their experiences changing behaviors through green office programs. The goal of this study was to provide insight into green office programs. Two side-by-side studies were conducted to provide a detailed analysis of green office programs at both small and large institutions of higher education. Eleven major themes emerged from the study. Six themes emerged from the qualitative analysis of sustainability officer's experiences promoting green office programs in large schools. Five themes and two sub-themes emerged from the qualitative analysis of sustainability officer's experiences promoting environmental behaviors in small schools. One theme, education provided through the institution's sustainability office, was held in common between the two populations; however, there were some differences in educational programming. This study provides the foundation for further research into green office programs and other sustainability programs in higher education.

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Chapter I

Introduction

As the world's population continues to grow, we continue to increase our consumption needs. Forests, water tables, and fisheries are being depleted. We are discharging greenhouse gases into the atmosphere at an alarming rate (Brown, 2006). If not addressed properly these issues could spell disaster for the human race. Many suggest that a leap in technology will be our saving grace, but technology alone cannot be the human race's long-term plan for overcoming the dire environmental issues with which we are faced. Many of these environmental problems are built on foundations of human behaviors and can be altered by changing the behaviors that most significantly impact the environment (Vlek & Steg, 2007). In most cases, it is cost efficient for consumers to alter behaviors instead of purchasing new more efficient technologies. These behaviors can range from dimming lights, adjusting the thermostat, or something as simple as weather stripping windows (Gardner & Stern, 2008). The issue at hand is not what people can do, as there are already a number of examples of actions people can take to decrease their carbon footprint, but how to get people to alter behavior and engage in those actions. A variety of different techniques have been studied to facilitate behavioral change (De Young, 1993), including social normative messaging, peer to peer education, incentives, informational feedback, and education. All of these are known to provide some improvement in pro-environmental behaviors (Carrico & Reimer, 2011; Kollmuss & Agymen, 2011; Abrahamse, Steg, Vlek, & Rothengatter, 2005).

Sustainability in Higher Education

From civil rights to political rallies college and university campuses are a place of activism. Over the past decade, we have seen a growing trend of colleges and universities across the globe becoming “greener”. Due in part to climate change, colleges continue to enact action plans in order to decrease and rearrange their energy portfolios, and modify waste, water, and land use. The campus sustainability movement is stronger than ever. The Association for Advancement of Sustainability in Higher Education (AASHE), a non-profit organization that helps empower universities to become an effective change agent and drivers of sustainability innovation, now has over 1,000 member institutions worldwide (AASHE, 2015). Sustainability efforts of colleges and universities are reflected by the expansion of the American College and University President’s Commitment Climate Commitment (ACUPCC). The ACUPCC has two primary goals: to eliminate net greenhouse gas emissions and to improve sustainability education and research on college and university campuses (Second Nature, 2016). The ACUPCC, first enacted in late 2006 with only 12 signatories, has grown to 639 signatories as of March 2016 (Second Nature, 2016). Programs like ACUPCC and AASHE allow higher education institutions to collaborate and hold other universities accountable to more sustainable principles. Penn State University defines sustainability as “The simultaneous pursuit of human health and happiness, environmental quality and economic well-being for current and future generations.” As environmental issues like climate change, water scarcity, and the overuse of common resources become more pressing it is important to address these issues in a timely and swift manner to ensure environmental, economic, and social progress for future generations. There continues to be growth in nationwide

sustainability initiatives that target college and university campuses. Recent examples include Campus Conservation Nationals (CCN, 2016), a global competition to decrease energy and water consumption on campus, and Recyclemania (Recyclemania, 2015), a nationwide competition to increase recycling rates on campuses. These events represent growth of the sustainability movement on college and university campuses across the world. It should be noted that most of the success of these programs is not built on the backs of one group on campus, but rather requires a combined and collaborative effort among students, faculty, and staff members.

Sustainability in higher education continues to be a growing trend. A recent study about leadership and change in higher education found that sustainability had emerged as a growing theme for college administrators who are planning their institution's future (McNamara, 2010). Sustainability efforts are now often a part of prospective student's decision making when choosing their college (Luca & Smith, 2013).

Green Office Programs

Fueled by these initiatives, the foundation for a new type of sustainability program is growing on college and university campuses across the United States. One of the first peer to peer sustainability outreach programs is green office programs, also known as green team programs. Green office programs seek to promote positive environmental behaviors of college and university faculty and staff through a variety of behavioral changes. These programs target faculty and staff at a department or building level and should not be confused with similar initiatives that focus directly on students. A variety of different programs and actions are used to engage higher education faculty and

staff in pro-environmental behaviors. Examples include desk side recycling, shutting down computer monitors, and dimming lights for different levels of sunlight.

Green office programs encourage pro-environmental behaviors by utilizing change mechanisms including incentives, social norms, data feedback, and contextual education (why the issues are important). There are currently a small number of green office programs already in place in colleges and universities across the country. Green office programs have taken root in campuses of all different types and sizes from land grant universities with over 45,000 students (PSU, 2013) to smaller private liberal arts colleges like Mills College with under 1,000 students (U.S. News, 2016).

One of the most beneficial aspects of green office programs is the flexibility for individuals and departments. For example, Penn State University's green office Program provides faculty and staff the ability to participate in a variety of different office settings. First and foremost, green offices can encompass an entire building to provide more accurate feedback data using building consumption numbers associated with a specific floor rather than a whole office building. There could also be green office teams on individual floors or at department levels. (PSU, 2015). This flexibility allows for maximizing the amount of people reached by green office programs. In a recent case study about a dormitory peer to peer education program, it was discovered that most of the peer educators saw a positive impact in residents' behaviors (Erickson, 2010).

Green office programs usually have tangible goals such as lowering energy consumption, decreasing water use, and increasing waste diversion rates. One of the primary goals of establishing green office programs is to promote sustainability behaviors

and engage a broader audience outside of the faculty and staff that are already “making green choices.”

Green office programs have been popping up across the country on college and university campuses as a tool to improve environmental behaviors of faculty and staff members. These programs are key to improving sustainability on college and university campuses (Erickson, 2010). However, these programs are very new and have not been thoroughly researched.

Purpose Statement

The purpose of this qualitative study is to explore the experiences of higher education sustainability officers who have implemented and facilitated a green office program on their campus. Green office programs are a relatively new tool for changing behaviors of college and university faculty and staff, thus the need for exploratory research. An outcome of this study may be a framework for sustainability professionals in higher education to create or improve green office programs on their campuses.

Research Question

The research question this study hopes to answer is: What have been sustainability officer’s experiences implementing green office programs to improve environmental behaviors in large and small institutions of higher education?

Limitations

Limitations include that these programs are new and there is not much research related to programs that target faculty and staff. One of the main reasons for a qualitative

study was to extract detailed and descriptive information that will better serve sustainability professionals build and expand green office programs.

Chapter II

Literature Review

Research shows that many people are unable to exercise deliberate choice because they find themselves locked into unsustainable patterns represented in habits, routines, lack of knowledge, institutional structures, or inequality in access, social expectations, and cultural values (Jackson, 2005). Involving people in activities like conservation, recycling, reuse, composting, and sustainable consumption requires behavioral change (Wilson, 2007). There have been many studies explaining human environmental behavior; however, as Schultz, Nolan, Cialdini, Goldstein, & Griskevicius (2007) discussed behavioral change is very complicated and in most cases is situational for each person. In a study about the gap between environmental knowledge and environmental behavior, Kollmuss and Agyeman (2002) concluded that environmental behavior is so complex that it cannot be changed by a single behavioral change technique.

Green Office Programs

As established in Chapter One, the earth faces a growing threat from anthropogenic activities. Colleges and universities around the world face an obligation to pull society towards a more sustainable future (Barlett & Chase, 2004). Behavioral change continues to be a growing component of college and university sustainability programs (Phinney, 2015). However, as sustainability efforts in higher education are still growing, there has been little research on the use of college sustainability programming to engage community members in pro-environmental behaviors.

So far, research has focused on a program similar to green offices; eco-reps. Eco-Rep programs are very analogous to that of green office programs because they use some

of the same techniques of behavioral change that green offices do except the focus is on students instead of faculty and staff. Eco-Reps are students who are educated about pro-environmental behaviors and are tasked with educating their dorm or classmates on those actions. In a case study of Eco-Rep programs, Erickson (2010) found that active communication between Eco-Reps and students was an important factor for program success. The case study also concluded that students who did not have an eco-representative on their floor did not engage at the same levels of pro-environmental behaviors than those who did. Erickson (2010) also found that after students participated in the Eco-Reps program students felt a cultural shift in their lives and they were utilizing more sustainable practices. In Erickson's case study she identified peer to peer education, social norms, usage feedback, and incentives as the main behavioral change mechanisms for Eco-Reps programs.

The scientific literature provides a strong case for a program that can utilize behavioral change techniques to create positive environmental behaviors on college and university campuses. However, there is little known about college and university green office programs. Berg (2001) suggests that qualitative research is imperative for gathering foundational data necessary to increase contextual understandings. Since the mechanisms to promote pro-environmental behavior incorporated into green office programs are essentially unexplored, qualitative research is an appropriate place to start. The following sections explore possible mechanisms to promote pro-environmental behaviors in green office programs.

Social Norms

Social norms are social rules and standards that guide human behaviors (Cialdini, Kallgren, & Reno, 1991). A recent study that outlined differences in changing environmental behaviors at home versus the office attributed social norms to be a major factor for pro-environmental behavior in the office place (Endrejat, Klonek, & Kauffeld, 2015). There are two main types of social norms that can have an effect on people's behavior. Descriptive norms are what an individual perceives as the behaviors of those that are close to them (Grockeitz et al., 2010). Cialdini (2007) described injunctive norms as, “not to one’s own view of what constitutes appropriate conduct but to one’s perception of what others believe to be appropriate conduct” (p. 22).

Research on the impact of different types of norms on pro-environmental behavior has been widely studied. A study regarding household energy conservation found the use of descriptive and injunctive norms effective in decreasing energy consumption and the boomerang effect; the unintended consequence of an attempt to improve behaviors resulting in the adoption of an opposing position, at the same time (Schultz et al., 2007). Normative feedback about neighbors recycling habits helped shape individuals recycling habits (Cialdini et al., 1991). The study results also showed that individuals could react by either reducing or increasing usage which was determined by the feedback that was provided. The study emphasized that people will alter behaviors based on that of their peers. If their peers are not recycling, they are more likely not to recycle and vice versa.

Smith et al. (2012) observed the behaviors of 185 college students and found that they based decisions more on injunctive information but students also based decisions on

descriptive information. When exposed to each norm individually injunctive norms had more of an impact than descriptive norms but both promoted environmental behaviors, However, another study regarding water conservation that combined descriptive and injunctive norms did not share the same positive results (Schultz, Messina, Tronu, Limas, Gupta, & Estrada, 2014). In further contrast, water conservation was highest when descriptive and personal normative messaging was paired together. Another study regarding towel use (Goldstein, Cialdini, & Griskevicius, 2008) found descriptive norms were the best messaging to promote pro-environmental behaviors.

The best way to employ injunctive norms to change behavior is to increase one's awareness of their action's consequences on others as well as ascribing responsibility for those actions (Wiidegren, 1998). Personal norms are often attached to one's sense of altruism as well as one's understanding of their actions' consequences (Schwartz, 1997). In a study at Tufts University, the researchers used a social norms campaign to reduce greenhouse gas emissions in order to aid the University's ACUPCC commitment (Marcell, Agyeman, & Rappaport, 2004). The researchers concluded that students who were exposed to social norms were more inclined to engage in positive environmental behaviors than those who were exposed to other behavioral change methods including education.

Education

Another component that is often studied surrounding behavioral change is education. For the sake of this study, it is important to differentiate between education and feedback. Education is defined by providing information regarding what behaviors

employees should be exhibiting and what effect it will have on the environment. There have been a number of studies that have looked at education to change behaviors.

In a study regarding health behavior and education, Glanz, Lewis, and Rimer, (1990) found that education can have a positive impact on behaviors. Furthermore, the study found a significant association between how people perceived the importance of the issue and their willingness to act as a result of knowledge. In an analysis of environmental education, Hungerford and Volk (1990) identified three instructional strategies each with multiple variables that affect environmental behavior. They found that it is important to allow students opportunities to implement what they learned in order to have any lasting impact of their behavior. Furthermore, they concluded that a student's connection with the environment is a precursor to education having a positive effect on an individual. In another study about energy conservation amongst high school students, DeWaters and Powers (2011) found that attitudes and values were more important than educational material. However, their study attributed long term environmental education with a change in student's attitudes. A recent survey that identified individuals' apathy over climate change found there was no correlation between high environmental literacy and positive environmental behaviors (Kahan et al., 2012). The study goes on to identify consumptive interests and the behaviors of those around them as the most important factors in determining how one will act. Education in itself has shown to have a limited track record changing behaviors, and it is important to utilize multiple intervention techniques when attempting to change behaviors (Stern, 2000).

Peer to Peer Education

Education is the foundational base for peer to peer education programs and looks to engage students in improving environmental behaviors. Furthermore, education paired with normative messaging can lead to a stronger response than if either were used individually (Staats, Harland, & Wilke, 2004; Stern, 2000). Peer to peer education often utilizes social norms within a community while improving awareness through education.

The use of peer to peer education to influence behavior is not a new idea as it has been used for centuries. Peer to peer education was once employed by Aristotle (Turner & Shepherd, 1999). There are plenty of examples of peer to peer education programs, particularly in early childhood education. Peer to Peer education was first formally observed in the 1880's when teachers instructed a small group of students. The small group of students then instructed other students (Gerber & Kauffman 1981). Peer to peer education in childhood education has proved successful, increasing cognitive engagement, higher participation, and scholarly achievement (Damon, 1984).

Peer to peer education programs have successfully spread into the field of health sciences, and have been utilized to decrease teen smoking, decrease substance abuse, prevent HIV/AIDS, and to encourage influenza vaccinations (Perry, Telch, Killen, Burke, & Maccoby, 1983; Klee & Reid, 1995; Helm, Knipmeyer, & Martin, 1972). The success of peer to peer education programs is attributed to people valuing information from someone they know at a deeper level or who has had the same experiences (Shiner, 1999). One reason peer to peer education programs for students are successful is that other students feel an obligation to be a more attentive student when their peer is presenting versus when a teacher or professor is presenting.

However, it is important especially when people are transitioning from one behavior to another that there is someone to supervise and guide the program. An authority figure who has a specialization in the field, in this case sustainability behavior, is important to reaffirm the value of the behavioral change (Boud et al., 2014). A study by Burns (1991) compared data regarding household recycling and found that it is important to utilize both experts and peer leaders throughout a recycling program, as it was usually more cost efficient than relying strictly on experts.

Using peer to peer education in green office programs within a workplace setting allows for regular interactions with coworkers and observations of the impact on coworkers' day-to-day activities. Studies have found peer to peer education within a workplace setting to be a successful behavioral change tool for preventing HIV/AIDS (Hope, 2003) and improving vegetable and fruit intake (Buller et al., 1999). Workplace peer to peer education programs like these has built a foundation for green office programs.

Usage Feedback

Usage feedback is a great tool to educate employees. Carrico and Reimer (2011) define feedback as providing consumers with information regarding their specific usage habits. Feedback plays an integral part in building upon the education that green office program members received when they were first introduced into a program. Within green office programs, feedback can be utilized to provide employees and office members with progress reports of their energy usage habits. A number of studies have shown a behavioral change in energy consumption when feedback is provided from metering systems (Peterson et al., 2007). In a four-week study of household energy use,

households that received feedback along with education had an 11% increase in energy savings as opposed to those that just received the educational component (Seligman & Darley, 1977). Another study that examined office energy usage for 18 weeks found feedback led to energy reductions, but the reductions were not consistent over the entire 18-week study (Murtaugh et al., 2013). The researchers concluded that there was a lack of motivation to conserve energy, and there was a significant minority that did not even act when provided usage feedback.

Usage feedback has also been studied when coupled with peer to peer education to promote environmental behaviors. In a recent study that analyzed the effects of different behavioral change methods on people's energy needs, peer to peer education paired with usage feedback had the highest positive behavioral change rate (Carrico & Reimer, 2011).

Incentives

Incentives are another tool often used to promote environmental behaviors (Erickson, 2010). Incentives should be utilized as a means to attract people to the program but not something that should be solely relied on for program sustainability. In a recent study that investigated the role of incentives in consumer recycling, incentives were a driving factor in people's motivation to recycle (Iyer & Kashyap, 2007). However, the study also found the best results when incentives and education were combined. One of the issues with incentives or rewards is that people tend to engage in behaviors for the rewards, not because they are driven by their convictions, thus, not providing a robust and sustainable change in behaviors (Garling & Loukopoulos, 2007; Hsieh, 2016). Once

the rewards are obtained an individual's behavior tends to revert back to before the incentive was in place, similar to a boomerang effect.

Within the green office program, incentives can be a valuable tool to encourage public participation in the program but should be combined with other elements to ensure long-term success. It should also be noted that it is important that policies that promote positive environmental behaviors are perceived with higher favor than policies that create a negative connotation surrounding harmful environmental behaviors (Steg, Dreijerink, & Abrahamse, 2006). Steg, Dreijerink, and Abrmaese (2006) found that in contrast to taxation, subsidizing positive behaviors was more efficient when trying to get individuals to decrease energy consumption. Sustainability officers should focus on positive objectives rather than targeting negative behaviors to help promote positive environmental behavioral change.

Effects of Population Size on Colleges and Universities

As green office programs continue to grow on higher education campuses it is important to identify possible consequences of an institution's size on the campus community. Lonsbury and DeNeui (1996) found that an institution's size significantly contributed to a student's sense of campus community. Undergraduate students that attended an institution with less than 10,000 students had a stronger sense of campus community than those that went to institutions with more than 10,000 students. A sense of community has been widely researched as having a strong connection with altruism through place attachment (Kurz, Linden, & Sheehy, 2007; Vaske & Korbin, 2001; Xu, Taylor, Pisello, & Culligan, 2012). Furthermore, in a recent meta- analysis focused on research done about the sense of community participation and sense of community, found

that an individual's sense of community and their involvement in that community was significantly related. The analysis showed that the stronger sense of community one has the more positive their participation will be in that community (Talò, Mannarini, & Rochira, 2014).

Wuthnow (2013) found that smaller communities allow for community members to have more daily interactions with other community members which further increases resident's participation in that community. Another study that looked at the impact community size has on business found that organizations and their employees in smaller communities lived with a higher social responsibility and were more involved in the community than organizations with the same size but were located in larger cities (Besser, 2012). The author attributed this to small towns being closer knit communities, and that there are usually only a few organizations or businesses in the town as opposed to a metropolitan area that may have thousands of businesses. Furthermore, Strahilevits (2016) found that people in smaller and more close knit groups were more likely to be susceptible to acting on the norms set by others by the group whereas larger and looser-knit groups the inverse was true.

Faculty and staff community participation is one area where large research institutions have been lacking in comparison to community colleges, state colleges, and liberal arts colleges. A report by Stanton (2007) addressed how institutions other than larger research institutions have primarily fueled the campus community engagement movement. Another study also addressed how more participation leads to more collaboration and a stronger sense of connectedness with others on campus (Kezar & Lester, 2009).

The effect of business and firm size has also been widely studied. In a recent study in the banking sector, Artz (2008) found that the larger the number of employees a firm has the lower job satisfaction, and job performance. Although larger firms exhibited higher pay the research suggests that the hierarchical nature of larger firms along with increased red tape decreased employee satisfaction. Yilmaz and Ergun (2008), found that firm size is a strong predictor of the ability for an employee to fit into an organization's culture, with smaller organizations exhibiting better fit into the organization. The research suggests that in a smaller organization the organization leads to stronger relationships with colleagues and a stronger organizational connection between employees and the organization. Furthermore, a study by Lang and Johnson (1995) observed that job satisfaction in a smaller firm is more strongly associated with one's interactions with coworkers than at larger firms.

Chapter III

Methods

College and university green office programs have not been thoroughly studied, providing justification for an exploratory qualitative approach. A study by Starks and Trinidad (2007) identifies qualitative research as essential to examining institutional practices, identification of barriers, and discovering the reasons for success. Ritchie, Lewis, Nichols, and Ostrom (2003) stress the importance of qualitative data in exploratory studies, “an exploratory topic is best explored by qualitative methods...providing a framework for quantitative studies” (p. 15). This study utilized a basic qualitative approach to investigate sustainability officer’s experiences promoting environmentally sustainable behavior through green office programs. The basic qualitative approach which is outlined in Merriam & Tisdell (2015) is the most historically utilized qualitative method and has been utilized in a wide array of disciplines. The basic qualitative study showcases similarities to many other qualitative approaches but historically closely resembles that of phenomenology. The basic qualitative approach was necessary to promote detailed responses from participants in order to identify different perspectives regarding behavioral change methods employed by green office programs. The goals of this research included collecting qualitative research data on the experiences of green office program officers, identifying key themes about behavioral change mechanisms employed by sustainability practitioners in green office programs, and determining implications of the findings. This type of research provides a means to understand how green office programs are structured and what

behavioral change techniques these programs utilize to improve environmental behaviors of faculty and staff members.

Participants were selected through the Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment & Rating System (STARS) (AASHE, 2016). The researcher utilized the specific credit pertaining to an employee educators program (EN-6). It should be noted that the researcher gathered data from STARS version 2.0. The researcher then identified institutions that had submitted both their STARS report between June 1st, 2015 and May 31st, 2016 and had applied for the EN-6 credit. Overall, the researcher identified 35 institutions that offered green office programs. The researcher then divided institutions into two different groups, those above and below 4,000 full-time equivalent employees; this data was also found through STARS. Institutions were separated into two distinct populations to account for possible differences between small and large institutions. The person responsible for submitting the EN-6 credit to STARS was that institutions' targeted participant. In some cases after first making contact with the institution's point person for green office program they referred the researcher to someone who was more knowledgeable about their institution's program. Participants were sustainability professionals at their respective institution.

The targeted populations for interviews were those that have created and/or are currently overseeing green office programs at a college or university campus. When identifying participants at a specific institution, it was important to specifically interview the person managing the green office program for their depth of knowledge regarding the program.

The researcher was the lone person conducting interviews and had no prior relationship with respondents. Each identified possible participant was sent a request to participate via email. The email included the purpose of the study and the deadline for participation. If someone failed to respond to the email a follow-up phone call and email was placed to the same possible participant.

Institutions were separated based on the number of employees they have. Institutions that have 4,000 or more employees were considered “large” schools, and those that have less than 4,000 employees were considered “small” schools. The researcher determined that based on a review of the literature differences may exist between large and small campus communities. Thus, the researcher conducted two parallel studies of sustainability officer’s experience establishing and promoting environmentally sustainable behavior through green office programs. The two studies were conducted to identify any programming differences between large and small institutions.

Participants were first approached via email explaining the study as well as the interview process. Sustainability officers were then engaged in an in-depth phone interview for 25-35 minutes conducted explicitly by the researcher. There were no follow-up interviews conducted outside of the verification process. The overall study had 21 participants; 10 from large institutions and 11 from small institutions. There was only one participant who after expressing commitment to an interview with the researcher, failed to participate in the study. After the interview time was scheduled there was no further contact between the researcher and this possible participant despite a number of

follow-up phone calls and emails by the researcher. Before analyzing interviews, saturation of research was discussed multiple times between the researcher and his advisor. In some qualitative methods, saturation is defined as the point where no new ideas emerge from new interviews. Achieving saturation is referred to as an indicator of adequate sample size in qualitative research (O'Reilly & Parker, 2012). Each interview followed the same procedure. The purpose of the interviews was to provide sufficient information to answer the research question: What have been sustainability professionals experience attempting to improve environmental behaviors through green office programs in large and small institutions of higher education? Each interview consisted of a question regarding the characteristics of their institutions' green office program, two questions regarding overall experience with their green office program, and two questions regarding their behavior change approaches. Probing questions were used to provide depth, clarification, and richness about interviewees experience promoting environmentally sustainable behavior through green office programs. This study's interview protocol received IRB approval before interviews took place.

Structural/Demographic Questions

- How many faculty and staff are currently participating in your program?
- Explain how the size of your institution affects your program.

Overall Experience with green office program

- Describe your experience trying to improve environmental behaviors through your green office program.

Behavioral Change Questions

- Describe the environmental goals you have for your green office program? (Are they focused on energy, waste, water, etc.?)
- Please describe any and all behavioral change techniques your program has in place?

It was the goal of the researcher to detach prior knowledge and experiences that he had surrounding green office programs to elicit new and more descriptive data without adding personal bias. In qualitative research methodology, this is referred to as bracketing, where the researchers set aside their perceptions and beliefs to be less biased towards the research (Colaizzi, 1978; Anderson & Spencer, 2002). As a sustainability practitioner in higher education, it was important for the researcher to acknowledge and attempt to bracket past experiences in order to be open to new ideas. To supplement the bracketing procedure, the researcher waited until all interviews were concluded to code transcripts and identify themes.

Transcription Process & Qualitative Analysis

Transcribing interviews were conducted by an outside transcriptionist who had also received IRB approval, interviews were transcribed verbatim. The researcher did not view transcriptions or start coding until all interviews were completed. The researcher utilized MAXQDA coding software to analyze and code interviews. The researcher utilized Colaizzi's (1978) phenomenological analysis method to analyze respondent's transcripts. In Colaizzi's method, all transcripts are read multiple times to provide scope to the research. Significant phrases and statements were identified over the course of a thorough and extensive process, where the researcher coded documents multiple times before funneling statements into major themes and sub-themes.

Verification and Validation Process

The researcher engaged in a rigorous data validation process (Morse, Swanson, & Kuzel, 2001). The researcher relied on two experienced coders to validate the findings. One experienced coder was a doctoral student with an extensive background in

qualitative analysis and the other a researcher with more than fifteen years of experience with qualitative research. To ensure methodological rigor, the researcher conducted a two-step member checking process with participants. The first step was once interviews were transcribed the researcher returned transcripts to multiple participants for comment and correction. Participants made no requests for alterations to transcripts. Furthermore, after themes were analyzed the researcher followed up with study respondents to discuss and further validate the findings. Respondents provided no concerns after this process.

The findings were further strengthened by the triangulation of secondary research. Creswell (2013) defines triangulation as the process in which a researcher makes use of a multiple and different sources to provide corroborating evidence of their findings. The researcher engaged in an expansive triangulation process which included images, presentations, newspaper articles, and newsletters.

Chapter IV

Results

From 21 verbatim transcripts, 183 significant statements were extracted.

Statements were then organized into themes - six for large institutions and five for small institutions with two sub-themes.

Results from Sustainability Officers in Large Institutions of Higher Education

A total of 10 sustainability officers from large institutions of higher education participated in this study. The following section describes the six themes derived from interviews with large school sustainability officers (see Table 1).

Table 1

Operational definitions of the six themes for large school participants

Theme	Definition
Education provided by the sustainability office	An educational program provided by the institution's sustainability office
Quantitative Categories	The explicit use of quantifiable categories/goals such as waste or energy usage
Social norms to promote engagement	Social norms were applied to programs in a wide variety of ways to promote positive environmental behaviors
Usage feedback	Providing building occupants with feedback about their usage behaviors
Support from institutional leadership	Dedicated support for the green office program from the institution's upper management and decision maker's
Recognition as a motivator	Utilizing recognition to promote different office's participation in the program

The following section describes the six themes derived from interviews with sustainability officer's at large schools.

Theme 1: Education provided by the sustainability office

In this theme respondents focused on how they provided formal and informal education programs to help establish behavioral change amongst faculty and staff in green offices. Participants often featured the same techniques when engaging office staff, often using emails, meetings with office staff, as well as audits to improve contextual information surrounding environmental behaviors. One large school participant expressed the use of regular emails to office occupants,

We have a newsletter that goes out. We have seasonal emails that go out, specifically to the eco reps, and are very tailored towards those that are in offices, and this is kind of holidays are coming up, here's things that you can do before you leave your office, or here's how to stay comfortable in the wintertime, or here's how to stay comfortable in the summertime, that kind of stuff.

The same participant further touched on the use of directly meeting with office occupants,

We also for a while if a department requested it, I would go to the department, and I would do some educational programming. We did campus-wide one where we invited everyone to attend. At one time we were doing a program a month, it got to be quarterly.

Another participant emphasized the importance of providing tailored information to each office building,

We have an employee who basically her whole job was to give them attention. To help them solve problems, she would give them information. They had occasional workshops for them, maybe once a month. There was a lot of where people would

visit their spaces and give them some tailored information about how to be sustainable within their spaces.

The initial green office certification or auditing process was often utilized as a time for sustainability officers to educate office staff. A large institution sustainability practitioner noted, “The audit itself is educational. We designed it to be that way.... Those are opportunities for us to provide a little bit more education around sustainability in general, around office sustainability, and why those questions are important to us.”

Theme 2: Quantitative Categories

Focusing on quantifiable metrics was a pervading aspect for programs at larger institutions. Descriptions of metrics were relatively consistent throughout the interviews with larger institutions. Many provided succinct descriptions of their program’s metrics such as “Recycling, Energy, and Water” and “We have two target areas Energy Efficiency and Waste”. Another stated that they utilize metrics that could be used for other data points “We really focus on water, recycling, energy, and transportation...the reason we chose these was we thought they overlapped with our office’s goals as well as STARS.”

A sustainability practitioner at a large Big 12 institution emphasized the reason for quantitative metrics was to provide simplicity,

We're looking at ways to reduce energy use and also to reduce waste. We're looking at the recycling, the signage that they might have for the recycling, the way they've got their trash and their recycling paired, if they good signage for their recycling. We're really focusing on these two right now to make the program as simple as possible for participants.

Another sustainability officer focused on how their program has transformed since it started four years ago,

In the past we used categories like transportation and purchasing, but have since revamped our program because we found that it was either too difficult or also didn't pertain to their office...we felt that waste management and energy usage were the only two that fit for all offices.

Another participant emphasized the opportunity to associate a dollar amount to their program. "I think one of the reasons we target those categories [energy and recycling] is to show the fiscal benefit of our green office program."

Theme 3: Social norms to promote engagement

There were a wide variety of responses that involved social norms, or rules of behavior considered acceptable on campus and within the green office program. Respondents mentioned the use of norms in a number of different means. One respondent referred to both providing some normative feedback of how other offices are doing while also promoting a sense of altruism.

We try to be as altruistic as possible on campus and we try to ingrain that into our programming. One thing we like to do when starting programs off is provide an office with how well other programs are doing around campus and how they can reach that same level. Another key component is we try to instill that these programs have a positive outcome and that there is no reason for people not to be involved.

Another Respondent focused primarily on office occupants holding each other accountable:

To that end, two things we try to do is make sure everyone in the office is well educated and that the cert [certification] chart is posted in a common area, that way people in those offices can hold one another accountable.

The same respondent went on to provide an example:

Our office is ranked platinum, one of the only offices that are just last week we had an “intervention” for one of our staff members who constantly forgot to turn the lights off when she was last in the room...Needless to say, those lights have been turned off now.

Social norms have also been intertwined within program messaging and documents. A respondent stressed the value they have of normative messaging:

“We're trying to actually turn them into normative statements. "We do this," rather than "Do you do this?" We're working on that right now, but a lot of those questions are what our expectations are on campus, by saying, "Look at what this particular department's doing," we are stating what the norms are on campus within our program materials.”

Theme 4: Usage feedback

The theme of providing feedback on resource usage was heavily mentioned amongst large institutions. Many respondents expressed the use of providing usage feedback to building occupants. Respondents often referred to using “building dashboard” as a way to measure energy use. Respondents focused primarily on energy use but some respondents included recycling data as well as water use.

One respondent reflected on how important providing feedback is:

Absolutely [we provided usage feedback], I think it is really important for the people participating to see that their actions are having a positive impact...we actually have a credit that gives points to the office if they have the building dashboard [usage feedback] somewhere in their office space.

Another respondent described how usage feedback is ingrained in her program's metrics, "We really tried to connect the data we have available to that with our programs metrics. We wanted to be able to not only do the right thing but show that doing the right thing is paying off. The same respondent mentioned that one of the reasons they put emphasis on collecting data was to promote program effectiveness to other offices as well as upper management:

These data points also give our office the ability to go into the dean or the president or maybe just other offices that are thinking about getting certified and we can give them the baseline before the program and where they are now...in most cases those points do not have statistically significant changes, but some do have improvements.

Theme 5: Support from institutional leadership

Institutional leadership's support of the program was a common theme throughout this study. Many participants mentioned the importance of having a larger impact and a more positive experience with the leadership's buy in. Respondents often started their program by talking to a dean or college president. A representative response included, "we do try to take a top-down approach meaning we try to get the department head to get involved and then push the program through them." Another respondent echoed this sentiment:

Our program head has been here for close to twenty years and has worked all across campus...she does her best to use her connections to get our programming in offices. I know in the past she had the dean of our B[business] school, start up a program...that had a pretty strong domino effect across campus.

A large institution respondent conveyed the importance of having the school's president's office be certified:

Then certainly what's been extremely helpful is the president's office is certified platinum, but being able to say that the president's office has taken time to get it done has been really valuable. Some of the deans that have had their offices done as well have been really valuable.

Another participant emphasized the importance of having the human resources department (HR) be a proponent of the program:

It was amazing. We're really fortunate that the director of programs in HR is friendly to our calls and is always looking for ways for employees to gain additional skills. Sustainability goals or metrics or responsibilities are only written into the job descriptions of people who have very specific environmental jobs here, they're not written into anyone else's job description, so we pitched green office as an additional responsibility that faculty and staff can include in their employee progress reports, or justification for pay increases, or just to keep on file.

Theme 6: Recognition as a motivator

In this theme, respondents focused on using recognition as an approach to incentivize and motivate offices that are involved in Green Office programs. Respondents often referred to using window clings as an incentive:

The incentive itself is the recognition. It is the Certified/Silver/Gold level certification, and that is not only spoken word, that is a physical sticker that we place on the office door. For instance, we have the room number on the outside of the door with the nameplate underneath it. We size those stickers to fit that room number plate so that when you walk by a number of offices you can see very clearly who's certified, who's got a higher-level status, who's Gold.

Another participant echoed the use of window clings in the past but has since transitioned to a certificate:

They get a certificate, and we used to do window clings, where they could demonstrate to visitors to the office, "We participate in the program." The window clings, since we've revised the program and rebranded it, has really proven to be very expensive, so I don't know if we're going to do window clings anymore.

The use of certificates has been used by others. Another large institution respondent expressed similar sentiments:

As part of the sustainable workplace, ours is more being able to say that you are the next level and having that certificate that says you're a platinum workplace. Then we'll put them on the website, and we'll tweet about it, and we'll put them on Facebook, that kind of thing.

Results from Sustainability Officers in Small Institutions of Higher Education

A total of 11 sustainability officers from small institutions of higher education participated in this study. The following section describes the five themes and two sub-themes derived from interviews with sustainability professionals at small schools (see Table 2).

Table 2

Operational definitions of the five major themes for small school participants

Theme	Definition
Education	Utilized some sort of educational component to promote positive environmental change in the office space. The use of peer to peer education was a sub-theme of Education
Pro-sustainability culture on campus	Having a strong sustainability presence on campus
Working with external partners	The use of external partners to help run and facilitate the program
Expansive Categories	Categories that go beyond quantitative data. For example an innovation credit or the sub-theme health and wellness
Food as an incentive	The use of food to promote participation in the program

Theme 1: Education

An educational component was referred to often throughout the interview. Many small school practitioners talked about the use of “workshops” or “whole office training sessions” to address ways faculty and staff members can be more sustainable in their office spaces.

One sustainability officer expanded on an employee presentation that he gives to new green offices:

We have an employee presentation that I give. I also meet one on one with offices if they have questions before they go from the baseline survey to the checklist of

actions. I'll sit down with them and talk with them about where they could improve or what areas they could focus on.

Other interviewees described the content of their educational platform. One participant mentioned how she identifies different ways different offices can make an impact,

Just a spiel on why, the big why, what's going on with sustainability as a concept, what's happening environmentally in the world, and then zooming out to what's the university's commitment, and then going in a little deeper and saying, "Okay, so what's this got to do with you?" Then the behaviors are important and so really the office program is focused on behaviors you can adopt at work that align with the university's commitment.

Sub-theme 1: Peer to peer education. In addition to education provided by sustainability officers, small school respondents particularly focused on the use of peer to peer education to promote environmental behavioral change in office spaces. One small school sustainability officer emphasized the use of an office liaison to help establish sustainable practices at work:

From there we ask the ambassadors to go into their office to educate others in their office. Part of the reason we do this is we have over a thousand faculty and staff on campus and just me with the help of a couple of interns in the sustainability office, we don't have the resources to touch most of them.

Some respondents identified the importance of using peer to peer education at smaller institutions. One respondent focused on utilizing the institution's strong sense of community to bolster the program:

With the peer-to-peer education, the more conversation you can have with both, the more they're willing to participate. Because I talk to them, they might go to the program and then they might become more involved, not because the sustainability is near and dear to their heart. I don't think you get as many as those opportunities at large institutions.

Another participant had a similar idea in that peer to peer education is more of a grassroots approach to the program in contrast to a program that is pushed on employees by the dean or a sustainability officer:

One of the motivations behind doing it this way is that the people in the department who may be more resistant are getting the information from someone who they know, someone who they sort of view as a leader rather than having some random person from the office of sustainability talk down to them.

Theme 2: Pro sustainability culture on campus

A strong sustainability culture was often referred to as being the foundation and driving force for green office programs on their respective campuses. One green office program coordinator mentions both the positive and negatives to having a strong sustainability culture on campus:

I think because we are sustainability focused, I think we feel like we have to do this program. People kind of hold us to it too. The good news about (University Name Redacted) is we're really good about doing this stuff. The bad news is that everybody expects us to be perfect at it.

The effects of a small college as well as a sustainability culture were mentioned as underpinnings for one school's program:

I think it has a lot to do with how we've set it up we have great staff buy-in for sustainability, and I guarantee if someone isn't a part of a Green Team on campus they know someone who is. Because we are so small we are also a very tight knit community...people have everyday conversations about how their office is doing in comparison to what their friends are doing and I think that is the beauty of having a program at [name redacted].

Another participant talked about how having an overwhelmingly large number of committed staff members on campus has led to positive outcomes:

I think one area where we are exceeding though is amongst staff members. We have some great people who care about sustainability and frankly don't mind pushing it on others in their office (laughs). Some of these offices have done great things, for instance our office of Diversity had, well at least half of their staff was sustainable ambassadors, so they got their building to be zero waste.

Theme 3: Working with external partners

Small school respondents often mentioned working with external partners. Respondents provided a variety of different reasons for the use of outside partners. One respondent talked about including external partners within their training program to provide expertise:

One thing that we do is we team up with [the local electric company] and have them come in and speak to staff about energy use and what they can do both in the office and at home...it's not that I don't feel comfortable talking about it but why do it when I can have an expert up there.

Another participant talked about partnering with a local sustainability non-profit to provide some logistical support:

Yeah, it's going to be fun. We decided that we would basically follow the big non-profit's competition structure, and we're going to try to encourage all the different departments to participate in it this year.... its great because the local nonprofit provides all of the workshops for staff members to attend.

Theme 4: Expansive Categories

Many respondents mentioned the fact that they have extensive and expansive sustainability categories that are addressed within their green office program. Some responded quickly listing off the various categories, for example, one person said “waste, purchasing, health and wellness, break room, transportation, energy, and an innovation credit”. Other participants expanded on their categories a bit more, one respondent touched on the use of an innovation credit:

Outside of the other 5 [energy, recycling, wellness, transportation, and community service] we have an innovation credit. I really enjoy because some offices come up with some awesome credits for themselves that I love! That is how the community service category got started!

Another participant described the use of six total categories:

We use energy and waste, those are pretty straightforward our goal is to reduce those things. Then we get into things like purchasing, we want to make sure that their office is not only getting as much recycled materials but also fair trade materials as they can...we also have things like break room which includes reusable water bottles and other kitchenware items... our final category is health

and wellness. I know it's a bit unorthodox but I thought it added a more holistic approach to our program.

Sub-theme 2: Health and wellness as a category. Although there were many categories used in small school green office programs, health and wellness emerged as a subtheme of expansive categories. Some respondents referred to health and wellness as “all encompassing” or as one participant referred to it as “creating a more holistic approach to our program.” A sustainability officer referenced the importance of including health and wellness into their program:

I believe there is a push/pull effect between personal wellness and environmental wellness, if you walk to work boom, emissions are gone, if you are a vegetarian boom, emissions are gone as well as another environmental consequence with eating meat. Both of those are known to lead to a longer healthier life.

In another example of sub-theme health and wellness, one participant shared: “taking walks on smoke breaks, instead of smoking of course! Take the stairs and not the elevator, and my favorite.... testing the offices water quality.”

Theme 5: Food as an incentive

Many small institution sustainability officers mentioned the use of some sort of food as an incentive to either start a green office or to progress through the rankings. When asked if his program had incentives one respondent said, “Since we don't have a lot of funding what I'll do once they get certified or in cases where they move up the scale so like from bronze to silver for example, I'll bring in coffee and donuts.”

Another participant talked about an end of the year luncheon where his office recognizes all of the green offices:

We do an end of the year lunch just to say like “Hey, thank you” and “Keep up the good work.” It is specifically for faculty and staff that participate in our green office programs...it’s a feast of food, buffet style...We have in the past brought in some guest speakers to talk to those that are invited.

One participant mentioned the use of a partnership with the university vegetable garden, “One of my favorite parts of our program is once you hit gold...we only have two gold offices right now; you get to use the campus garden as you please.”

Chapter V

Discussion

Summary

This study was a qualitative investigation of college and university sustainability officer's experiences working with green office programs. Participants in this study included 10 sustainability officers from institutions with over 4,000 full-time employees and 11 sustainability officers from institutions with below 4,000 employees. The 21 respondents were interviewed one time for 15-30 about their experiences promoting environmentally sustainable behavior through green office programs. After the interviews were conducted six themes emerged from large schools and 5 themes and 2 sub-themes emerged from small schools. Results of these interviews are published in Chapter 4. It should be noted that these themes and implications were strictly an outcome of the interview process and not in any way a byproduct of the behavioral change methods discussed in the literature review. However the overlap provides justification for the strength of not only the behavioral change methods in the literature review but the green office program as a whole. This study determined these programs are utilizing a variety of previously researched environmental behavioral change techniques.

Discussion of Overlapping Qualitative Analysis Results

The results of the study identified one overlapping theme between large and small institution participants. Some form of education was recognized as a theme for both large and small institutions. Both groups provided similar responses in that the institution's sustainability office provided some sort of education for those involved in green office

programs. It was not a surprise to see some overlap between large and small schools, especially in this category. Certain large schools referred to education as the “cornerstone” or “foundation” for their green office program. The use of a workshop as an educational component was further confirmed in a news article at Penn and Duke university (Berger, 2016; Dudash, 2016). Small schools echoed similar sentiments and said that they wanted as much information to come out of their offices to help support the peer educators. However, there were some differences in how sustainability professionals educated program participants, some focused on a traditional classroom approach, others focused on making the certification and audits educational, while some focused on providing educational tips through emails. It should be noted that small schools in contrast to large schools heavily utilized peer to peer interactions to educate office staff. These findings indicate there may be differences in community interactions among small and large institutions which is consistent with the literature review (Besser, 2012, Talò, Mannarini, & Rochira, 2014; Wuthnow, 2013).

Both a large and small school practitioner identified the audit or certification process as a critical component to educating office occupants. The audit process provided office occupants to have a more hands-on experience with what behaviors they can change and the impact that would have. The audits included step by step demonstrations along with the associated impacts of the action or behavior. The large school practitioner who had mentioned the audit also touched on how in the past they used more of a classroom model but felt that they received many technical questions from program participants. He further remarked that moving out of the classroom and into their specific

audit alleviated many of the issues and provided the sustainability officer with insight into a specific office.

Discussion of Results from Sustainability Officers in Large Schools

Sustainability officers involved with green office programs in large school focused on quantifiable categories and goals. Waste and energy use were the most common categories described by large school sustainability officers. Quantifiable categories provided large school practitioners the ability to show the effectiveness of their programs through direct energy savings or waste diversion rates. The specific use of quantitative categories was often mentioned as a way to garner monetary and upper management support for the program.

Support from institutional leadership emerged as a theme from interviews with large school sustainability officers. Large school practitioners emphasized the use of working with the director of human resources, department heads, deans, and presidents to help promote staff engagement in green office programs. This is consistent with the research from Cebrian, Grace, and Humphries (2013) where they found that it was important for campus leaders to identify the importance of sustainability on campus. They further addressed that campus leaders are drawn towards the possible cost savings as well as improved efficiency.

Providing usage feedback to program participants was a key component to green offices at large schools. Many programs explicitly used energy data to provide feedback to office occupants. Similar to examples from the literature (Carrico & Reimer, 2011) in some cases usage feedback was seen as irrelevant given that the program might only encompass a single floor of a ten story building, but in other situations when you have a

whole building participating it was more likely to have a stronger case for providing usage feedback.

Many large school practitioners addressed the integration of social norms within their programs. Large school sustainability officers used normative messaging in a number of instances including in their educational programming, newsletters, and office meetings. Many programs focused on establishing both the ideas of personal and descriptive norms as outlined in the literature. In response to social norms, some large school respondents referenced the use of competition to create environmental behaviors. There have been many instances where competitions have been implemented to improve environmental behaviors (Alberts et al., 2016; Sintov, Dux, Tran & Orosz, 2016; Vine & Jones, 2016). Competitions through the green office program often included aspects of social norms by using normative messaging and comparative feedback for participants.

When large school participants addressed recognition as a motivator and incentive, they focused on items like window clings, plaques, as well as recognition throughout their university publications. Recognition was a widely talked about aspect of this research and was also mentioned when discussing the use of social norms. Recognition was also mentioned further verified in a news article discussing the green office program at Penn (Berger, 2016). Desai and Kleiner (2015) as well as Marzec et al. (2016) described recognition as a powerful tool for promoting employee motivation as well as environmental, behavioral change respectively.

Discussion of Results from Sustainability Officers in Small Schools

Peer to peer education although a subtheme of education was a key aspect for small school practitioners. One thing that stood out throughout the interviews was how

essential peer educators were for small school officers. Peer educators were often provided with some sort of education by the office of sustainability before they started educating their respective offices. Peer educators were identified as having a variety of different roles throughout the research, including conducting a self-assessment of their entire office, speaking at staff meetings, educating peers, and holding other office occupants accountable. The use of peer educators to promote environmental behaviors was discussed in a recent news article showcasing a new green office program at Concordia University (Beedy, 2016).

Similar to Burns (1991), some small school practitioners talked about that due to the fact they are either understaffed, underfunded, or both they rely primarily on peer educators in their programs. Furthermore, small school practitioners often referenced sustainability culture and peer to peer educators within the same scope. As one sustainability officer put it as “cyclical” meaning that the more high-quality peer educators you have, the stronger your campuses sustainability culture will be and vice versa.

Small school sustainability officers also emphasized how an already present sustainability culture allowed them to create and promote their green office program more easily. Cross-referencing those institutions who expressed a strong sustainability culture with their AASHE STARS ranking, all received a gold rating. Some of the small school sustainability officers touched on how green offices collaborate with other sustainability programming on campus.

Small schools also worked with external partners to provide support for their green office program. External partners were often used as educators; to provide program

participants with a more in-depth knowledge base than the campus sustainability officer.

In some cases, programs partnered with cities to help provide the overall structure and educational resources of the programs. A prime example of an external organization working with colleges and universities is Sustainable Pittsburgh. Sustainable Pittsburgh is a nonprofit that collaborates with the Pittsburgh community to become more environmentally conscious through the use of green office programs. In the past Sustainable Pittsburgh has worked with multiple higher educational institutions in and around Pittsburgh (GWPC, 2016).

Within the small school interviews, sustainability practitioners often used food in a variety of different ways. Some provided coffee and doughnuts for participating in the program; others brought pizza for when offices moved up in ranking. There was one school that had an annual banquet for all of those that participated in green office programs. The banquet was entirely zero waste and only had no-meat options. Small schools incentivizing their programs with food was consistent with the findings of Desai and Kleiner's (2015) study of incentivizing employee motivation.

Small school sustainability officers typically utilized a set of broad and expansive categories including a variety of different categories. Small schools often had a wide array of multiple metrics. Categories included; purchasing, transportation, waste, energy, water, break room, community service, meetings, travel, an innovation credit, as well as health and wellness. The use of more expansive categories allowed sustainability officers to take a more all-encompassing or holistic approach to sustainability. This often fit in with institutions that mentioned having a strong sustainability culture. Health and wellness were this studies second sub-theme and in some cases overlapped with what

some small colleges implemented in transportation programs such as a walk or ride your bike to work. Health and wellness also focused on eating vegetarian as well as farm to table products. These findings were very similar to that of the Green Office Program at Concordia where in an article in the school newspaper the school's sustainability officer discussed the use of expansive categories because "all offices are different, it is not a one-size fits-all kind of a program" (Beedy, 2016).

Implications for Practice Promoting Environmentally Sustainable Behaviors through Large School Green Office Programs

Large institutions that had an educational component utilized either a workshop, an audit, or a classroom-like setting to provide information green office participants. The audit was often referred to as a more hands-on approach that the sustainability officer could shape to fit the needs of a specific office. The workshops and classroom experiences could involve more than one office on campus and could be more time efficient in terms of the number of program participants reached.

The use of quantitative categories and goals was often used as a means to show cost saving and to garner the support of institutional leadership. Specifically focusing on quantitative categories allows for more easily measured success throughout the program which provides benefits to both the program participants as well as the sustainability officers. Focusing on categories like waste, energy, water often provided visual results for program participants, while the limited scope of the program could allow for more extensive discussions within those categories.

Large school sustainability officers often used social norms to recruit and further push program participants. Social norms were discussed in a wide array, from utilizing comparisons to similar offices in an introduction to the program, providing normative

messaging in a green office program newsletter, or creating competition's between offices. Utilizing social norms could provide to be a valuable and low-cost addition to a green office program.

Providing usage feedback to building occupants was often discussed as a method of changing behaviors. Sustainability officers that implemented usage feedback often provided it in either a newsletter or a recurring meeting with office occupants. In many cases, usage feedback was used to show energy behaviors but in some cases provided waste and water data as well. Gathering feedback could be difficult for lack of a central database and was mentioned to be quite costly. To get around this, some sustainability officers provided usage feedback once or twice a year to program participants.

Support from institutional leadership was mentioned to be extremely valuable when starting or growing a green office program. Many large school sustainability officers referred to the importance of being able to reference how the president's office is a green office program while others identified that institutional leadership provided pressure to get people more involved in the program. Similarly to pro-sustainability culture in small school's institutional leadership could be difficult to control. However, large school sustainability officers mentioned the use of cost savings as well as demonstrating past employee participation as a means to garner support.

Large school sustainability officers often mentioned recognition as a key motivation for program participants. Examples of recognition included window clings, certificates, as well as mentions of their program in the sustainability newsletter. In many cases, recognition is a cost effective way of acknowledging the participation of a certain

office. Window clings and certificates were also mentioned as possible recruitment tools as one officer mentioned: “one office had [a certificate], and the other wanted one.”

Many of these themes could be used in an overlapping manner whether it be applying social norms to usage feedback or having institutional leadership recognizing the achievements of a particular green office. In many cases, sustainability officers have opportunities to be efficient and create an overlap between some of the themes.

Implications for Practice Promoting Environmentally Sustainable Behaviors through Small School Green Office Programs

Small schools that focused on a traditional educational approach utilized a more hands-on approach to educating office occupants. An idea that was discussed was the concept of an office walkthrough or audit that identifies implications of certain actions as the sustainability professional leads the office staff around their building. Audits are a logical and efficient way for sustainability officers to provide examples of how offices can become more sustainable that are unique to their workplace.

Peer to peer education was referenced as a way for small school sustainability officers to help alleviate concerns of time and funding. Peer to peer education was referenced as both a complementary and an alternative mechanism to other educational efforts. Peer to peer education should be a strong component of green office programs; it is not only a way to establish behavioral change but market their programs.

Having a pro-sustainability culture on campus could be extremely valuable for sustainability officers who are starting or growing their green office programs. In some cases, there may not be much that can be done about the culture on campus, but there is a possibility to strengthen the sustainability culture around campus. As one small school sustainability professional remarked, they did not have the same reputation for

sustainability as other schools, but they transformed their culture around campus by connecting their sustainability programming together. Green office programs could provide to be a vessel to connect all sustainability programming on campus. From campus gardens to competitions, the broad scope and flexibility of green office programs allow sustainability officers to improve involvement in a green office program but all sustainability programming on campus.

External partners could provide to be very helpful for small school sustainability officers. External partners were utilized in a variety of different ways; some small schools worked with external partners in establishing the framework for their institution's green office program, while others brought in external partners to provide expert knowledge to their programs educational component. Similar to peer to peer education the use of external partners could be an effective way to help manage the sustainability officer's time while providing expert knowledge to program participants.

Expansive categories are another area that deserves to be expanded upon. Small school green office programs built their programs around broad categories that were not just focused on quantitative data. These categories included; purchasing, transportation, waste, energy, water, break room, community service, meetings, travel, an innovation credit, as well as health and wellness. The expansive categories gives occupants a more holistic approach to sustainability while providing more direction in all aspects of the office space. The innovation category was often implemented to allow office occupants to be creative and work on credit that may be specific to their office or that they feel relevant but is missing from the other categories. This was mentioned as a way to further get and retain participant engagement.

The health and wellness metric could provide to be an interesting combination of other metric categories as well as themes from this research. Health and wellness were often seen as an opportunity for sustainability officers to work collaboratively with other campus organizations, including the campus gym, wellness program, and bike co-op. These connections could lead to further outreach opportunities as well as stronger relationships with other campus entities.

Small school sustainability officers often used food to incentivize offices to get involved and progress through the green office program. Food was found to be a useful cost effective way to get more people involved. There was a wide arrange of descriptions of food used from coffee and doughnuts to pizza to a banquet. Food is an easily provided incentive that could be provided to program participants when they are starting a program or when they progress through the program.

There was a wide array of different behavioral change techniques used in green office programs within both large and small schools. Flexibility and practical use of the current campus sustainability environment can prove to be important factors in developing and improving green office programs. Many of the aspects used in large schools could be equally as valuable in small schools and vice versa.

Implications for Green Teams outside of Higher Education

Although this study focused strictly on green office's within higher education, it is reasonable to say that there are possible implications for other institutions implementing green office programs. Operationally many higher educations are very similar to that of other businesses; they have revenue, costs, and goals for future growth. The green office program has been utilized to help meet certain goals that higher

education shares with other organizations including reducing the cost of energy and decreasing your organization's environmental impact. For businesses, climate change has become a key factor in growth planning. The Carbon Disclosure Project (CDP) is an example. The CDP is a voluntary platform for business, cities, and even states to disclose their environmental performance. Although the CDP is strictly voluntary, companies continue to disclose their environmental performance because a growing number of investors continue to recognize the value of a company's commitment to reducing their ecological footprint (CDP, 2016). Companies could implement a green office program similar to those used in higher education to reduce their company's environmental impact and instill a more sustainable culture throughout the company.

Directions for Further Research

A factor that needs to be explored as a result of this study is the overall efficiency of each green office program. The researcher unsuccessfully attempted to gather usage data of program participants to help determine the program's impact. Although the researcher was unsuccessful, this research provides foundational support and justifies the need for further research into green office programs. There need to be quantitative studies of green office programs effectiveness in reducing waste, greenhouse gasses, as well as overall costs for the institution.

An important aspect that could highly contribute to this research is determining why sustainability officers implemented these programs on their respective campuses. Due to the variety of responses and the distinctions between large and small schools the reasoning for creating these programs might have influenced how they framed their institution's categories. For example if a sustainability officer was tasked with reducing

the cost associated with energy usage in office spaces they may have chosen to rely on more quantifiable categories.

Qualitative research could be an integral component in further green office research. This project justifies further qualitative study into the interactions of office staff with green office programs. Such a study could be used to identify the value offices and staff members place on being certified as a green office. It would be a valuable and adequate addition to this research.

Another expansion of this research could involve Green Teams and green offices that are outside of higher education. During this research, participants mentioned organizations in a college or university town that have a Green Team or are working with a nonprofit organization that helps create green teams like Sustainable Pittsburgh.

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Appendix A

Study Participant Informed Consent



INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES
SCHOOL OF NATURAL RESOURCES

Informed Consent Form

Mechanisms of Changing Behaviors within Higher Education's Green Office Programs

Purpose: The purpose of this study is to explore the mechanisms used by colleges and universities to establish and promote environmentally sustainable behavior through Green Office Programs. Green Office Programs are a relatively new tool for changing behaviors of college and university faculty and staff. I would like to identify the techniques of changing behaviors that higher education sustainability professionals use within their program to promote positive environmental behaviors.

Procedures: You will be asked to complete an interview regarding your universities Green Office Program. The interview will take approximately 25-35 minutes on the phone whenever is most convenient for you.

Age of Participation: Only participants over the age of 21 will be interviewed for this study.

Benefits: There are no known direct benefits for you participating in this research.

Risks: There are no known risks associated with this research.

Confidentiality: Participants will be assigned a random number such as participant 1, participant 2, etc. These files will be kept on my password protected computer within an encrypted folder. Once numbers are assigned, names and any other identifying features will be erased with the exception of their institution's approximate population size and region. All data and records will be stored in my password protected computer in an encrypted folder. All data will also be backed up in an external hard drive under lock in my home office safe.

Compensation: There is no form of compensation for participating in this research.

Opportunity to Ask Questions: At any point in time you may ask questions pertaining to this research. You may email or call the investigators listed below. Please contact the University of Nebraska-Lincoln IRB at (402) 472-6965 to address concerns about the project.

Freedom to Withdraw: This study is voluntary. You can refuse to participate or withdraw from the study without harming your relationship with the researcher or the University of Nebraska-Lincoln.

Consent, Right to Receive a Copy: Participation in this project is completely voluntary. Participating in the interview, after reading the informed consent form, or having the informed consent form read to you over the phone qualify as informed consent.

Names and Contact Information of Investigators:

Logan Lamb (916) 224-6944 llamb2@unl.edu Mark Burbach (402) 472-8210 mburbach1@unl.edu

Appendix B

Institutional Review Board Letter of Approval



Official Approval Letter for IRB project #16134 - New Project Form

June 2, 2016

Logan Lamb
School of Natural Resources

Mark Burbach
School of Natural Resources
HARH 512, UNL, 68583-0995

IRB Number: 20160616134EX

Project ID: 16134

Project Title: Identifying Mechanisms in Higher Education Green Office Programs to Promote Pro-Environmental Behavior

Dear Logan:

This letter is to officially notify you of the certification of exemption of your project for the Protection of Human Subjects. Your proposal is in compliance with this institution's Federal Wide Assurance 00002258 and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46) and has been classified as exempt.

You are authorized to implement this study as of the Date of Final Exemption: 6/2/2016.

o Review conducted using exempt category 2 at 45 CFR 46.101

o Funding: N/A

We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:

* Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was possibly related to the research procedures;

* Any serious accidental or unintentional change to the IRB-approved protocol that involves risk or has the potential to recur;

* Any publication in the literature, safety monitoring report, interim result or other finding that indicates an unexpected change to the risk/benefit ratio of the research;

* Any breach in confidentiality or compromise in data privacy related to the subject or others; or

* Any complaint of a subject that indicates an unanticipated risk or that cannot be resolved by the research staff.

This project should be conducted in full accordance with all applicable sections of the IRB Guidelines and you should notify the IRB immediately of any proposed changes that may affect the exempt status of your research project. You should report any unanticipated problems involving risks to the participants or others to the Board.

If you have any questions, please contact the IRB office at 402-472-6965.

Sincerely,

Becky R. Freeman

Becky R. Freeman, CIP
for the IRB

