# GMU's Extracurricular Programming and Sustainability Survey

# Survey Flow

Standard: Welcome to GMU's Extracurricular Programming and Sustainability Survey! (2 Questions)

Branch: New Branch
If
If STUDENT EVALUATION OF MASON EXTRACURRICULAR PROGRAMMING and SUSTAINABILITY INFORMED CONSENT FORM... No Is Selected

EndSurvey:

Standard: Characteristics of student audiences (16 Questions)
Standard: Not sust literacy questions (14 Questions)
Standard: Sust literacy- Systems thinking (16 Questions)
Standard: Sust literacy- SOS (5 Questions)
Block: Sust Literacy-ASK (13 Questions)
Standard: End of survey (3 Questions)

EmbeddedData
Q_TotalDurationValue will be set from Panel or URL.

Page Break

Start of Block: Characteristics of student audiences

**Characteristics of student audiences** Listed as per George Mason University student characteristics and adapted from Office of Institutional Effectiveness (OIEP) past surveys

SOC_DEM_1 Which of the following best describes your area of study at Mason? (CHECK ONE)

- ○ Arts, Media & Communication (1)
- ○ Business, Economics & Entrepreneurship (2)
- ○ Computing (3)
- ○ Education & Social Services (4)
- ○ Engineering, Technology & Design (5)
- ○ Environment, Sustainability & Social Action (6)
- ○ Government, Policy & International Affairs (7)
- ○ Health, Medicine & Well-being (8)
- ○ People, Culture & Behavior (9)
- ○ Science & Math (10)
- ○ Other (Please write) (11) _____

SOC_DEM_2 What is your current academic class status? (CHECK ONE)

- ○ Freshman (1)
- ○ Sophomore (2)
- ○ Junior (3)
- ○ Senior (4)
- ○ Other (Please write) (5) _____

Page Break

Extracurr progs While you have been a student at Mason, ***have you heard*** about any of the following extracurricular programs? (CHECK ALL THAT APPLY)

- [ ] The Greenhouse and Gardens program (1)
- [ ] The Patriot Green Fund (5)
- [ ] The Campus Efficiencies program (6)
- [ ] Global Sustain+Ability Scholars program (9)
- [ ] 17 Rooms-U Initiative (10)
- [ ] The Environment and Sustainability Learning Community (11)
- [ ] Bonner Student Leadership Program (13)
- [ ] Civic Fellows Program (17)
- [ ] Civic Student Advocate (18)
- [ ] Thursdays for Tomorrow Rally (formerly called the Fridays for Future Rally) (25)
- [ ] TEDxGeorgeMasonU (26)
- [ ] The Patriot Experience (27)
- [ ] Good Trouble Conversations (31)
- [ ] Other (please write) (29)

_____

- [ ] None of them (30)

*Display This Question:*

*If While you have been a student at Mason, have you heard about any of the following extracurricular... != None of them*

*Carry Forward Selected Choices from "While you have been a student at Mason, have you heard about any of the following extracurricular programs? (CHECK ALL THAT APPLY)"*

SOC_DEM_3a While you have been a student at Mason, ***have you participated*** in any of the following? (CHECK ALL THAT APPLY)

- [ ] The Greenhouse and Gardens program (1)
- [ ] The Patriot Green Fund (2)
- [ ] The Campus Efficiencies program (3)
- [ ] Global Sustain+Ability Scholars program (4)
- [ ] 17 Rooms-U Initiative (5)
- [ ] The Environment and Sustainability Learning Community (6)
- [ ] Bonner Student Leadership Program (7)
- [ ] Civic Fellows Program (8)
- [ ] Civic Student Advocate (9)
- [ ] Thursdays for Tomorrow Rally (formerly called the Fridays for Future Rally) (10)
- [ ] TEDxGeorgeMasonU (11)
- [ ] The Patriot Experience (12)
- [ ] Good Trouble Conversations (13)
- [ ] Other (please write) (14) _____
- [ ] ⊗ None of them (15)

Page Break

*Display This Question:*

*If If INFORMAL LRNG EXP None of them Is Selected*

*Carry Forward Selected Choices from "While you have been a student at Mason, have you participated in any of the following? (CHECK ALL THAT APPLY)"*

SOC_DEM_3ai Prog exp How would you ***rate your overall*** level of experience after participating in these program(s)? (CHECK ONE FOR EACH)

| | Very dissatisfied (1) | Dissatisfied (2) | OK (3) | Satisfied (4) | Extremely satisfied (5) |
|---|---|---|---|---|---|
| The Greenhouse and Gardens program (xx1) | ○ | ○ | ○ | ○ | ○ |
| The Patriot Green Fund (xx5) | ○ | ○ | ○ | ○ | ○ |
| The Campus Efficiencies program (xx6) | ○ | ○ | ○ | ○ | ○ |
| Global Sustain+Ability Scholars program (xx9) | ○ | ○ | ○ | ○ | ○ |
| 17 Rooms-U Initiative (xx10) | ○ | ○ | ○ | ○ | ○ |
| The Environment and Sustainability Learning Community (xx11) | ○ | ○ | ○ | ○ | ○ |
| Bonner Student Leadership Program (xx13) | ○ | ○ | ○ | ○ | ○ |
| Civic Fellows Program (xx17) | ○ | ○ | ○ | ○ | ○ |
| Civic Student Advocate (xx18) | ○ | ○ | ○ | ○ | ○ |
| Thursdays for Tomorrow Rally (formerly called the Fridays for Future Rally) (xx25) | ○ | ○ | ○ | ○ | ○ |
| TEDxGeorgeMasonU (xx26) | ○ | ○ | ○ | ○ | ○ |
| The Patriot Experience (xx27) | ○ | ○ | ○ | ○ | ○ |
| Good Trouble Conversations (xx31) | ○ | ○ | ○ | ○ | ○ |

| | | | | | |
|---|---|---|---|---|---|
| Other (please write) (xx29) | ○ | ○ | ○ | ○ | ○ |
| ⊗ None of them (xx30) | ○ | ○ | ○ | ○ | ○ |

Page Break

*Display This Question:*

*If While you have been a student at Mason, have you heard about any of the following extracurricular... = None of them*

*Or Or INFORMAL LRNG EXP None of them Is Selected*

SOC_DEM_3b You indicated that you have not participated in some or any of these programs. Would you be interested in doing so in the future? (CHECK ONE)

- ○ No (1)
- ○ Maybe (2)
- ○ Yes (3)

*Display This Question:*

*If You indicated that you have not participated in some or any of these programs. Would you be inter... = Yes*

*Or You indicated that you have not participated in some or any of these programs. Would you be inter... = Maybe*

*

SOC_DEM_3c Is there anything that would make it easier for you to participate in these types of programs in the future? (PLEASE WRITE)

_____

_____

_____

_____

_____

Page Break

DEM segue Please tell us a bit about yourself …

SOC_DEM_4 What is your gender identity? (CHECK ONE)

- ○ Man (1)
- ○ Woman (2)
- ○ Outside the gender binary (please specify) (3) _____
- ○ I prefer not to respond (4)

SOC_DEM_5 In which year were you born? (PLEASE WRITE; NUMERIC ENTRY ONLY)

_____

SOC_DEM_6 How would you describe your race and/or ethnicity? (CHECK ALL THAT APPLY)

- [ ] Asian or Asian Heritage (1)
- [ ] Black or African Heritage (2)
- [ ] Hispanic/Latinx (3)
- [ ] Middle Eastern or North African (4)
- [ ] Native American, Indigenous, or Alaska Native (5)
- [ ] Native Hawaiian or other Pacific Islander (6)
- [ ] White/European Heritage (7)
- [ ] Multiracial (8)
- [ ] Unknown (9)
- [ ] Not listed (please write) (10) _____
- [ ] I prefer not to respond (11)

SOC_DEM_7 Generally speaking, do you usually think of yourself as a.... (CHECK ONE)

- ○ Liberal (1)
- ○ Moderate (2)
- ○ Conservative (3)
- ○ Something else (4) _____
- ○ Prefer not to respond (5)

Page Break

INF EXP segue Everyone's college experience is different.

*

SOC_DEM_8 How many semesters (including summer semesters) have you been enrolled in **in-person or hybrid classes**? Please exclude any semesters in which you only took courses fully online (PLEASE WRITE; NUMERIC ENTRY ONLY)

_____

*

SOC_DEM_9 How many semesters (including summer semesters) have you **lived in campus dormitories**? (PLEASE WRITE; NUMERIC ENTRY ONLY)

_____

*

SOC_DEM_10 On average, how many **hours** do **you spend on campus each week** including classes, meetings, and other activities?

_____

End of Block: Characteristics of student audiences

Start of Block: Not sust literacy questions

**Psycho-social factor 4: Perceived Behavioral Control (PBC)** (Heeren et al., 2016)

PBC segue:  Where we live and the resources that we have available to us while we are students can make it easier, or harder, to engage in some activities.

PBC 1_10 How confident are you that you can engage in each of the following behavior? (CHECK ONE FOR EACH)

| | Not confident (1) | Slightly confident (2) | Somewhat confident (3) | Quite confident (4) | Extremely confident (5) |
|---|---|---|---|---|---|
| Turning off lights in an empty room where you live (1) | ○ | ○ | ○ | ○ | ○ |
| Using a reusable water bottle (2) | ○ | ○ | ○ | ○ | ○ |
| Trying to convince someone to turn lights off (3) | ○ | ○ | ○ | ○ | ○ |
| Using the stairs instead of the elevator for > 1 floor (4) | ○ | ○ | ○ | ○ | ○ |
| Walking or biking when going somewhere (5) | ○ | ○ | ○ | ○ | ○ |
| Printing on both sides of the paper (6) | ○ | ○ | ○ | ○ | ○ |
| Taking public transportation or carpooling (7) | ○ | ○ | ○ | ○ | ○ |
| Choosing local or organically grown food when possible (8) | ○ | ○ | ○ | ○ | ○ |
| Using reusable cloth bags when shopping (9) | ○ | ○ | ○ | ○ | ○ |
| Donating or repurposing used clothes rather than throwing them in the garbage (10) | ○ | ○ | ○ | ○ | ○ |

| | | | | | |
|---|---|---|---|---|---|
| Helping an organization change its practices/policies to promote more sustainable behaviors (11) - **Sustainability Change Agents' characteristic (Redman et al., 2021)** | ○ | ○ | ○ | ○ | ○ |

**Dependent variable: Sustainability behavior** (Heeren et al., 2016)

Behavior segue We all make decisions about which actions to engage in during these years that we are students.

SUST_BEHAVIOUR 1_10 Over the last two weeks, how often have you done the following? (CHECK ONE FOR EACH)

| | Never (1) | Sometimes (2) | About half the time (3) | Most of the time (4) | Always (5) |
|---|---|---|---|---|---|
| Turned off lights in an empty room where you live (1) | ○ | ○ | ○ | ○ | ○ |
| Used a reusable water bottle (2) | ○ | ○ | ○ | ○ | ○ |
| Tried to convince someone to turn lights off (3) | ○ | ○ | ○ | ○ | ○ |
| Used the stairs instead of the elevator for > 1 floor (4) | ○ | ○ | ○ | ○ | ○ |
| Walked or biked when going somewhere (5) | ○ | ○ | ○ | ○ | ○ |
| Printed on both sides of the paper (6) | ○ | ○ | ○ | ○ | ○ |
| Took public transportation or carpooled (7) | ○ | ○ | ○ | ○ | ○ |
| Chose local or organically grown food when possible (8) | ○ | ○ | ○ | ○ | ○ |
| Used reusable cloth bags when shopping (9) | ○ | ○ | ○ | ○ | ○ |
| Donated or repurposed used clothes rather than throwing them in the garbage (10) | ○ | ○ | ○ | ○ | ○ |

| | | | | | |
|---|---|---|---|---|---|
| Helped an organization change its practices/policies to promote more sustainable behaviors (11)- **Sustainability Change Agents' characteristic (Redman et al., 2021)** | ○ | ○ | ○ | ○ | ○ |

Page Break

**Psycho-social factor 1: Perceived peer social norms** (Heeren et al., 2016)

SOC NORMS 1_5 We often learn from the people who are most important to us. Please rate how much do you agree with the below series of statements:

Most people who are important to me would approve of... (CHECK ONE FOR EACH)

| | Strongly disagree (1) | Somewhat disagree (2) | Neither agree nor disagree (3) | Somewhat agree (4) | Strongly agree (5) |
|---|---|---|---|---|---|
| Turning off lights in an empty room where you live (1) | ○ | ○ | ○ | ○ | ○ |
| Using a reusable water bottle (2) | ○ | ○ | ○ | ○ | ○ |
| Trying to convince someone to turn lights off (3) | ○ | ○ | ○ | ○ | ○ |
| Using the stairs instead of the elevator for > 1 floor (4) | ○ | ○ | ○ | ○ | ○ |
| Walking or biking when going somewhere off campus (5) | ○ | ○ | ○ | ○ | ○ |

SOC NORMS 6_9 Most people who are important to me would approve of... (CHECK ONE FOR EACH)

| | Strongly disagree (1) | Somewhat disagree (2) | Neither agree nor disagree (3) | Somewhat agree (4) | Strongly agree (5) |
|---|---|---|---|---|---|
| Printing on both sides of the paper (1) | ○ | ○ | ○ | ○ | ○ |
| Taking public transportation or carpooling (9) | ○ | ○ | ○ | ○ | ○ |
| Choosing local or organically grown food when possible (4) | ○ | ○ | ○ | ○ | ○ |
| Using reusable cloth bags when shopping (5) | ○ | ○ | ○ | ○ | ○ |
| Donating or repurposing used clothes rather than throwing them in the garbage (6) | ○ | ○ | ○ | ○ | ○ |
| Helping an organization change its practices/policies to promote more sustainable behaviors (10)- **Sustainability Change Agents' characteristic (Redman et al., 2021)** | ○ | ○ | ○ | ○ | ○ |

Page Break

**Psycho-social factor 2: Sustainability attitudes.** Measured via Sustainability attitudes scale (SAS) (Zwickle et al., 2014)

SAS segue George Mason University is committed to making its campuses more sustainable. But people have different ideas about what sustainability means. How do you think about it?

SAS_1-5 How strongly do you agree or disagree with the following statements? (CHECK ONE FOR EACH)

| | Strongly disagree (1) | Somewhat disagree (2) | Neither agree nor disagree (3) | Somewhat agree (4) | Strongly agree (5) |
|---|---|---|---|---|---|
| Equal rights for all people strengthens a community (1) | ○ | ○ | ○ | ○ | ○ |
| Community cooperation is necessary to solve social problems (2) | ○ | ○ | ○ | ○ | ○ |
| Generally speaking consumerism is not sustainable (3) | ○ | ○ | ○ | ○ | ○ |
| Access to clean water is a universal human right (4) | ○ | ○ | ○ | ○ | ○ |
| I am willing to put forth a little more effort into my daily life to reduce my environmental impact (5) | ○ | ○ | ○ | ○ | ○ |

SAS_6-11 How strongly do you agree or disagree with the following statements? (CHECK ONE FOR EACH)

| | Strongly disagree (1) | Somewhat disagree (2) | Neither agree nor disagree (3) | Somewhat agree (4) | Strongly agree (5) |
|---|---|---|---|---|---|
| An unsustainable economy values personal wealth at the costs of others (1) | ○ | ○ | ○ | ○ | ○ |
| I believe that many people can work together to solve global problems (2) | ○ | ○ | ○ | ○ | ○ |
| Clean air is part of a good life (3) | ○ | ○ | ○ | ○ | ○ |
| Our present consumption of natural resources will result in serious environmental challenges for future generations (4) | ○ | ○ | ○ | ○ | ○ |
| The well-being of others affects me (5) | ○ | ○ | ○ | ○ | ○ |
| Biological diversity in itself is good (6) | ○ | ○ | ○ | ○ | ○ |

| | | | | | |
|---|---|---|---|---|---|
| I believe that I can work with others to help solve global problems (7)- **Sustainability Change Agents' characteristic (Redman et al., 2021)** | ○ | ○ | ○ | ○ | ○ |

Page Break

**Psycho-social factor 3: Social Connectedness** (Lee & Robbins, 1995)

SCS 1_4 Some people think of people's health and wellbeing as a component of sustainability. How strongly do you agree or disagree with the following statements? (CHECK ONE FOR EACH)

| | Strongly disagree (1) | Somewhat disagree (2) | Neither agree nor disagree (3) | Somewhat agree (4) | Strongly agree (5) |
|---|---|---|---|---|---|
| I feel disconnected from the world around me. (1) | ○ | ○ | ○ | ○ | ○ |
| Even around people I know, I don't feel that I really belong. (2) | ○ | ○ | ○ | ○ | ○ |
| I feel so distant from people. (3) | ○ | ○ | ○ | ○ | ○ |
| I have no sense of togetherness with my peers. (4) | ○ | ○ | ○ | ○ | ○ |

SCS_5-8 How strongly do you agree or disagree with the following statements? (CHECK ONE FOR EACH)

| | Strongly disagree (1) | Somewhat disagree (2) | Neither agree nor disagree (3) | Somewhat agree (4) | Strongly agree (5) |
|---|---|---|---|---|---|
| I don't feel related to anyone (1) | ○ | ○ | ○ | ○ | ○ |
| I catch myself losing all sense of connectedness with society. (2) | ○ | ○ | ○ | ○ | ○ |
| Even among my friends, there is no sense of brother/sisterhood. (3) | ○ | ○ | ○ | ○ | ○ |
| I don't feel I participate with anyone or any group. (4) | ○ | ○ | ○ | ○ | ○ |

Page Break

**Psycho-social factor 3: Nature Connectedness** (Mayer & Frantz, 2004b)

CNS_1-5 Some people think of the health and wellbeing of the natural world as a component of sustainability. Please answer each of these questions in terms of the way you generally feel. There are no right or wrong answers. Using the following scale, in the space provided next to each question simply state as honestly and candidly as you can what you are presently experiencing (CHECK ONE FOR EACH)

| | Strongly disagree (1) | Somewhat disagree (2) | Neither agree nor disagree (3) | Somewhat agree (4) | Strongly agree (5) |
|---|---|---|---|---|---|
| I often feel a sense of oneness with the natural world around me. (1) | ○ | ○ | ○ | ○ | ○ |
| I think of the natural world as a community to which I belong. (2) | ○ | ○ | ○ | ○ | ○ |
| I recognize and appreciate the intelligence of other living organisms. (3) | ○ | ○ | ○ | ○ | ○ |
| I often feel disconnected from nature. (4) | ○ | ○ | ○ | ○ | ○ |
| When I think of my life, I imagine myself to be part of a larger cyclical process of living. (5) | ○ | ○ | ○ | ○ | ○ |

CNS_6-10 How strongly do you agree or disagree with the following statements? (CHECK ONE FOR EACH)

| | Strongly disagree (1) | Somewhat disagree (2) | Neither agree nor disagree (3) | Somewhat agree (4) | Strongly agree (5) |
|---|---|---|---|---|---|
| I often feel a kinship with animals and plants. (1) | ○ | ○ | ○ | ○ | ○ |
| I feel as though I belong to the Earth as equally as it belongs to me. (2) | ○ | ○ | ○ | ○ | ○ |
| I have a deep understanding of how my actions affect the natural world. (3) | ○ | ○ | ○ | ○ | ○ |
| I often feel part of the web of life. (4) | ○ | ○ | ○ | ○ | ○ |
| I feel that all inhabitants of Earth, human, and nonhuman, share a common ‘life force’. (5) | ○ | ○ | ○ | ○ | ○ |

CNS_11-14 How strongly do you agree or disagree with the following statements? (CHECK ONE FOR EACH)

| | Strongly disagree (1) | Somewhat disagree (2) | Neither agree nor disagree (3) | Somewhat agree (4) | Strongly agree (5) |
|---|---|---|---|---|---|
| Like a tree can be part of a forest, I feel embedded within the broader natural world. (1) | ○ | ○ | ○ | ○ | ○ |
| When I think of my place on Earth, I consider myself to be a top member of a hierarchy that exists in nature. (2) | ○ | ○ | ○ | ○ | ○ |
| I often feel like I am only a small part of the natural world around me, and that I am no more important than the grass on the ground or the birds in the trees. (3) | ○ | ○ | ○ | ○ | ○ |
| My personal welfare is independent of the welfare of the natural world. (4) | ○ | ○ | ○ | ○ | ○ |

Page Break

End of Block: Not sust literacy questions

Start of Block: Sust literacy- Systems thinking

**Sustainability literacy component 2: Systems thinking.** Measured via the Individual Capacity for System Thinking scale (Jaradat, 2014) Selected characteristics:

Systems worldview (SW)
REDUCTIONISM (R)—there exist multiple, potentially divergent, perspectives on the problem domain HOLISM (H)—assumes that there is alignment of perspectives for the problem domain
Complexity (COMPLXTY)
SIMPLICITY (S)—Avoid uncertainty, work on linear problems, prefer best solution, prefer small scale problems
COMPLEXITY (C)—Expect uncertainty, work on multidimensional problems, prefer a working solution, and explore the surrounding environment
Flexibility (FLXBLTY)
RIGIDITY (D)—prefer not to change, like determined plan, motivated by routine
FLEXIBILITY (F)—accommodate change, like flexible plans, open to new ideas, unmotivated by routine

ST segue: Each of us have a different way we like to approach problems of a system. Some examples of a 'system' include computer systems, transport systems, solar systems, telephone systems, ecological systems, space systems, etc. How do you like to think of them?

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SYST_THNKN TIMIN Timing
First Click (1)
Last Click (2)
Page Submit (3)
Click Count (4)

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ST_SW_1 In thinking about a system, I would prefer to focus on (CHECK ONE)

- ○ particulars (1)
- ○ the whole (2)

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ST_SW_2 A problem should first be addressed at what level (CHECK ONE)

- specific (1)
- general (2)

ST_SW_3 Select the most appropriate option (CHECK ONE FOR EACH STATEMENT)

| | Please choose whether you | |
|---|---|---|
| | Agree (1) | Disagree (2) |
| A system can be understood by analyzing the parts (1) | | |
| System performance is primarily determined by individual components (2) | | |
| Once successful, a technical solution will result in similar success in other applications (3) | | |

ST_COMPLXTY_1 Are you more inclined to work on something that follows (CHECK ONE)

- regular patterns (1)
- irregular patterns (2)

ST_COMPLXTY_2 Once desired performance is achieved, a system should be (CHECK ONE)

- left alone (1)
- adjusted (2)

ST_COMPLXTY_3 In dealing with a system, would you prefer it to be (CHECK ONE)

- small (1)
- large (2)

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ST_COMPLXTY_4 I prefer to work on problems for which the approach is (CHECK ONE)

- standardized (1)
- unique (2)

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ST_COMPLXTY_5 In solving a problem, I generally try to get opinions from (CHECK ONE)

- a few people (1)
- many people (2)

---

ST_COMPLXTY_6 A solution to problem should always be (CHECK ONE)

- the best solution (1)
- a working solution (2)

---

ST_FLXBLTY_1 I am most comfortable working where circumstances require (CHECK ONE)

- minimal adjustment (1)
- constant adjustment (2)

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ST_FLXBLTY_2 Once a system is deployed, modifications and adjustments indicate that the design was (CHECK ONE)

- inadequate (1)
- flexible (2)

ST_FLXBLTY_3 In planning for a system solution, plans should be (CHECK ONE)

- fixed (1)
- expected to change (2)

ST_FLXBLTY_4 With respect to execution of a plan (CHECK ONE)

- I prefer to follow the plan as closely as possible (1)
- I am comfortable with deviating from the plan (2)

ST_FLXBLTY_5 I would describe my preferred work environment as one for which outcomes (CHECK ONE)

- are predetermined (1)
- emerge (2)

End of Block: Sust literacy- Systems thinking

Start of Block: Sust literacy- SOS

**Sustainability literacy component 3: Science of science (SOS).** National Science Board's Science & Engineering Indicators (National Science Board, 2018; Pew Research Center-American Trends Panel, 2022)

SOS segue:  George Mason University encourages its students to contribute to solving our grand societal challenges. Using science can be one way to find new solutions to these types of problems.

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SOS_1 Based on what you have heard or read, which of the following statements best describes the scientific method? (CHECK ONE)

- ○ The scientific method produces findings meant to be continually tested and updated over time.  (1)
- ○ The scientific method identifies unchanging core principles and truths.  (2)
- ○ Not sure  (3)

---

SOS_2 Which of the following best describes what you think about the scientific method? (CHECK ONE)

- ○ The scientific method generally produces accurate conclusions.  (1)
- ○ The scientific method can be used to produce any conclusion the research wants.  (2)

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SOS_3 A scientist is conducting a study to determine how well a new medication treats ear infections. The scientist tells the participants to put 10 drops in their infected ear each day. After 2 weeks, all participants' ear infections had healed. Which of the following changes to the

design of this study would most improve the ability to test if the new medication effectively treats ear infections? (CHECK ONE)

- ○ Create a second group of participants with ear infections who do not use any ear drops. (1)
- ○ Create a second group of participants with ear infections who use 15 drops a day. (2)
- ○ Have participants use ear drops for only 1 week. (3)
- ○ Have participants put ear drops in both their infected ear and healthy ear. (4)
- ○ Not sure (5)

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SOS_4 The time a computer takes to start has increased dramatically. One possible explanation for this is that the computer is running out of memory. This explanation is a scientific… (CHECK ONE)

- ○ Hypothesis (1)
- ○ Conclusion (2)
- ○ Experiment (3)
- ○ Observation (4)
- ○ Not sure (5)

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Page Break

**End of Block: Sust literacy- SOS**

**Start of Block: Sust Literacy-ASK**

Page Break

**Sustainability literacy component 1: Social-ecological knowledge.** Measured via Assessing Sustainability Knowledge (ASK) scale (Zwickle et al., 2014)

ASK segue: Everyone has a different level of knowledge about sustainability. To the best of your knowledge, which are the correct answers to the questions below? Feel free to select "don't know" if you are not aware or are unsure.

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ASK_1 What is the most common cause of pollution of streams and rivers? (CHECK ONE)

- ○ Dumping of garbage by cities (1)
- ○ Surface water running off yards, city streets, paved lots, and farm fields (2)
- ○ Litter near streams and rivers (3)
- ○ Waste dumped by factories (4)
- ○ Don't know (5)

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ASK_2 Ozone forms a protective layer in the earth's upper atmosphere. What does ozone protect us from? (CHECK ONE)

- ○ Acid rain (1)
- ○ Climate change (2)
- ○ Sudden changes in temperature (3)
- ○ Harmful UV rays (4)
- ○ Don't know (5)

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ASK_3 Which of the following is an example of sustainable forest management? (CHECK ONE)

- ○ Setting aside forests to be off limits to the public (1)
- ○ Never harvesting more than what the forest produces in new growth (2)
- ○ Producing lumber for nearby communities to build affordable housing (3)
- ○ Putting the local communities in charge of forest resources (4)
- ○ Don’t know (5)

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ASK_4 Of the following, which would be considered living in the most environmentally sustainable way? (CHECK ONE)

- ○ Recycling all recyclable packaging (1)
- ○ Reducing consumption of all products (2)
- ○ Buying products labeled "eco" or "green" (3)
- ○ Buying the newest products available (4)
- ○ Don't know (5)

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ASK_5 Which of the following is the most commonly used definition of sustainable development? (CHECK ONE)

- ○ Creating a government welfare system that ensures universal access to education, health care, and social services (1)
- ○ Setting aside resources for preservation, never to be used (2)
- ○ Meeting the needs of the present without compromising the ability of future generations to meet their own needs (3)
- ○ Building a neighborhood that is both socio-demographically and economically diverse (4)
- ○ Don't know (5)

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ASK_6 Over the past 3 decades, what has happened to the difference between the wealth of the richest and poorest Americans? (CHECK ONE)

- ○ The difference has increased (1)
- ○ The difference has stayed about the same (2)
- ○ The difference has decreased (3)
- ○ Don't know (4)

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ASK_7 Many economists argue that electricity prices in the U.S. are too low because... (CHECK ONE)

- ○ They do not reflect the costs of pollution from generating the electricity (1)
- ○ Too many suppliers go out of business (2)
- ○ Electric companies have a monopoly in their service area (3)
- ○ Consumers spend only a small part of their income on energy (4)
- ○ Don’t know (5)

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ASK_8 Which of the following is the most commonly used definition of economic sustainability? (CHECK ONE)

- ○ Maximizing the share price of a company's stock (1)
- ○ Long term profitability (2)
- ○ When costs equal revenue (3)
- ○ Continually expanding market share (4)
- ○ Don’t know (5)

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ASK_9 Which of the following countries passed the U.S. to become the largest emitter of the greenhouse gas carbon dioxide? (CHECK ONE)

- ○ China (1)
- ○ Sweden (2)
- ○ Brazil (3)
- ○ Japan (4)
- ○ Don’t know (5)

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ASK_10 Which of the following is a leading cause of the depletion of fish stocks in the Atlantic Ocean? (CHECK ONE)

- ○ Fishermen seeking to maximize their catch (1)
- ○ Reduced fish fertility due to genetic hybridization (2)
- ○ Ocean pollution (3)
- ○ Global climate change (4)
- ○ Don’t know (5)

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ASK_11 Which of the following is the best example of environmental justice? (CHECK ONE)

- ○ Urban citizens win a bill to have toxic wastes taken to rural communities (1)
- ○ The government dams a river, flooding Native American tribal lands to create hydro-power for large cities (2)
- ○ All stakeholders from an indigenous community are involved in setting a quota for the amount of wood they can take from a protected forest next to their village (3)
- ○ Multi-national corporations build factories in developing countries where environmental laws are less strict (4)
- ○ Don't know (5)

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ASK_12 Put the following list in order of the activities with the largest environmental impact to those with the smallest environmental impact:
A. Keeping a cell phone charger plugged into an electrical outlet for 12 hours
B. Producing one McDonald's quarter-pound hamburger
C. Producing one McDonald's chicken sandwich
D. Flying in a commercial airplane from Washington D.C. to China

(CHECK ONE)

- ○ A, C, B, D (1)
- ○ D, A, B, C (2)
- ○ D, C, B, A (3)
- ○ D, B, C, A (4)
- ○ Don’t know (5)

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Page Break

End of Block: Sust Literacy-ASK

Start of Block: End of survey

Thanks: We thank you for your time!

GIFT CARD DRAWING Would you like to be entered into the drawing to win the visa gift card?

- Yes (1)
- No (2)

*Display This Question:*

*If Would you like to be entered into the drawing to win the visa gift card? = Yes*

CONTACT INFO Please provide a George Mason University email address to contact you should you win the drawing for a visa gift card.

Thank you!

*Please note: Only the survey administrator will have access to this information*

End of Block: End of survey

***Figure 1.*** *A proposed framework for sustainability literacy with respect to behavior*

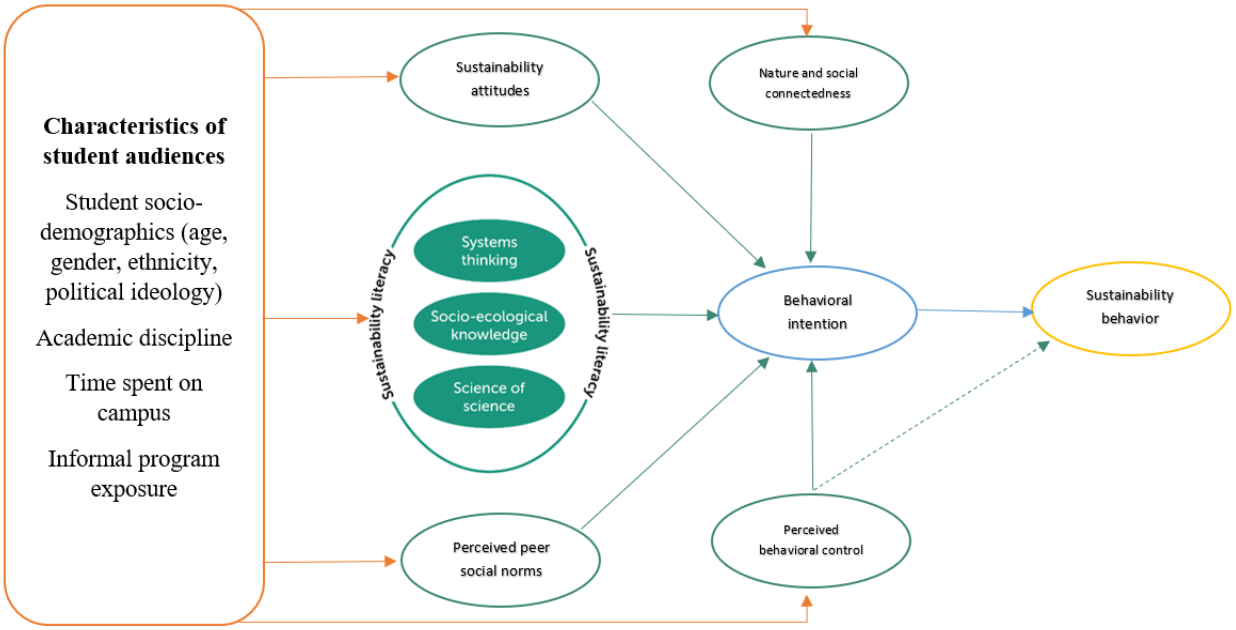


**Table 1.** Components of the sustainability behavior tool

| | Construct | Measures and theories to guide the construction of assessment tool |
|---|---|---|
| **Sustainability literacy** | Social-ecological systems knowledge | Assessment of Sustainability Knowledge (Zwickle et al., 2014) |
| | Systems thinking | Assess Individual Capacity for System Thinking (Jaradat, 2014) |
| | Science of Science | National Science Board's Science & Engineering Indicators (National Science Board, 2018; Pew Research Center American Trends Panel, 2022) |
| **Psycho-social factors** | Perceived peer social norms | Focus Theory of Normative Conduct (Cialdini et al., 1991)<br>Social norms (Heeren et al., 2016)<br>Sustainability Change Agents (Redman et al., 2021) |
| | Sustainability attitudes | Sustainability attitudes scale (SAS) (Zwickle et al., 2014)<br>Sustainability Change Agents (Redman et al., 2021) |
| | Nature and Social connectedness | Connectedness to nature scale (CNS) (Mayer & Frantz, 2004a)<br>Social connectedness scale (Lee & Robbins, 1995) |
| | Perceived behavioral control (PBC) | PBC (Heeren et al., 2016)<br>Sustainability Change Agents (Redman et al., 2021) |
| **Dependent (endo) variable** | Behavior (self-reported) | Pro-environmental behavior (Heeren et al., 2016)<br>Sustainability Change Agents (Redman et al., 2021) |

| | | |
|---|---|---|
| **Characteristics of student audiences** | Socio-demographics | Age, gender, ethnicity, and political ideology (Díaz et al., 2020; Leiserowitz, 2006; Li et al., 2019) |
| | Student major/curricula | Classification of instructional programs (NCES, 2020) |
| | Time spent on campus | College as a sustainability communication channel (Lertpratchya et al., 2017) |
| | Informal and formal program exposure | Campus and community involvement (Zizka et al., 2021) |

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