



Improving and Implementing Radford University's Climate Action Plan

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Executive Summary

Radford University's location in the "New River City" provides a valuable opportunity to highlight, improve, and create sustainability programs. This report based on the responses from n=410 students, faculty, and staff highlights a number of opportunities for which to improve awareness of sustainability initiatives at RU and suggestions for creating new initiatives such as online interdisciplinary programs. Important findings include perceptions of Radford University's commitment to sustainability, awareness of sustainability initiatives, campus engagement with sustainability, academic programs, and recommendations for improvement.

Introduction

Radford University has made several commitments to sustainability in the last several years. Sustainability is also one of the core values in Radford University's 2018-2023 Strategic Plan. In 2009, President Kyle signed the American College & University Presidents' Climate Commitment. This commitment is to pursue net carbon neutrality by 2040. In 2020, President Hemphill signed the Carbon Commitment as a reaffirmation to pursuing net carbon neutrality. In an effort to work towards these goals, President Hemphill created the Presidential Task Force on Sustainability in 2020. These surveys were created by two sociology student researchers under the guidance of a member of the Task Force. Surveys were disseminated broadly to Radford University students, faculty, staff, and administrators in an effort to examine attitudes, behaviors, and desires pertaining to sustainability efforts at Radford University. Another student researcher aided in the analysis of the survey data.

Methods

In order to gauge student, faculty, and staff's understanding and desirability of sustainability initiatives at Radford University, a team of student researchers, Alayna Carter and Emma Kegley from Dr. Aysa Bodenhamer's SOCY 370 Environmental Sociology course developed two online surveys. An additional sociology student researcher from the Center for Social and Cultural Research (CSCR), Christiana Rolack, assisted with data analysis of the surveys. One survey consisting of 31 questions targeted only students. Students were asked a variety of questions to gauge their knowledge of sustainability initiatives at Radford University, their perception of Radford University's sustainability reputation, and their desires for improving the built environment and academic curricula with an eye towards sustainability. Most questions were on a 5-point likert scale, asking how strongly students desired certain sustainability initiatives. Other questions included matrices and open-ended responses asking for additional feedback and suggestions.

The faculty and staff survey is very similar to the student survey, but asked slightly different questions. The faculty/staff survey consists of 33 questions. Most questions were on a 5-point likert scale, asking how strongly faculty/staff desired certain sustainability initiatives. Other questions included matrices and open-ended responses asking for additional feedback and suggestions. Questions for both surveys asked why individuals chose Radford University, their perception of Radford University's sustainability reputation, awareness of and engagement with sustainability initiatives across campus, on-campus dining habits, suggestions for improvements to the built environment, and desires for building new academic programs focusing on sustainability. Faculty/staff were asked additional questions about whether they had taught sustainability-focused courses at RU and if they thought sustainability should be a significant part of curricula across campus.

Student Sampling

A total of n=204 students participated in the Student Sustainability Survey in spring 2021.¹ The student sample was overwhelmingly female (n=104, 72%), white (n=122, 81%), and traditional college-aged students aged 18-24 (n=115, 80%). Other important demographic information includes a fairly equal distribution between academic class (Freshman-Graduate), with majority of students from the College of Humanities and Behavioral Sciences (n=45, 31%). See Table 1 for the full student sample demographics.

Table 1: Student Sample Demographics

| Sample | |
|---|--------------|
| | Percent (N) |
| Sex | |
| Female | 72.73% (104) |
| Male | 16.78% (24) |
| Non-binary | 7.69% (11) |
| Prefer not to answer | 2.80% (4) |
| Age | |
| 18-24 | 80.99% (115) |
| 25-34 | 11.97% (17) |
| 35-44 | 2.82% (4) |
| 45-54 | 2.82% (4) |
| 55-64 | 1.41% (2) |
| Race/Ethnicity | |
| White | 81.33% (122) |
| Black | 9.33% (14) |
| Latino | 4.29% (6) |
| Asian | 4.67% (7) |
| Native Hawaiian/Pacific Islander | 0.67% (1) |
| Prefer not to answer | 3.33% (5) |
| Academic Class | |
| Freshman | 14.69% (21) |
| Sophomore | 20.98% (30) |
| Junior | 23.78% (34) |
| Senior | 19.58% (28) |
| Graduate Student | 17.48% (25) |
| Other | 3.50% (5) |
| College | |
| Davis College of Business and Economics | 6.99% (10) |
| College of Education and Human Development | 12.59% (18) |
| Waldron College of Health and Human Services | 9.79% (14) |
| College of Humanities and Behavioral Sciences | 31.47% (45) |
| Artis College of Science and Technology | 14.69% (21) |
| College of Visual and Performing Arts | 13.99% (20) |
| College of Graduate Studies and Research | 5.59% (8) |
| Radford University Carilion | 4.90% (4) |

Note: Every participant did not completed demographic information. Numbers do not add up to n=204.

¹ Not every research participant completed the entire questionnaire. Question responses for students ranged from n=137-204.

Faculty/Staff Sampling

A total of n=206 faculty/staff participated in the Faculty & Staff Sustainability Survey in spring 2021.² The faculty/staff sample was overwhelmingly female (n=135, 68%) and white (n=173, 86%). Ages were wide-ranging from 18-24 through 85+ with the majority falling between 35-54 years old (n=105, 54%). The majority of faculty/staff participants have been at Radford 1-4 years (39%) and were almost evenly split between faculty (46%) and staff (42%). The majority of faculty/staff participants are from the College of Humanities and Behavioral Sciences (n=30, 22%). See Table 2 for the full faculty/staff sample demographics.

Table 2: Faculty/Staff Sample Demographics

| Sample | |
|----------------------------------|--------------|
| | Percent (N) |
| Sex | |
| Female | 68.88% (135) |
| Male | 21.43% (42) |
| Non-binary | 1.53% (3) |
| Prefer not to answer | 8.16% (16) |
| Age | |
| 18-24 | 2.06% (4) |
| 25-34 | 12.89% (25) |
| 35-44 | 26.29% (51) |
| 45-54 | 27.84% (54) |
| 55-64 | 21.65% (42) |
| 65-74 | 8.25% (16) |
| 75-84 | 0.52% (1) |
| 85+ | 0.52% (1) |
| Race/Ethnicity | |
| White | 86.5% (173) |
| Black | 2.5% (5) |
| Latino | 1.56% (3) |
| Asian | 1% (2) |
| American Indian/Alaska Native | 1% (2) |
| Native Hawaiian/Pacific Islander | 0% (0) |
| Prefer not to answer | 9% (18) |
| Affiliation | |
| Faculty | 46.43% (91) |
| Staff | 42.25% (83) |
| Administrator | 10.20% (20) |
| Other | 1.02% (2) |
| Time at Radford | |
| Less than 1 year | 5.08% (10) |
| 1-4 years | 39.09% (77) |
| 5-8 years | 16.75% (33) |
| 9-12 years | 8.12% (16) |
| 13+ years | 30.96% (61) |

Note: Every participant did not completed demographic information. Numbers do not add up to n=206.

² Not every research participant completed the entire questionnaire. Question responses ranged from n=194-206 for faculty/staff.

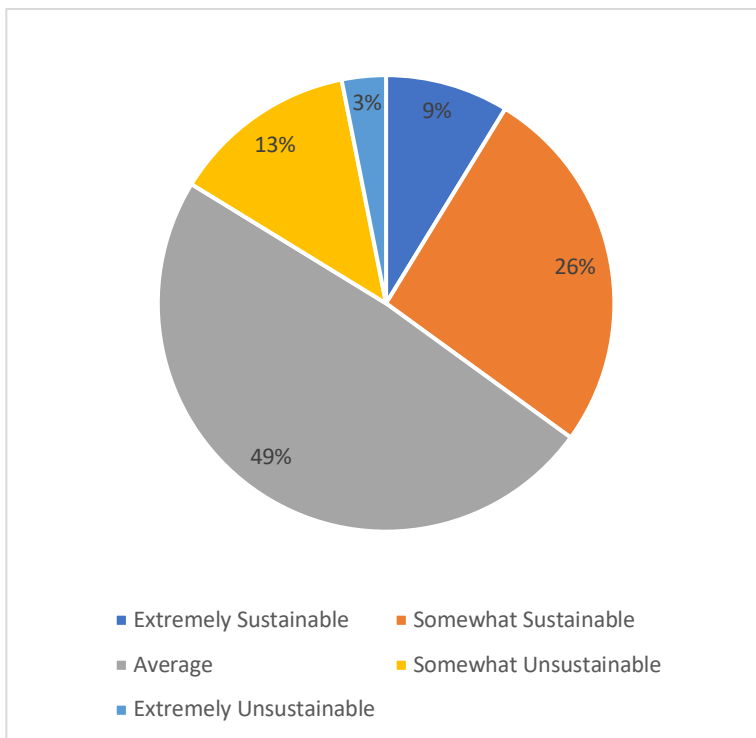
Results

Perceptions of Radford University's Commitment to Sustainability

When asked what influenced students' decision to attend Radford University, students overwhelmingly chose RU based on tuition cost (41%) and location (39%). Radford University's sustainability programs were not a major deciding factor for choosing RU (2%). When faculty/staff were asked what influenced their decision to work at Radford University, the majority (n=113, 93%) said "location" while only (n=8, 6%) said "sustainability programs."

Students were asked a number of questions gauging Radford University's commitment to sustainability. Specifically, students were asked about Radford's sustainability reputation and whether we were on track for achieving net carbon neutrality by 2040. The majority of student respondents argued that RU has an "average" perception of our sustainability efforts (n=78, 49%). Other students argued that RU was "somewhat sustainable" (n=42, 26%) and extremely sustainable (n=14, 9%) (See Figure 1). When asked if students thought we would achieve net carbon neutrality by 2040, the majority of students (n=62, 38%) did not know if we would achieve net carbon neutrality, (n=2, 1%) said "definitely yes," and (31%) said "probably yes" (See Figure 3).

Figure 1: Which of the following best describes your perception of Radford University's Reputation?



When faculty/staff were asked about their perception of Radford University's reputation, the majority were almost evenly split between "somewhat sustainable" (n=88, 43%) and "average" (n=87, 42%) (See Figure 2). When asked if faculty/staff thought we would achieve net carbon neutrality by 2040, the majority (n=92, 45%) said "probably yes," while (n=61, 30%) did not know if we would achieve net carbon neutrality (See Figure 4).

Figure 2: Faculty perception of Radford University's reputation

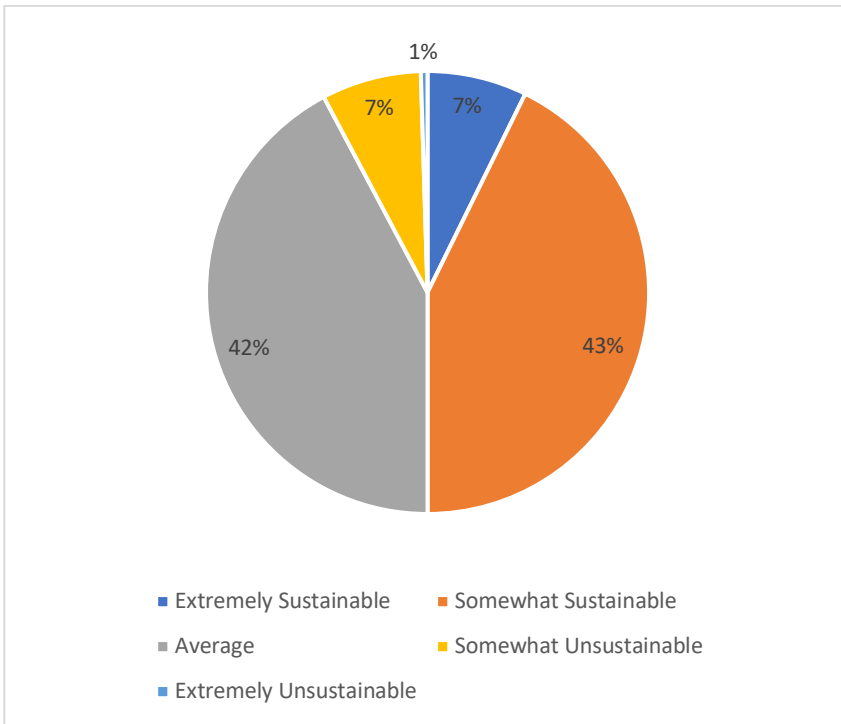


Figure 3: Radford University is committed to pursuing net carbon neutrality by 2040. In your experiences, do you think Radford University is on track for achieving this goal?

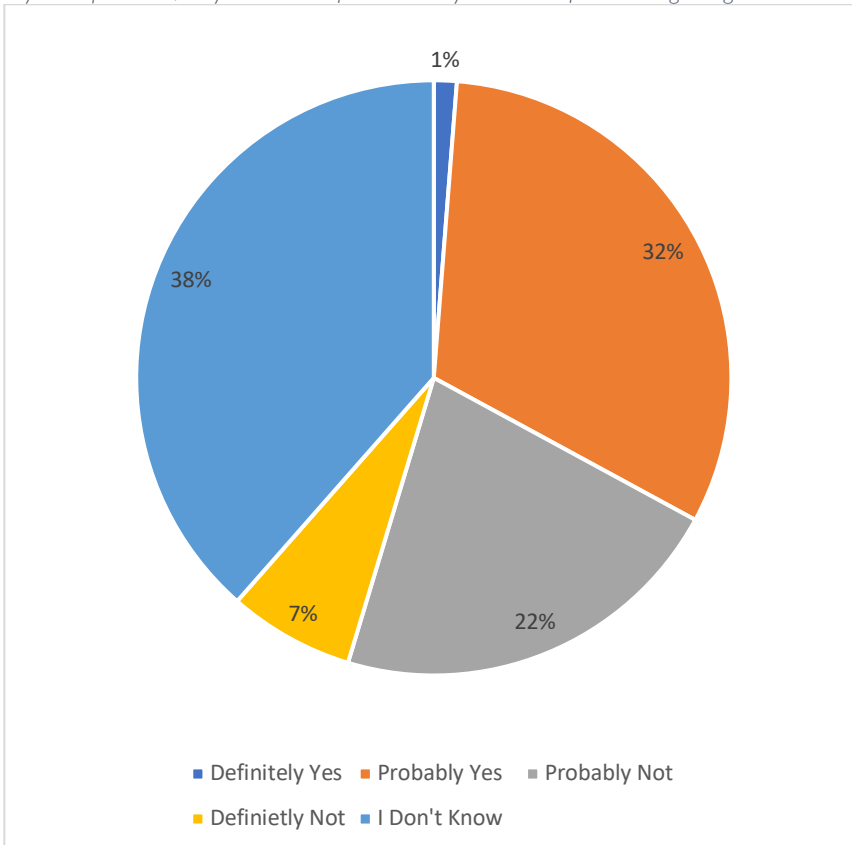
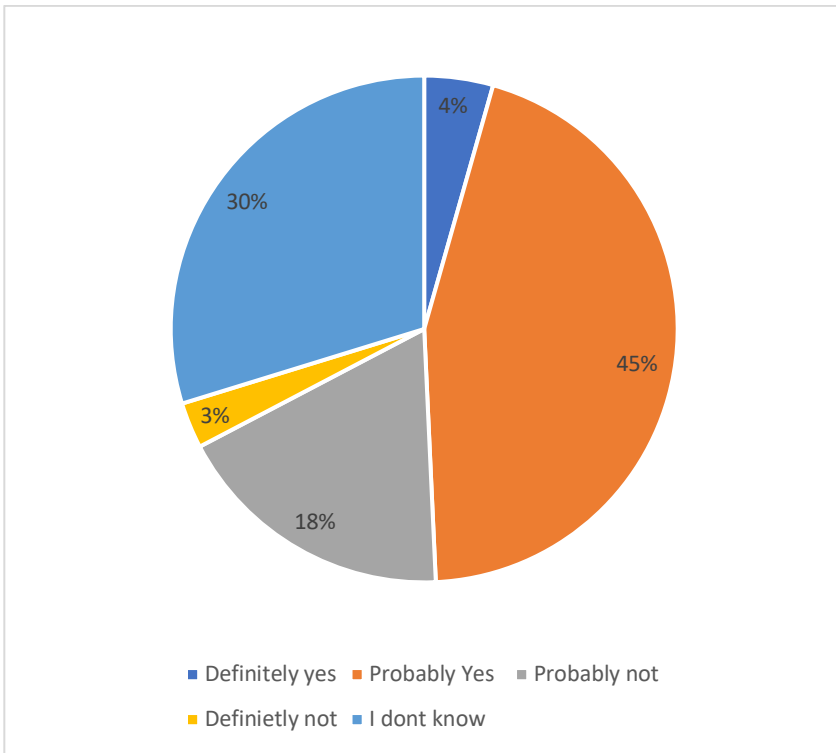


Figure 4: Faculty/Staff perceptions of achieving net carbon neutrality by 2040



When students were asked if they thought sustainability should be a primary focus at Radford University, students were overwhelmingly supportive; (n=81, 50%) said "strongly agree" and (n=50, 31%) said "somewhat agree." In other words, over 80% of sampled students agree that sustainability should be a primary focus at Radford University (See Figure 5). Faculty/staff were in strong support of making sustainability a primary focus at Radford University as well; (n=181, 88%) either "strongly" or "somewhat agreed" (See Figure 6).

Figure 5: I believe sustainability should be a primary focus at Radford University

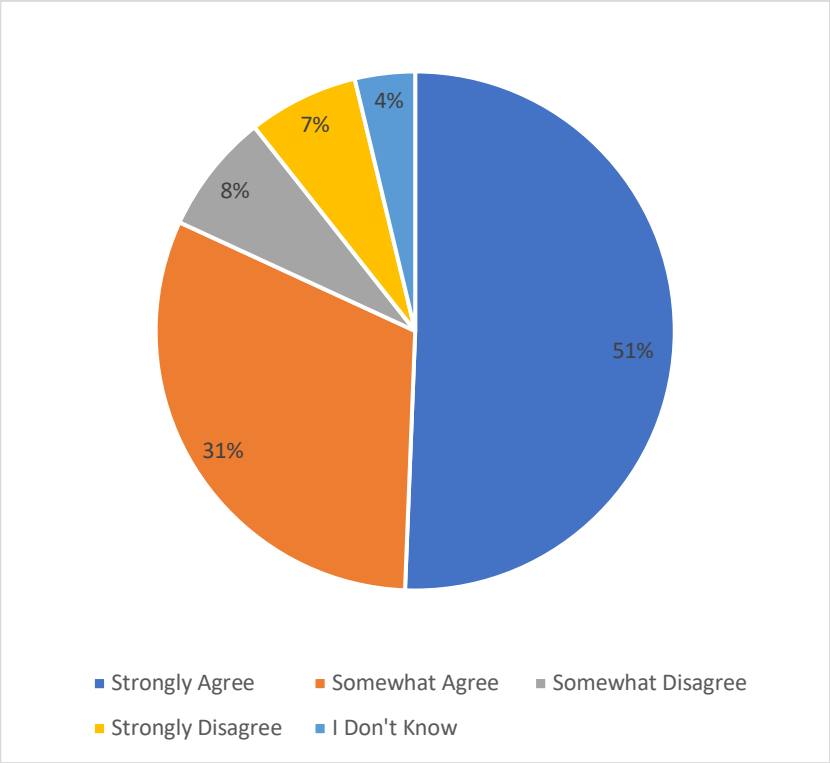
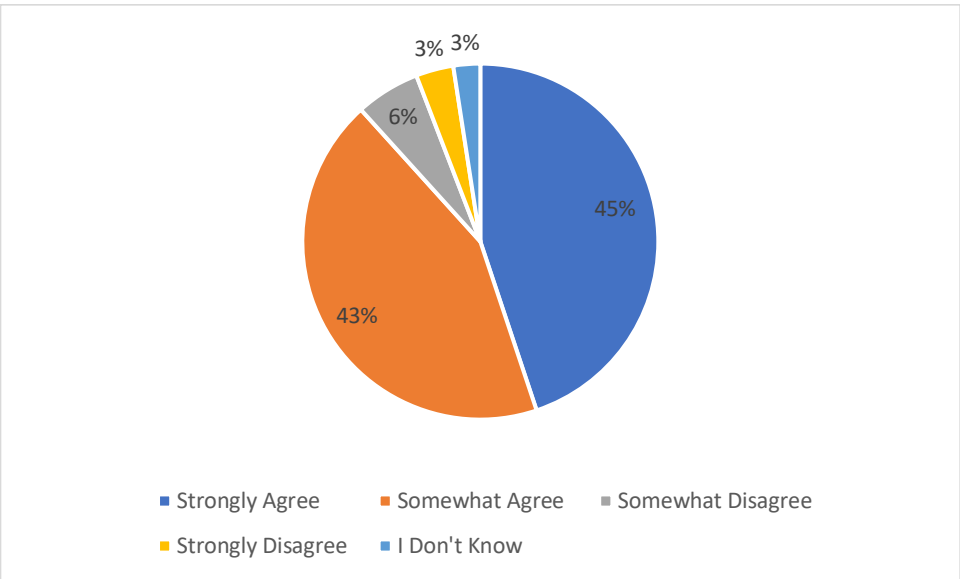


Figure 6: Faculty/Staff support for making sustainability a primary focus at Radford University



Awareness of Sustainability Initiatives

Students were asked a number of questions about their awareness and involvement in sustainability initiatives across campus. Students were specifically asked if they were aware of the Office of Sustainability and whether they had participated in any sustainability initiatives. Surprisingly, the majority of students (n=117, 73%) were not aware that Radford University had an Office of Sustainability on its main campus (See Figure 7). The opposite held true among faculty/staff as (n=175, 85%) were aware that Radford had an Office of Sustainability (See Figure 8).

Figure 7: Are you aware that Radford University has an Office of Sustainability?

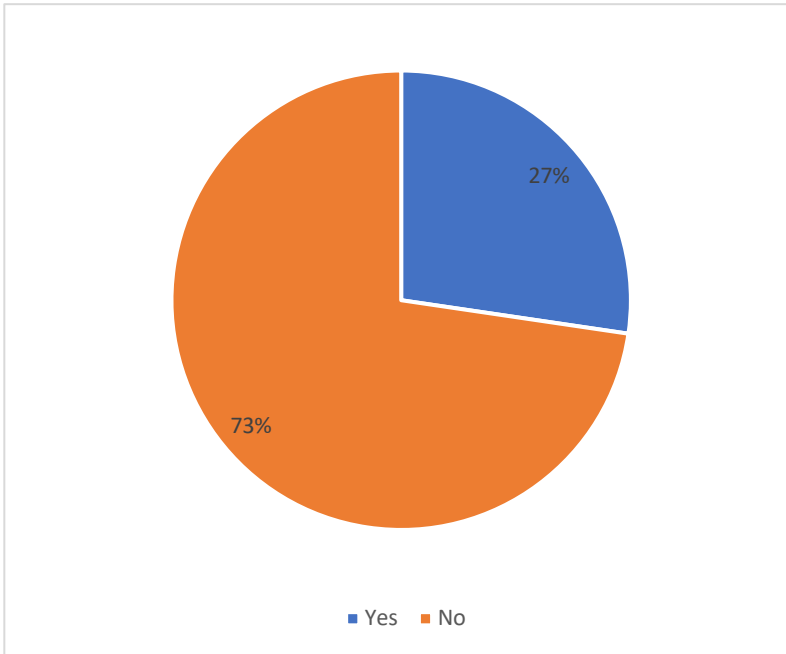
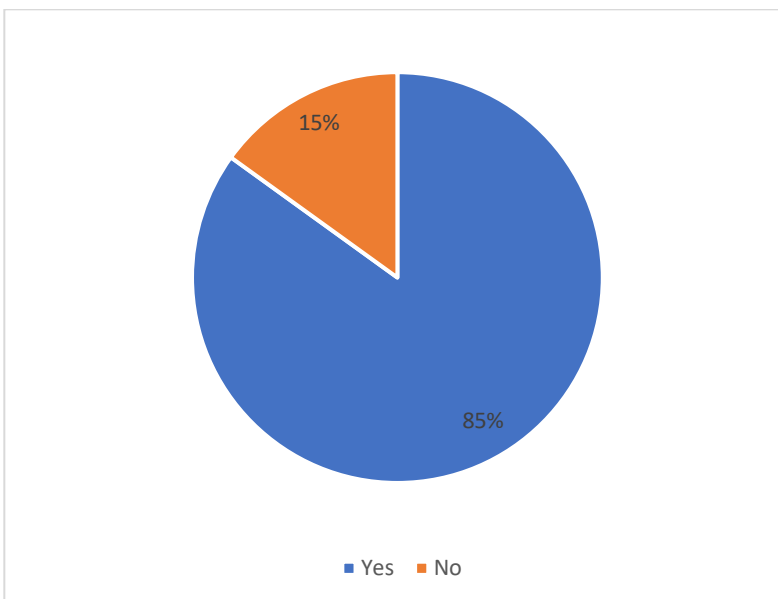


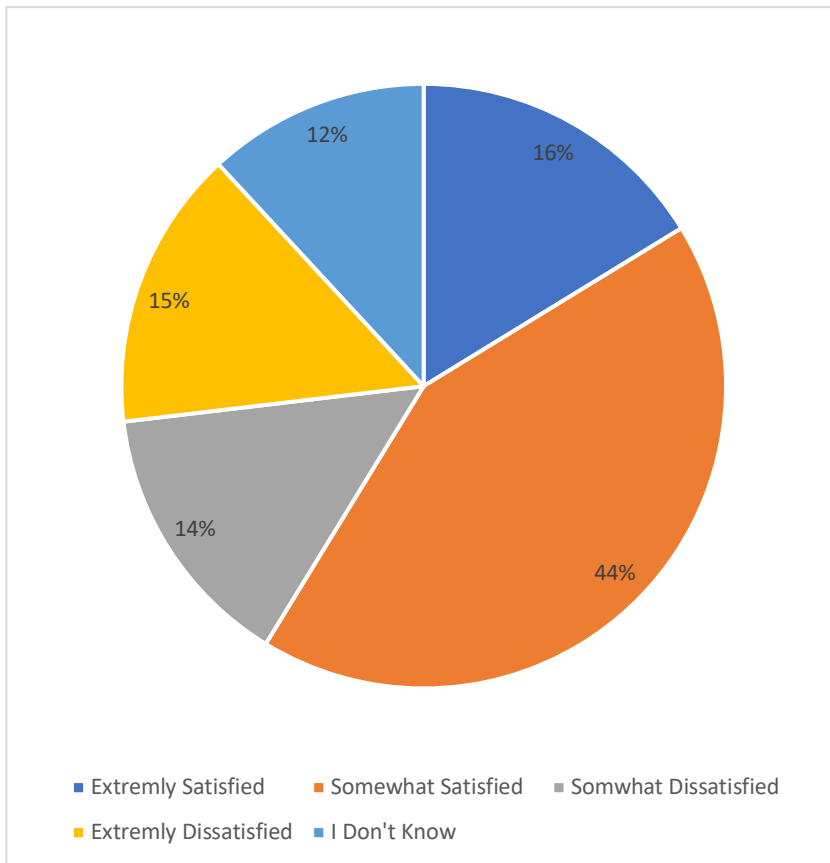
Figure 8: Faculty/Staff awareness of Office of Sustainability



When asked if students had participated in any RU sustainability initiatives such as the Undergraduate Sustainability and Environmental Studies Certificate Program, Sustainability Leadership Team Internship Program, Food Recovery Network, Earth Week, Fill It Forward, or recycling, only a few students reported participating in sustainability initiatives across campus. The top three initiatives that garnered students' participation were recycling (n=103, 60%), Earth Week (n=16, 9%), and Fill It Forward (n=16, 9%). Similar trends held true for faculty/staff; (n=166, 36%) had participated in recycling, (n=76, 16%) had participated in cartridge recycling, and (n=61, 13%) had participated in battery recycling.

When asked if students were satisfied with recycling on campus, (n=94, 58%) reported being "extremely" or "somewhat satisfied;" therefore showing strong support for both participation and satisfaction with recycling (See Figure 9). Faculty/staff were also overwhelmingly satisfied with recycling on campus (n=132, 64%) reported being "extremely" or "somewhat satisfied."

Figure 9: How satisfied are you with recycling on campus?



Dietary and Dining Needs and Desires

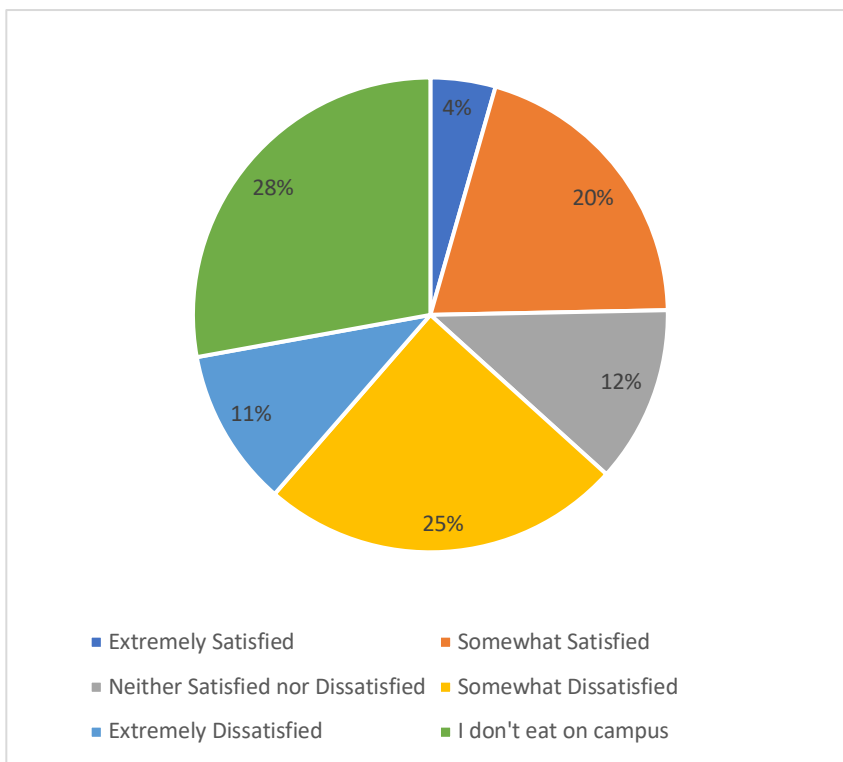
Students were asked about their dietary needs and their satisfaction with campus dining. Students were also asked if given a reusable water bottle, utensil set, and/or container for dining hall use how often they would use it. The majority of students (n=61, 39%) "eat meat a few times a week," (n=52, 33%) report eating meat once a day, and (n=25, 16%) "eat meat in every meal," and (n=18, 11%) report being vegan, vegetarian, pescatarian, or primarily plant-based. The majority of students (n=44, 28%) report not eating on campus, (n=56, 35%) said they were "somewhat dissatisfied" or "extremely dissatisfied" with campus dining, and (n=39, 24%) report being "extremely" or "somewhat satisfied" (See Figure 10).

Faculty/staff had similar eating habits; the majority (n=88, 43%) "eat meat a few times a week," (n=65, 32%) report eating meat once a day, (n=26, 13%) "eat meat in every meal," and (n=18, 9%) report being vegan, vegetarian, pescatarian, or primarily plant-based. Overwhelmingly, faculty/staff said they did not eat on campus (n=72, 35%), (n=69, 34%) said they were either "extremely" or "somewhat satisfied" with campus dining.

When students/faculty/staff were asked an open-ended question, “How could dining services better suit your dining needs?” they suggested the following:

- o Better meal plan options
- o Rotating storefronts in the Bonnie and Dalton
- o Improving sustainability practices (composting food waste, using reusable or biodegradable utensils/containers/napkins/cups)
- o Longer operating hours
- o Longer weekend hours
- o More vegetarian/vegan options
- o Healthier food options
- o Less fast food options
- o More variety of prepared food
- o More affordable options
- o More local options
- o Discounts for faculty/staff
- o More gluten-free options
- o More options at RUC
- o More grab and go options
- o More recycling containers in the Bonnie/Dalton
- o Meet the Chef events, student tastings for food options
- o Food trucks

Figure 10: How satisfied are you with campus dining?



Students were specifically asked how often they would use a reusable water bottle, utensil set, or container for dining hall use, if provided by the university. Students showed great support for reusable water bottles, the majority (n=117, 79%) said they would use it “daily,” (n=15, 10%) said they would use it “4-6 times a week.” Faculty/staff also showed strong support for water bottle use, (n=129, 64%) said they would use it “daily.” Students also showed strong support for reusable utensil sets; the majority (n=85, 58%) said they would use them “daily,” (n=26, 17%) said they would use them “4-6 times a week,” only (n=13, 8%) said they would never use them. Faculty/staff also showed strong support for reusable utensil sets, (n=92, 46%) said they would use them “daily.” Students showed less support for reusable containers for dining hall use, but it still aired favorably, (n=67, 47%) said they would use them “daily,” (n= 20, 14%) said they would use them “2-3 times a week,” and (n=29, 20%) said they would “never” use them (See Figures, 11, 12, and 13). Faculty/staff also showed less support for reusable containers for dining hall use; the majority (n=94, 48%) said they would “never” use them.

Figure 11: If Radford University gave you a reusable water bottle, how often would you use it?

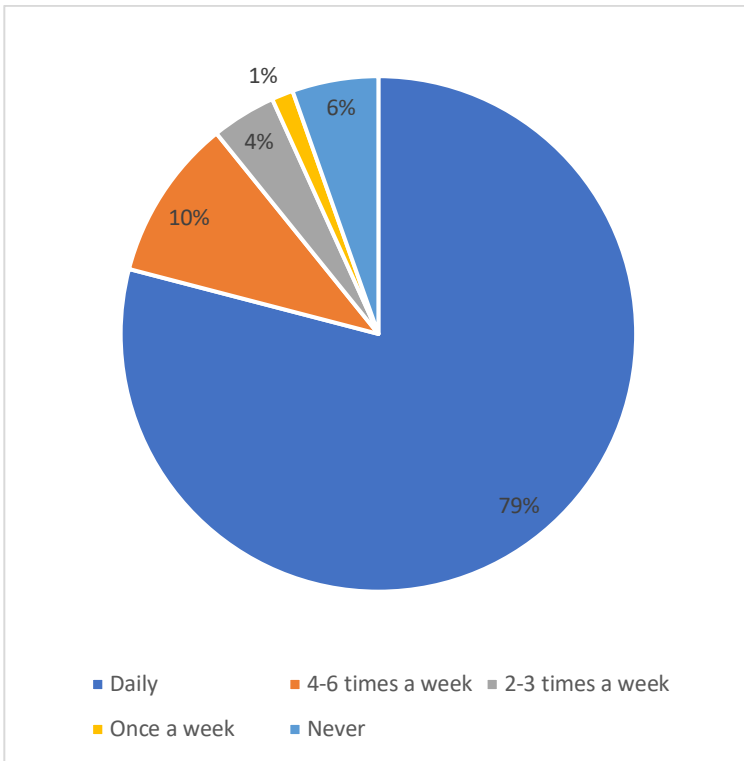


Figure 12: If Radford University gave you a reusable utensil set, how often would you use it?

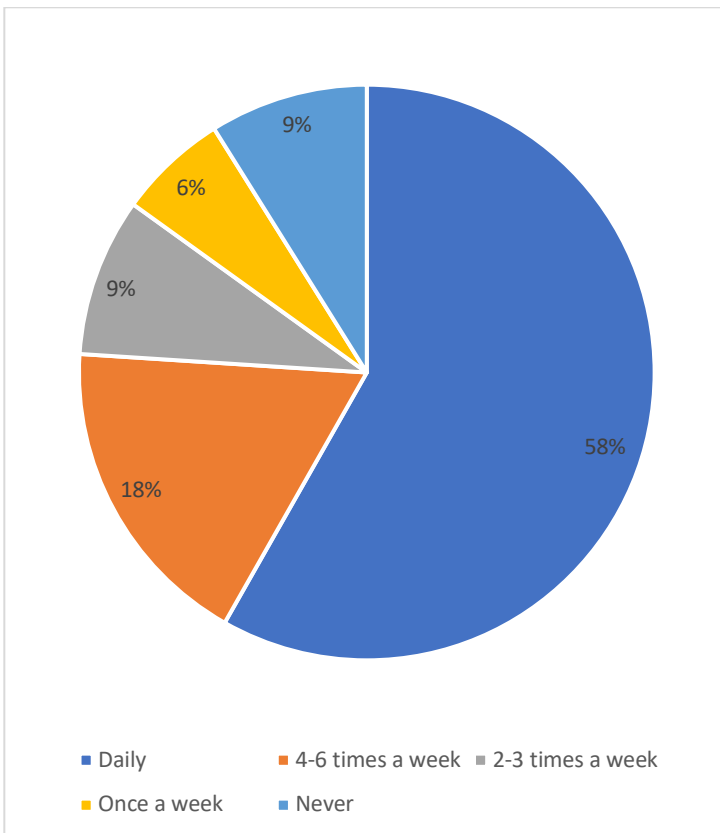
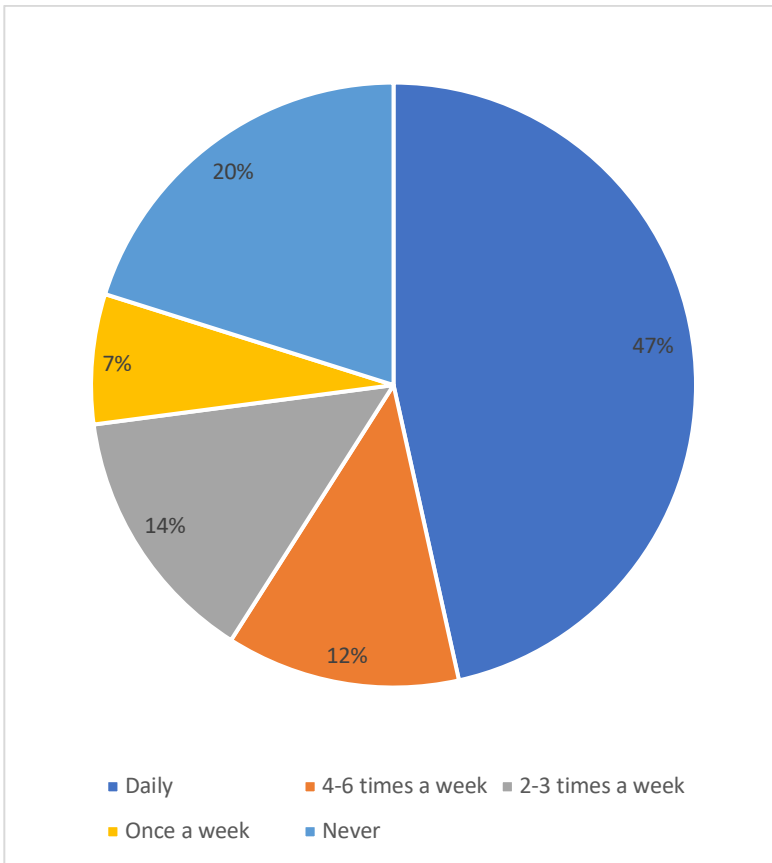


Figure 13: If Radford University gave you a reusable container for dining hall use, how often would you use it?



Sustainability Campus Engagement

Students were asked a number of questions about built environment, sustainability practices, and carbon mitigation strategies. When asked what students would like to see as part of Radford University's built environment, the top five picks were: hammock jungle (n=89, 20%), walking trails (n=85, 19%), river access (n=74, 16%), outdoor classroom (n=75, 16%), and mountain biking/biking trails (n=54, 12%). Hammock jungles are typically constructed of wood or metal and offer a place for students to hook up their hammocks without the threat of damaging trees. When asked an open-ended question about what else would improve the campus environment, students mentioned the following:

- Dog park
- Pollinator gardens
- Swimming pool
- More outdoor activities

Faculty/staff had slightly different preferences for improving the built environment at Radford University. Notably, faculty/staff desired more walking trails (n=138, 21%), more river access (n=121, 18%), and improved access to Selu (n=101, 15%).

Faculty/staff suggestions for improving Radford's built environment include:

- o Dashboards indicating progress and success
- o Composting
- o Electric car charging stations
- o More LED lights, green roofs, outdoor gathering spaces, more trees/plants across campus
- o Beehives and classes on beekeeping
- o Pollinator gardens
- o Less packaging/single use plastic across campus
- o Outdoor classrooms
- o Better transportation/access to Selu
- o Community cleanups
- o Divesting in fossil fuel and other polluting/environmentally destructive industries
- o Better access to paperless forms/documents across campus
- o Outreach/educational programs about recycling and other initiatives
- o Improved initiatives at RUC
- o More recycling bins across campus
- o Signage for trees and other sustainability initiatives across campus
- o More water bottle filling stations

When students were asked what they did to actively practice sustainability, the majority of students report carrying a reusable water bottle, turning off lights in an empty room, printing only when necessary and on both sides of the paper, recycling, and using the stairs instead of the elevator "most days." Bicycling, taking public transportation, and eating less animal by-products were the least popular options for practicing sustainability on campus. These trends were similar among faculty/staff.

Students were asked to rank the carbon mitigation strategies that they supported most for achieving net carbon neutrality at Radford University. The top three most favorable strategies were: solar panels on campus buildings (n=89, 67%), wind turbines on campus (n=29, 21%), and off-site solar farms (n=24, 18%).

Faculty/staff desires were slightly different for mitigation strategies. Solar panels on campus were the most popular choice (n=104, 61%) and electric campus vehicles was the most popular second choice (n=44, 26%). There was also strong support for adding electric vehicle (EV) charging stations on campus.

Sustainability-Focused Academic Programs

Students were asked a number of questions about whether they had taken sustainability-focused courses at RU, and if they were interested in an interdisciplinary sustainability program, internships, or research opportunities. When asked if students had taken classes that focus on sustainability at RU, responses were overwhelmingly, "No" (n=118, 86%) (See Figure 14). However, when asked if they would take more sustainability-focused courses if RU developed them, responses were overwhelmingly positive, approximately (n=61, 44%) said "definitely" or "probably yes," while only (n=10, 7%) said "definitely not" (See Figure 15).

Figure 14: Have you taken classes that focus on sustainability at Radford University?

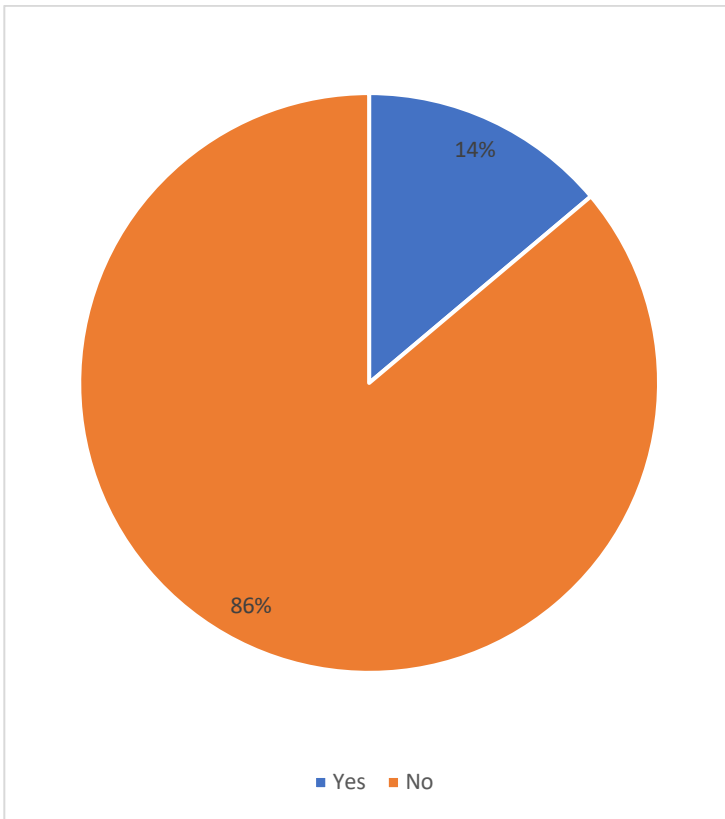
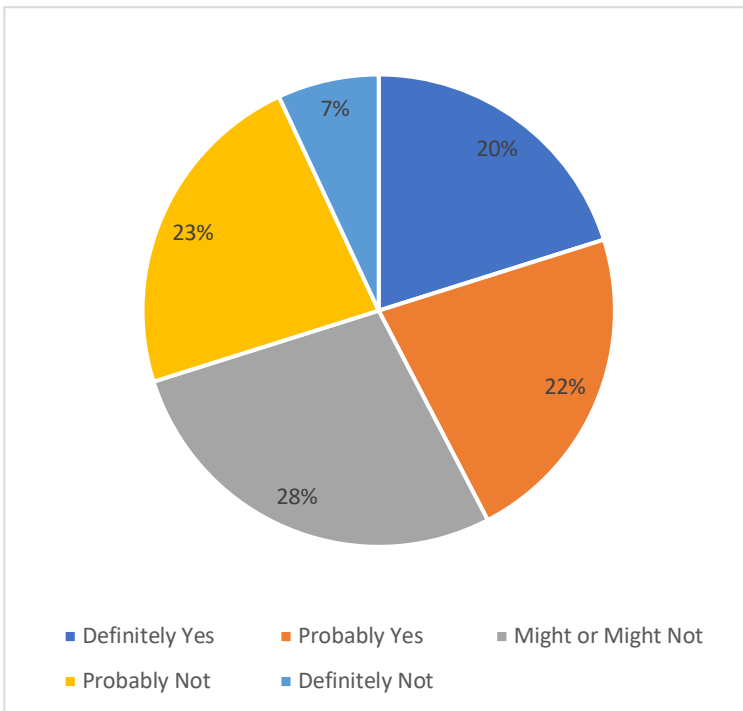


Figure 15: If Radford University developed more sustainability-focused courses, would you take them?



When asked, "Are you aware that Radford University has a Sustainability and Environmental Studies undergraduate certificate?"

responses were overwhelmingly, "No" (n=121, 84%) (See Figure 16). Findings were similar for faculty/staff, (n=150, 76%) were unaware that Radford University has a Sustainability and Environmental Studies undergraduate certificate. However, there was positive support for new sustainability-focused, interdisciplinary programs, the top three supported options were: 1) online certificate program (n=63, 33%), 2) undergraduate minor (n=62, 32%), and 3) undergraduate degree (n=23, 12%). Students also showed a strong desire for more sustainability-focused internship opportunities (n=77, 54%) (See Figure 17). The majority of students (n=83, 58%) were also interested in more sustainability-focused research opportunities (See Figure 18).

Figure 16: Are you aware that Radford University has a sustainability and environmental studies undergraduate certificate?

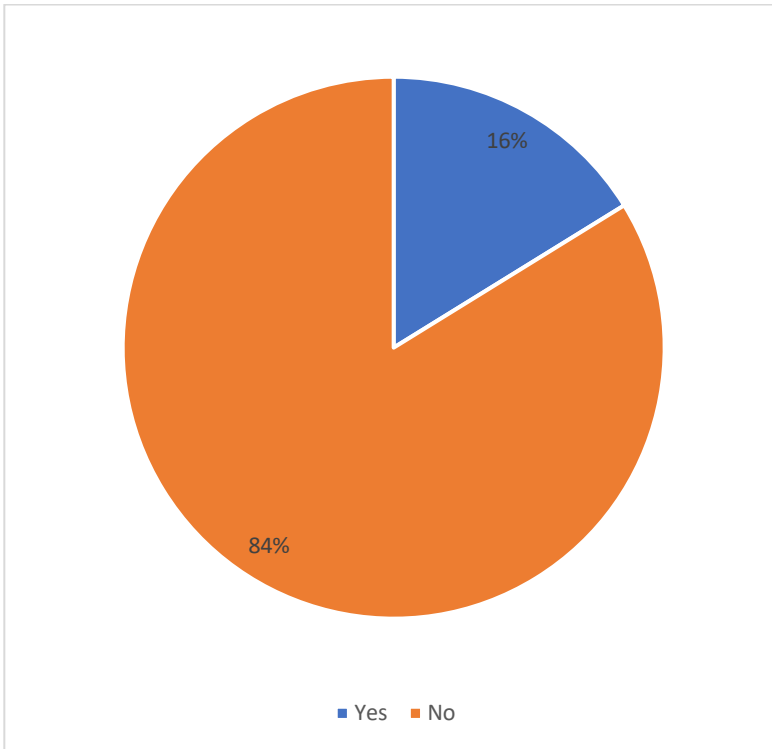


Figure 17: Would you be interested in more sustainability-focused internship opportunities?

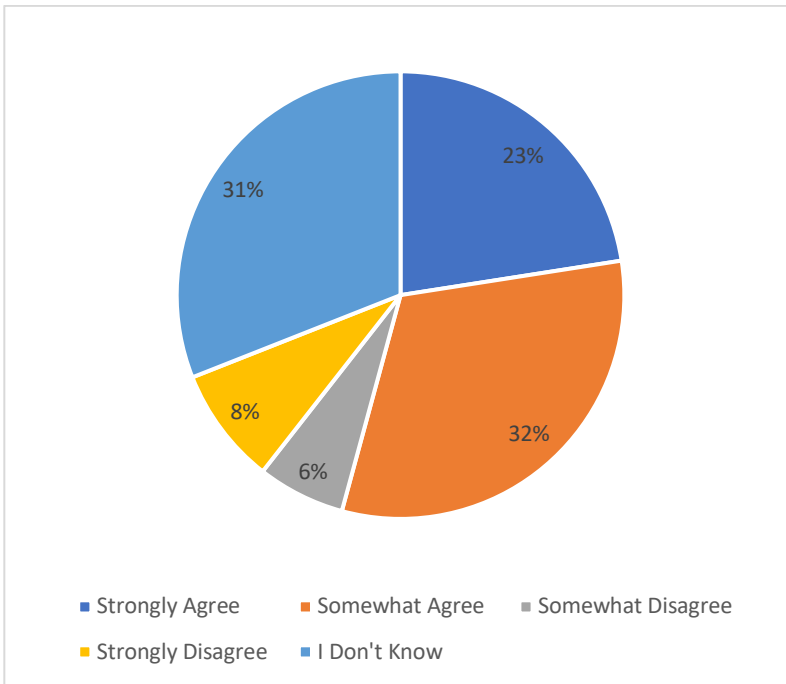
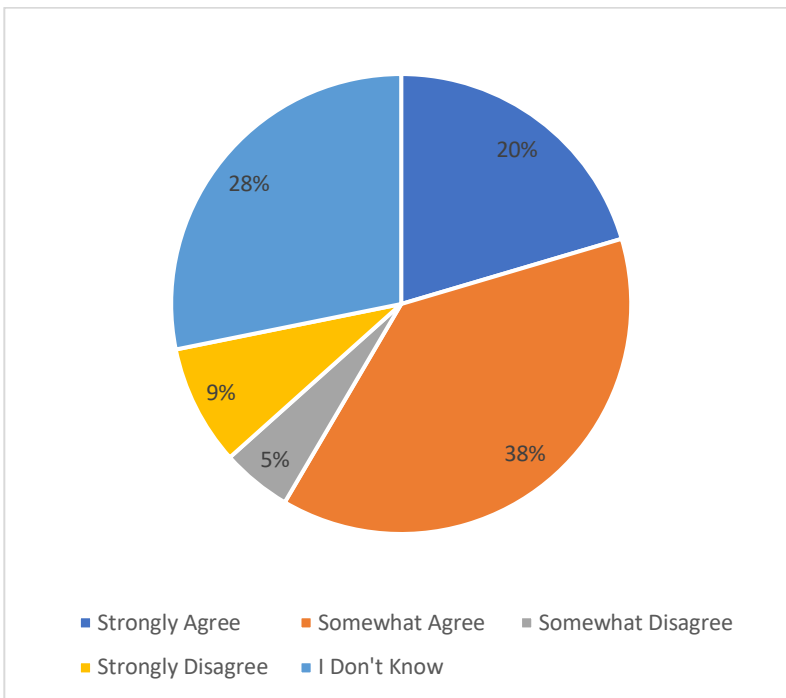


Figure 18: Would you be interested in more sustainability-focused research opportunities?



Faculty/staff had a strong desire for students to “demonstrate a strong sense of sustainability literacy before graduating,” (n=165, 82%) either “strongly” or “somewhat agreed” (See Figure 19). Overwhelmingly, the majority of faculty/staff had not taught a class focusing on sustainability at Radford University (n=180, 92%); however, there was tremendous support for creating new sustainability-focused interdisciplinary programs (n=137, 69%) responded “strongly” or “somewhat agree” (See Figure 20).

Figure 19: Faculty/Staff students should demonstrate a strong sense of sustainability literacy before graduating

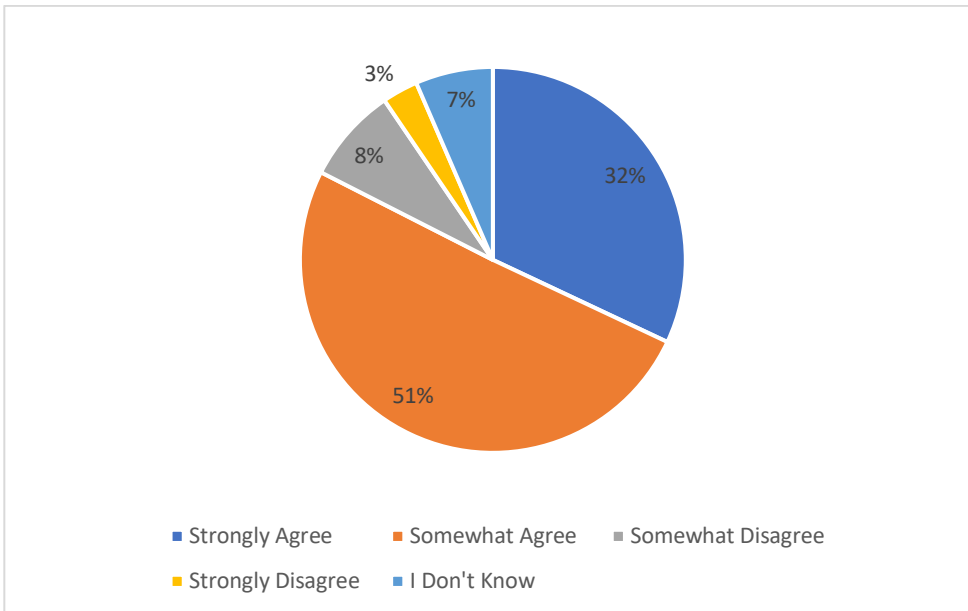
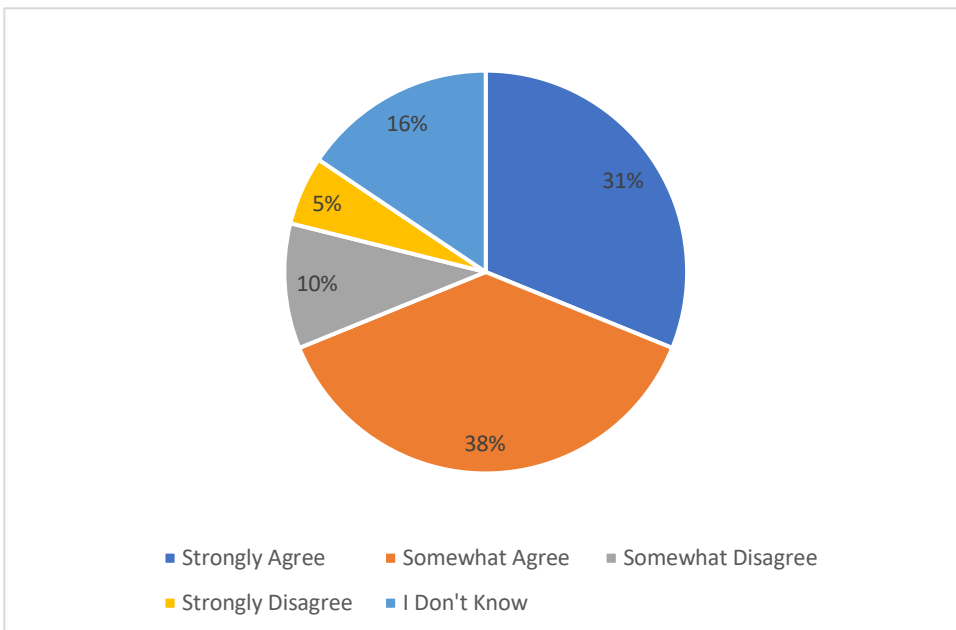


Figure 20: Faculty/Staff Should Radford University create new sustainability-focused, interdisciplinary programs?



Conclusion

Overall, it appears that there is a strong desire to improve existing programs and implement more sustainability-focused initiatives across campus. The location of Radford University appears to be a strong draw among students, faculty, and staff. The University should capitalize on the "New River City" location and implement better marketing around these themes. Ultimately, there seems to be limited knowledge about many of the initiatives across campus with the exception of recycling. There are ample opportunities to highlight sustainability initiatives across campus with better media, web, or social media presence and signage across campus. These could be turned into educational opportunities to teach students about proper recycling habits, net carbon neutrality, and improve sustainability literacy. Among both groups of students and faculty/staff, there was a strong desire for sustainability to be a primary focus at Radford University. There was also strong support for on-campus solar and electric vehicle (EV) charging stations. Without being prompted, multiple faculty/staff mentioned improving access, decreasing barriers, and improving transportation options to Selu Conservancy. Better strategic use of this property may satisfy a number of sustainability desires across campus among students and faculty/staff.

Recommendations

Based on survey responses from n=410 Radford University students, faculty, and staff, I recommend the following actions:

- Capitalize marketing campaigns on Radford's location as an asset
- Utilize Selu Conservancy as a vehicle for implementing more sustainability initiatives and outdoor recreation opportunities
- Make a concerted effort to improve the perceived reputation of Radford University as a leading sustainability-focused institution of higher education in Virginia
 - Improve signage across campus
 - Improve web/social media presence
 - Create an online certificate program, undergraduate minor, and undergraduate degree focusing on sustainability
- Implement more educational opportunities for students/faculty/staff to learn about recycling, net carbon neutrality, and the importance of other sustainability initiatives across campus
- Improve sustainability practices in dining halls (e.g., less plastic/Styrofoam/single use materials)
- Improve the outdoor built environment to include more outdoor recreation options for students/faculty/staff, particularly, a hammock jungle for students, walking/biking trails, and river access
- Provide water bottles and reusable utensil sets for incoming freshman and others across campus
- Increase opportunities for students to engage in more sustainability-focused internships and research opportunities
- Improve sustainability initiatives across other RU campuses including RUC

Limitations

While these data represent the responses of over 400 students/faculty/staff across Radford University and RUC campuses, these data are not generalizable to the entire Radford University population. Responses were overwhelmingly female and white for both the student and faculty/staff surveys. While these demographics are not entirely off-base for the Radford University population, caution should be taken to make a concerted effort to include diverse and minority populations in these endeavors as much as possible.