



7TH ANNUAL
SUSTAINABILITY
SURVEY REPORT
2020

Dr. Adam Zwickle

Department of Community Sustainability
Environmental Science & Policy Program
School of Criminal Justice

Introduction

The 7th Annual Sustainability Survey was sent out to MSU undergraduate students in the fall of 2020. A variety of questions were included in the survey, including some longitudinal measures (for sustainability knowledge, attitudes, and behavior), some for the evaluation of current programs (new student orientation) and some for social science research (the role of systems thinking in sustainability knowledge). Approximately 1,450 students completed the entire survey, with exact response rates varying by question due to randomization. This report presents a summary of the survey's primary findings.

New Student Orientation

The first section of questions was aimed at measuring the extent that students recalled sustainability information given to them during new student orientation.

80% (643) of new students attended MSU's virtual New Student Orientation, compared to 90% (645) of new students in 2019. Among those 643 who attended, 72% (459) remembered mentions of MSU's efforts to be more sustainable. This is up 18% from 2019 (54%, 346 students) suggesting that changes in either the format or the content were effective at reaching incoming Spartans.

Given the nature of the 2020-2021 academic year, it is not surprising that fewer students have encountered sustainability focused staff. In the period between the beginning of the semester and when the survey was administered in November:

- 2.5% of new students (18) remembered encountering Eco Reps
- 2% (14) remembered encountering Eco Ambassadors
- 1% (6) remembered encountering Waste Warriors
- 44% (321) remembered encountering "some sustainability focused people but can't remember what they were called"

This means that after orientation nearly 50% (318) of first year students did not remember encountering any sustainability focused people.

MSU Sustainability Pledge

In 2020 the Office of Sustainability invited students to make a personal commitment to sustainability by considering the environmental, social and economic impact of their daily decisions and commit to new ways of leading a sustainable life while on campus and at home. Out of 1,892 students, 28% (533) had heard of the pledge and 25% (474) had taken it. 67% of students (1,355) had not heard of the sustainability pledge. All of the students who took the pledge, plus some who did not, stated that the pledge increased their efforts to be more sustainable (Table 1).

Table 1. Impact of MSU Sustainability Pledge.

	Heard of pledge	Taken pledge	Increased sustainability efforts since taking pledge
Yes	28% (533)	25% (474)	28% (524)
No	72% (1355)	74% (1393)	68% (1258)

Given this data, more efforts should be placed into promoting the MSU Sustainability Pledge in the future as a method of encouraging more sustainable behaviors among students. Behavioral change theory suggests that stating one's behavioral intention creates normative pressure to act in line with those declarations. The fact that more students reported changing their behavioral as a result of a pledge than actually took the pledge suggests that simply learning that the pledge exists is enough to exert a small positive effect.

Sustainable Behaviors

Several of the behaviors included in the sustainability pledge were included in the survey. Students received the question prompt:

“There are many different things we can do as Spartans to make our campus and city more sustainable. Please indicate how often you participate in the following sustainable actions:”

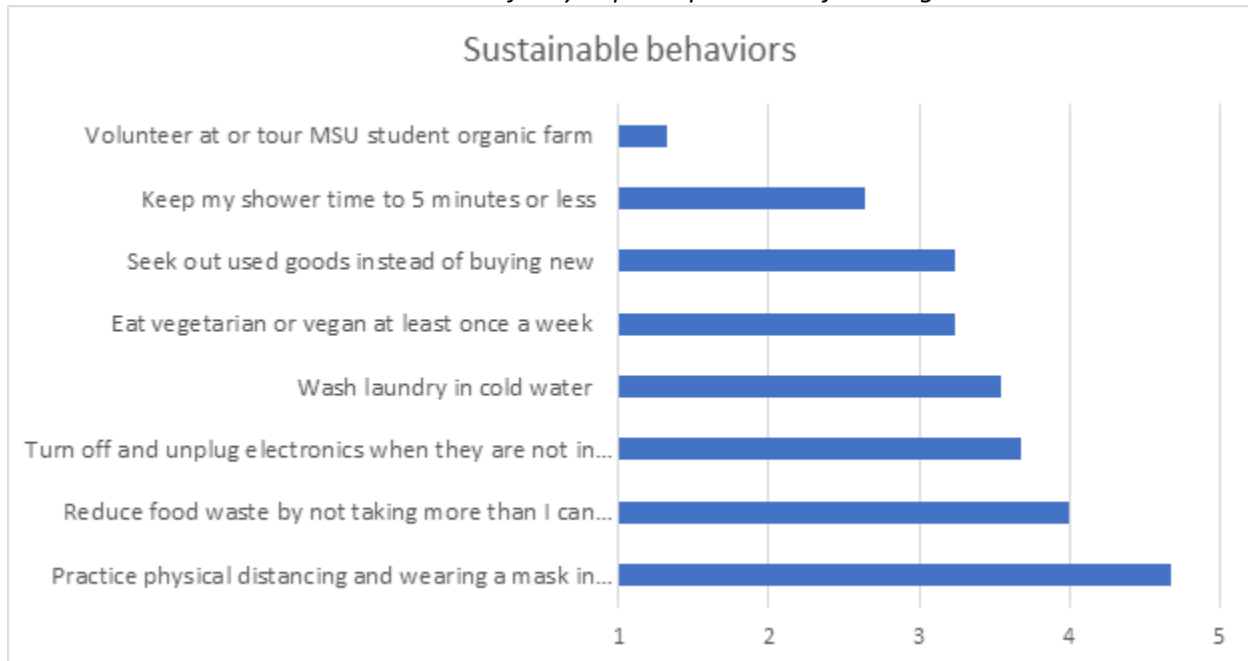


Figure 1. Amount students engage in sustainable behaviors from 1 (never) to 5 (always).

Given the COVID-19 pandemic occurring at the time and the fact that very few students were living on campus, the questions included in the survey were limited to those applicable to students everywhere. Students reported highest levels of mask wearing and social distance, with a mean response of 4.67 out of 5. Students were least likely to volunteer at the student organic farm (1.32) and limit their shower time (2.64, Figure 1).

Sustainability Knowledge

As in the past, MSU students correctly answered more questions from the Assessment of Sustainability Knowledge (ASK) as they advance in their undergraduate education. Freshmen students averaged a score of 5.7 correct answers (out of 12) while seniors averaged a score of 7.5. At each level, 2020 scores were significantly lower than those recorded in 2019 (Figure 2).

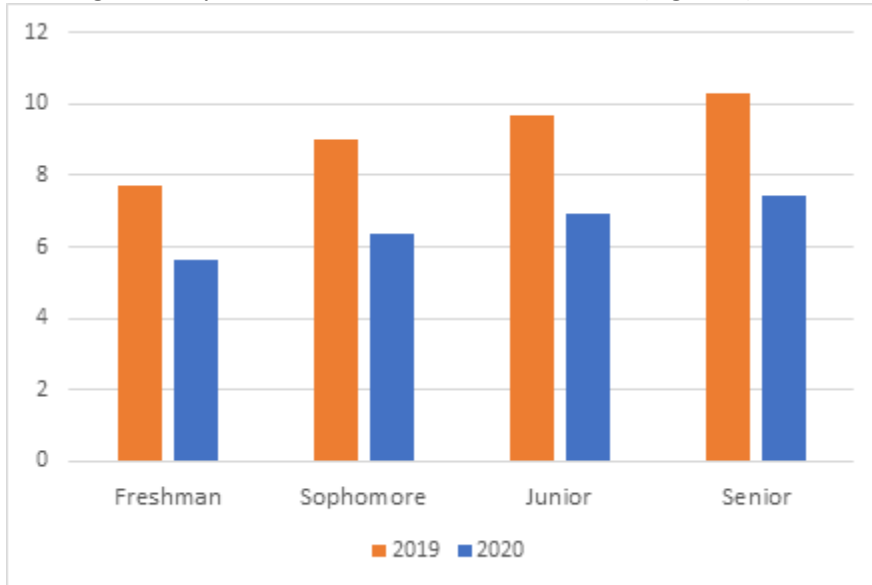


Figure 2. Average number of ASK items answered correctly by class rank.

Overall, 2020 ASK scores were significantly lower compared to years past, with a combined average of 6.5, (Figure 3).

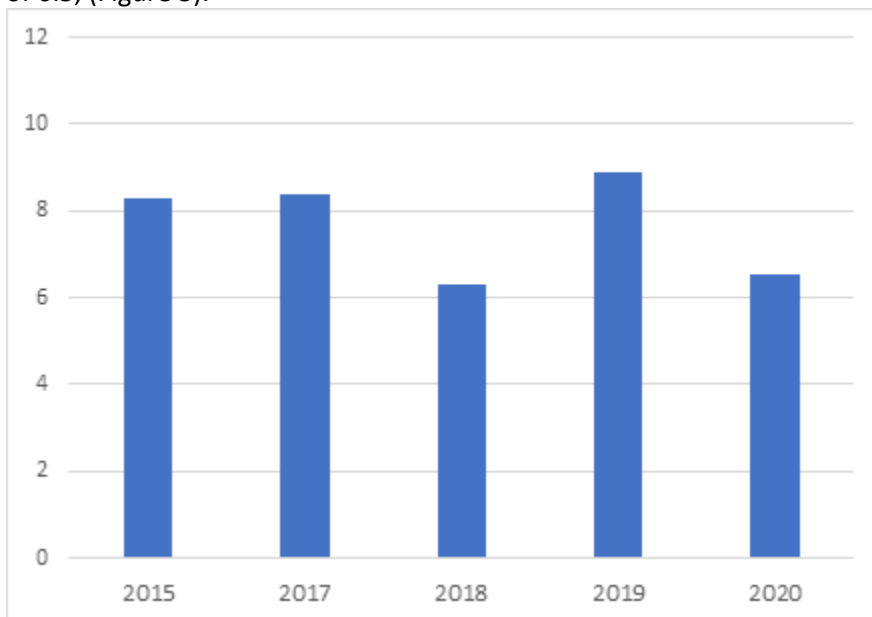


Figure 3. Overall sustainability knowledge by year. (Data was not collected in 2016)

Sustainability Attitudes

As in years past, MSU students reported very positive sustainability attitudes that did not change over time, averaging 5.2 out of 6 across the 11 items in the Sustainability Attitudes Scale.

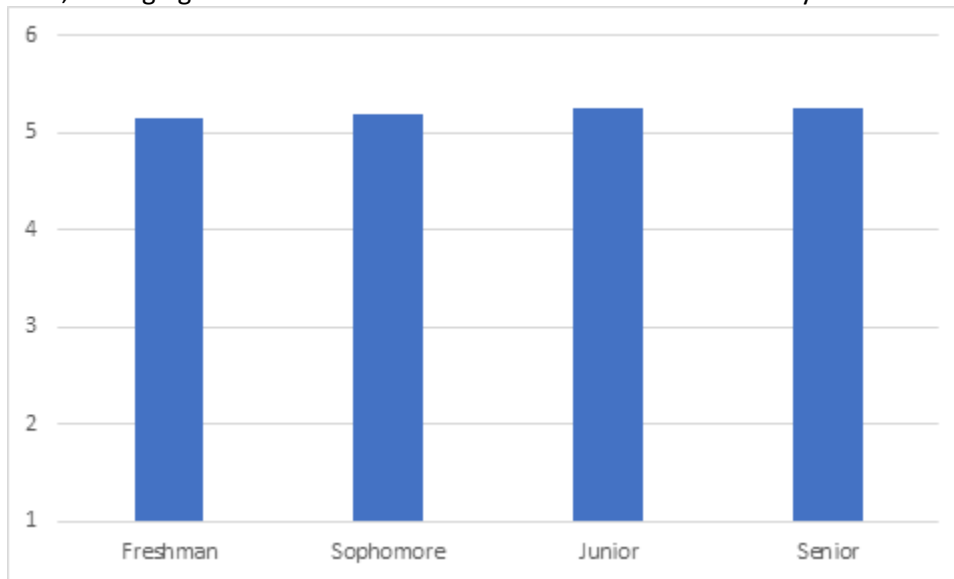


Figure 4. Sustainability attitudes by year.

Systems Thinking

Research in sustainability education has long highlighted the importance of systems thinking. The ability to understand the interrelated nature of coupled human and natural systems is needed to fully grasp the concepts of climate change, life cycle analysis, and the broader effects of government policies. A student's ability to engage in systems thinking, however, remains a challenging thing to measure at a large scale. Many researchers believe that it simply is not possible, as demonstrating systems thinking is, by nature, not possible in a survey format. For this survey we adapted the sole measure of systems thinking created for survey use to test its usefulness for predicting sustainability knowledge. The measure consisted of 16 separate items, asking how often students employed various strategies in challenging situations. In general, the items were quite broad (*"I keep my goals and purpose in mind when making decision."*) and difficult to apply to a sustainability context (*"I seek everyone's view of the situation."*). Still, as it is the only measure available, it was used in a regression analysis to explore its role in sustainability knowledge (Table 2).

Table 2. Linear regression with sustainability knowledge as the dependent variable.

	Model 1		Model 2	
	Beta	Sig.	Beta	Sig.
Sustainability attitudes	0.34	.000	0.28	.000
Gender	0.16	.000	0.16	.000
Race	0.21	.000	0.19	.000
Systems thinking			0.17	.000
R2	0.17		0.19	

While a student's reported level of systems thinking did play a statistically significant role in their level of sustainability knowledge, its impact was similar to that of their race and gender and had less of an influence than their sustainability attitudes. Overall, the model did a poor job of predicting sustainability knowledge, explaining only 19% of the variance. Including the systems thinking measure in the regression model explained only 2% of additional variance.

Systems thinking is a vital part of sustainability education that remains difficult to measure a large scale. Our results suggest that the systems thinking measure used here does a poor job of tapping into this complex concept. It is likely that any such measure adapted to a survey format will perform equally poorly.