

# PSYCHOLOGY OF ENVIRONMENTAL STEWARDSHIP

EAS 561 / ENV 361 / PSYCH 362 – Winter 2022 – Mon and Wed 1:00 – 2:20 pm

## INSTRUCTORS

Raymond De Young	rdeyoung@umich.edu	2034a Dana (Instructor)	Office hours posted on Canvas
Julie Hassen	jhassen@umich.edu	2034 Dana (Grad GSI)	Office hours posted on Canvas
Taylor Antal	tayantal@umich.edu	2034 Dana (Undergrad GSI)	Office hours posted on Canvas
Kathryn Barr	katbarr@umich.edu	2034 Dana (Undergrad GSI)	Office hours posted on Canvas

## RESOURCES

All required and extra readings and course materials are available on Canvas.

## ASSIGNMENTS and GRADING

Exam 1	15%	February 23
Exam 2	15%	April 18
Individual Project – StoryCorps interview	10%	January 24
Team Project:		
Part 1 – A2Zero strategy, vision, and behavior	5%	
Part 2 – Behavior change model	10%	
Part 3 – Interventions and draft of presentation	10%	
Part 4 – Presentation	15%	April 11 and 13
Participation (engagement, attendance, synopsis posts, quizzes, etc.)	20%	Throughout term

## SCHEDULE

The course follows the schedule below. However, modifications may be made during the winter 2022 term due to the Covid-19 pandemic. An up-to-date syllabus will always be available on the Canvas website.

		Wednesdays	
Mondays			
		1/5	Premise, types of behavior, and behavior change
1/10	Growth, frugality, and well-being	1/12	Envisioning, stories, prospection, and <i>StoryCorps</i>
1/17	MLK DAY – NO CLASS	1/19	Team-based (collective action) models
1/24	Evaluation metrics	1/26	Information processing-based models (SEE)
1/31	<b>Project day:</b> A2Zero strategy, vision & behavior	2/2	Norm-based models (NAM, VBN)
2/7	Self-regulated behavior change model (SRBC)	2/9	Education-based models (R&R, Hines et al.)
2/14	Rational actor models (TRA, TPB)	2/16	Clarity-based model, Diffusion of innovation & small exper
2/21	<b>Project day:</b> Behavior change model	2/23	<b>EXAM 1</b>
2/28	SPRING BREAK – NO CLASS	3/2	SPRING BREAK – NO CLASS
3/7	Self-interest, Moral judgement & motive surveys	3/9	Community-based social marketing (CBSM)
3/14	Minimum justification and Commitment	3/16	Intrinsic motivation
3/21	Norms and Modeling	3/23	Feedback and Goal setting
3/28	Knowledge and Attitudes	3/30	<b>Project day:</b> Interventions and draft of presentation
4/4	Framing and Fear	4/6	Extrinsic motivation
4/11	<b>Presentations – 1</b>	4/13	<b>Presentations – 2</b>
4/18	<b>EXAM 2</b>		

## PREMISE

Consider the premise below carefully. It provides the **biophysical grounding for all of our work**. It differs significantly from that of other courses. We will return to it frequently as we review existing behavior change models and craft modified versions adequate to the task of responding well to the climate crisis and energy descent. Periodically it will prove useful to remind ourselves about this premise. (References are at the end of syllabus).

This course foresees a drawn-out descent in both surplus energy and the availability of cheap, high-quality resources (Bardi 2011, Herrington 2021, Turner 2014). It also accepts global heating noting that profound changes have occurred and are accelerating (IPCC 2021). The climate crisis is unraveling the ecosystems that support life. In the present, this crisis is disrupting the lives of hundreds of millions of people due to flooding, droughts, storms, wildfires, food insecurity, pandemics, and unrest. In the future, the issue is existential. Industrial civilization never could have *green consumed* its way to sustainability (Monbiot 2015). But having squandered decades by ignoring that fact, it now faces the issue of its ability to thrive (Bradshaw et al. 2021, Bologna & Aquino 2020, Lenton et al. 2019). This is certainly not the future that we were expecting nor the one for which we are preparing.

While recognizing that global negotiations are responding to the accelerating climate crisis, there is nonetheless a disturbing silence about declining surplus energy. The field of biophysical economics makes it clear that the economy is an energy system, not a financial system (Hall & Klitgaard 2011; Morgan 2022). Unfortunately, the relentless decline in the surplus energy required for running techno-industrial society has only recently received attention (Daly & Farley 2010, Hall 2017, Jackson & Jackson 2021, Rye & Jackson 2018, Sherwood et al. 2020). Thus, this course gives attention to that latter issue. However, this is a nuanced story. People must become familiar with the consequences of energy descent and global heating, but they must not dwell on those issues. Instead, the focus must be on making an urgent transition to a low-material-throughput pattern of living at individual, collective, and institutional levels. Intentionally, and against the dominant social norm, this course frames this new biophysical reality as an opportunity to emphasize behaviors that increase individual and community well-being (De Young 2019). It foresees a shift toward tangible, pragmatic, small-scale initiatives aimed at increasing neighborhood resilience, with communities following Brooks' (2019) advice to emphasize "*...individualism less and relationalism more*" with the result being increased well-being.

While this behavioral transition has begun, often hidden in plain sight, it is and will remain a hard process. The wondrous comforts and conveniences afforded by techno-industrial society are unlikely to be possible under the premise. Thus, the focus of this course is on helping citizens of such societies change their behavior to a more frugal existence. But it is reasonable to ask, if given the choice, why not wait until the last possible moment to change our behavior? One reason is to gain now, rather than later, the intrinsic satisfactions embedded in a frugal existence. In short, why miss out on the intrinsic rewards awaiting us. Thus, rather than containing a dismal forecast, this course points out that despite the lean times ahead (and, in fact, likely because of them) overall psychological well-being may improve. This idea is not commonly appreciated – that an austere rather than an affluent existence is better matched to the functional capabilities of the human mind thus enhancing psychological well-being. The fields of conservation and environmental psychology explore this idea and Brooks (2016) has offered a compelling, if astonishing, historical example. The course discusses these embedded benefits, foreshadowed below.

**Outward benefits** - Some may view a voluntarily simple life pattern and frugal existence as a form of sacrifice. It may be just that, especially if we understand that the root of that word is "*to make sacred*." The vision here is of a place well cared for, a community intact and resilient, and individuals whole and well. These benefits are captured by the notion of meaningful action aimed at healing the planet and sustaining community resilience.

**Inward benefits** – Berry (1987) argues industrialization destroys the aesthetic quality of everyday life. As a remedy, he observes that non-industrial work quickens that quality, and cites Gill (1983) on the higher calling of manual work where "*...every [one] is called to give love to the work of [their] hands. Every [one] is called to be an artist*." Berry offers small-scale communities with provisioning economies as examples of artistic enterprise focused on beauty, resilience, resourcefulness, and well-being. Perhaps, as we first restore and then maintain the planet, everyone will become an artist, an idea consistent with Seligman's (1999) notion that authentic happiness comes from "*living life as a work of art*." Intrinsic satisfactions are the principal motives of this life pattern.

## EVALUATION AND ASSIGNMENTS

Evaluation will involve a combination of numeric and qualitative assessments. The assignments all assume that the premise and intention of the course are fully accepted, even if only for the duration of the term. An **exploratory yet affirmative approach** should be used in all engagement, discussions, and writings. Our goal is to build upon, not critique, the many models and theories of behavior change and, through our discussions and the assignments, apply their insights to changing behavior at the individual, family, and neighborhood scale.

- 1. EXAMS:** Two exams test comprehension of material covered in lectures, discussions, and assigned readings and may include short answer, fill-in-the-blank, matching, labeling, essay, and/or multiple choice questions. Make-up exams are only given upon receipt of written or other formal evidence of emergencies (e.g., absence outside control, serious illness) and notification within 48 hours of missed exam.
- 2. INDIVIDUAL STORY-BASED PROJECT:** Involves recording an interview using the *StoryCorps* app and then uploading it to a *StoryCorps* course archive ([archive.storycorps.org/communities/resilient-ann-arbor](https://archive.storycorps.org/communities/resilient-ann-arbor)). The premise involves imagining it is 2030 and the individual's neighborhood has successfully responded to the climate crisis. The content is a conversation about one behavior-focused change that the person interviewed credits with helping their neighborhood adapt to the climate crisis. More details on this assignment will be handed out and discussed.
- 3. TEAM-BASED PROJECT:** The term projects will explore behavior change interventions focused on one of the strategies in the *A2Zero Climate Action Plan*. The premise involves imagining it is 2030, and the strategy is fully implemented and successful. Furthermore, the behavior changes adopted helped the city as a whole, and your team's neighborhood/group in particular, adapt well to the massive changes that the climate crisis has caused in the everyday lived experiences of residents. The project tells an optimistic story about how it happened, making reference to a specific behavior change model covered in the course. While the focus will be on the City of Ann Arbor's plan, the team project can focus on neighborhoods/groups in Ypsilanti, or the other towns and townships in Washtenaw County. More details on the project will be handed out and discussed.
- 4. SYNOPSIS POSTS** – After attending each week's lectures, students are required to submit a weekly synopsis post. Submissions are automatically graded upon posting, but the GSI will continue to review the posts for their depth (e.g., referencing specific topics discussed throughout lectures and readings) and their quality (e.g., posts are concise, coherent, and thoughtful; not superficially based on the lectures or the assigned readings).
- 5. PARTICIPATION:** Active, thoughtful and continuous engagement is essential, including taking part in class activities, asking questions, occasional quizzes, and contributing constructively to all discussions.

## READINGS

The readings below are the foundation of the course. They should be **completed well in advance** of the session during which they are discussed so as to give ample time for consideration of their content. Thoughtful, multi-day reflection on the content of the readings is essential. Doing this reflection in a *study group* is highly recommended.

**General advice:** The purpose of the readings is not to memorize facts. Rather, they are offered as a means of understanding the models and strategies for encouraging pro-environmental behavior.

- **Explore:** Treat the readings as an exploration, an active process of making sense, of developing insight into the various factors that influence human behavior particularly with respect to durability and spillover of change. There are several resources available on Canvas about **Active Reading** that may aid this process.
- **Build:** Often the authors are not writing for a course like this one. They likely would have framed their piece differently had you been their intended audience. Do not waste time criticizing their work and pointing out faults; that is not the purpose of this course. Instead, **build up** their ideas; reinterpret their work to serve our purpose.
- **Note:** As you read, notice your own reactions, especially things that surprise you. Pay special attention to passages that provide you with **optimism** (while perhaps contradicting your previous understanding, another reading, or conventional wisdom). Be sure to share these thoughts during your weekly discussions.
- **Share:** Forming a **study group** is one of the most successful ways for being able to understand each topic and use this material in your future career.

## THE CONSERVATION PSYCHOLOGY LITERATURE

The conservation psychology literature is rapidly expanding. The syllabus provides a framework for reviewing behavior change theories, models, and interventions. Three categories of readings are listed below.

- 1. REQUIRED READINGS** – organized below by topic and available on Canvas in the *Modules* section.
- 2. EXTRA READINGS** – listed below as [Extra] and available on Canvas. These optional readings provide a deeper understanding of the topics covered. While not required, these readings are highly recommended.
- 3. NEWLY RELEASED READINGS** – Newly published and/or posted materials are available from numerous sources. These optional readings have not yet been reviewed by the course instructors but are tentatively recommended. Two excellent sources are:
  - a. Virtual Community on Sustainability and Consumption** (2021) *Newsletter* (December). On Canvas. Follow on Twitter ([https://twitter.com/VC\\_sustainable](https://twitter.com/VC_sustainable)) and/or subscribe at [vcscsustainability@gmail.com](mailto:vcscsustainability@gmail.com)
  - b. Resilience.org** (2022) Post Carbon Institute, Corvallis, Oregon, USA. Follow at <https://www.resilience.org> and/or subscribe at <https://mailchi.mp/resilience/notify>

## ALL REQUIRED AND EXTRA READINGS

### PREMISE, CONTEXT, and TYPES OF BEHAVIOR

#### PREMISE, TYPES OF BEHAVIOR, AND BEHAVIOR CHANGE

1-5-22

Psychology of Environmental Stewardship (2022) *Syllabus*, pp. 1-20. (this document).

#### Premise

- Floyd, J., S. Alexander, M. Lenzen, P. Moriarty, G. Palmer, S. Chandra-Shekeran, B. Foran & L. Keyßer (2020) Energy descent as a post-carbon transition scenario: How ‘knowledge humility’ reshapes energy futures for post-normal times. *Futures*, 122: 102565. From: <https://doi.org/10.1016/j.futures.2020.102565>
- Herrington, G. (2021) Update to limits to growth: Comparing the world3 model with empirical data. *Journal of Industrial Ecology*, 25(3): 614-626. From: <https://doi.org/10.1111/jiec.13084>.
- Parrique T., J. Barth, F. Briens, C. Kerschner, A. Kraus-Polk, A. Kuokkanen & J.H. Spangenberg (2019). *Executive Summary – Decoupling Debunked: Evidence and Arguments Against Green Growth as a Sole Strategy for Sustainability*. European Environmental Bureau. From: <https://eeb.org/wp-content/uploads/2019/07/Decoupling-Debunked-Executive-Summary.pdf>
- [Extra]. (2019). Parrique T., J. Barth, F. Briens, C. Kerschner, A. Kraus-Polk, A. Kuokkanen & J.H. Spangenberg *Decoupling debunked: Evidence and arguments against green growth as a sole strategy for sustainability*. (Full report) European Environmental Bureau. From: <https://eeb.org/decoupling-debunked1>
- [Extra] Lenton, et al. (2019) Climate tipping points – Too risky to bet against, *Nature*, 575, 592-595
- [Extra] Monbiot, G. (2015) Consume more, conserve more: Sorry, but we just can’t do both, *The Guardian*, November 24. Available at <https://www.theguardian.com/commentisfree/2015/nov/24/consume-conserve-economic-growth-sustainability>
- [Extra] Morgan, T. (2022) *Surplus Energy Economics*. At: <https://surplusenergyeconomics.wordpress.com>
- [Extra] Morgan, T. (2022) *The Challenge*. From: <https://surplusenergyeconomics.wordpress.com/professional-area>
- [Extra] Morgan, T. (2021) Perpetual growth is an impossible fantasy - even if we wanted it. *Radix*, 18 November. From: <https://radixuk.org/opinion/perpetual-growth-is-an-impossible-fantasy-even-if-we-wanted-it>

## **Types of behavior**

- Dietz, T., G. Gardner, J. Gilligan, P. Stern & M.P. Vandenberg (2009) Household actions can provide a behavioral wedge to rapidly reduce US carbon emissions. *PNAS*, 10644, 18452-18456. From: <https://doi.org/10.1073/pnas.0908738106>
- [Extra] Teoh, T. A. (2020) Individual action is climate action. *Eco-Business*. From: <https://www.eco-business.com/opinion/individual-action-is-climate-action>
- [Extra] Alexander, S. & B. Gleeson (2020) Suburban practices of energy descent. *American Journal of Economics and Sociology*, 79(3): 907-940. From: <https://doi.org/10.1111/ajes.12337>
- [Extra] Sanguinetti, A., et al. (2020) Beyond curtailment and efficiency: Identifying household energy and water saving measure classes. *Report from Summer Study on Energy Efficiency in Buildings at Lawrence Berkeley National Laboratory*. From: <https://escholarship.org/uc/item/1tk7n6fv>
- [Extra] Gardner, G. & P.C. Stern (2008) The short list: The most effective actions US households can take to curb climate change. *Environment: Science & Policy for Sustainable Dev.*, 505, 12-25.

## **Behavior change**

- Weir, K. (2019) Confronting the climate crisis: As the leading experts in human behavior, psychologists are working to address the defining issue of our era, *Monitor on Psychology*, 50(10), 28. From: <https://www.apa.org/monitor/2019/11/climate-crisis>
- [Extra] Nielsen, K. S., et al. (2020) How behavioral interventions can reduce the climate impact of energy use, *Joule*, 4: 1-4. From: <https://doi.org/10.1016/j.joule.2020.07.008>
- [Extra] Bujold, P. M., K. Williamson & E. Thulin (2020) *The science of changing behavior for environmental outcomes: A literature review*. Rare Center for Behavior and the Environment, and the Scientific and Technical Advisory Panel to the Global Environment Facility. From: [https://behavior.rare.org/wp-content/uploads/2020/12/Rare-GEF\\_Science-of-changing-behavior-introduction.pdf](https://behavior.rare.org/wp-content/uploads/2020/12/Rare-GEF_Science-of-changing-behavior-introduction.pdf)
- [Extra] Clayton, S., P. Devine-Wright, P. Stern, L. Whitmarsh, A. Carrico, L. Steg, J. Swim & M. Bonne (2015) Psychological research and global climate change, *Nature Climate Change*, 5: 640-646.
- [Extra] Clayton, et al. (2016) Expanding the role for psychology in addressing environmental challenges, *Am Psych*, 71(3): 199-215.

## **GROWTH, FRUGALITY, AND PSYCHOLOGICAL WELL-BEING**

**1-10-22**

### **Growth**

- Hickel, J & G. Kallis (2020) Is green growth possible? *New Political Economy*, 25(4): 469-486. From: <https://doi.org/10.1080/13563467.2019.1598964>
- [Extra] Wiedmann, T., Lenzen, M., Keyßer, L.T. et al. (2020) Scientists' warning on affluence. *Nature Communications*, 11, 3107. From: <https://doi.org/10.1038/s41467-020-16941-y>

### **Frugality**

- Trainer, T. & S. Alexander (2019) The Simpler Way: Envisioning a sustainable society in an age of limits. *Real-World Economics Review*, 87: 247-260. From: <http://www.paecon.net/PAEReview/issue87/TrainerAlexander87.pdf>
- [Extra] Jain, S. and S. Bhaduri (2021) The many facets of frugality: Insights from a quasi-comprehensive literature survey. *Journal of Scientometric Research*. 10(2): 265-278. From: [https://www.jscires.org/sites/default/files/JScientometRes-10-2-265\\_3.pdf](https://www.jscires.org/sites/default/files/JScientometRes-10-2-265_3.pdf)
- [Extra] Balderjahn, I., B. Seegebarth & M. S.W. Lee (2020) Less is more! The rationale behind the decision-making style of voluntary simplifiers. *Journal of Cleaner Production*, 124802, 1-12. From: <https://doi.org/10.1016/j.jclepro.2020.124802>
- [Extra] Samuel Alexander has written extensively on frugality, simple living, energy descent, and voluntary simplicity. His work is introduced at: <http://samuelalexander.info/> and his many publications are found at: <http://samuelalexander.info/publications/>

## **Psychological Well-being**

- Corral-Verdugo, V. (2012) The positive psychology of sustainability. *Environment, Development and Sustainability*, 14(5): 651–666. From: <https://link.springer.com/article/10.1007%2Fs10668-012-9346-8>
- [Extra] Corral-Verdugo, V., et al. (2021) Testing a tridimensional model of sustainable behavior: Self-care, caring for others, and caring for the planet. *Environment, Development and Sustainability*. From: <https://doi.org/10.1007/s10668-020-01189-9>.
- [Extra] Krekel C. & A. Prati (2022) Linking Subjective Wellbeing and Pro-environmental Behaviour: A Multidimensional Approach. In: Cloutier S., El-Sayed S., Ross A., Weaver M. (eds) *Linking Sustainability and Happiness. Community Quality-of-Life and Well-Being*. Springer, Cham. From: [https://doi.org/10.1007/978-3-030-89559-4\\_11](https://doi.org/10.1007/978-3-030-89559-4_11)
- [Extra] Rutherford, N. (2021) Why our pursuit of happiness may be flawed , *BBC Future* (January 5). From: <https://www.bbc.com/future/article/20210105-why-our-pursuit-of-happiness-may-be-flawed>
- [Extra] Ramsay, T. & L. Manderson (2011) Resilience, spirituality and posttraumatic growth: Reshaping the effects of climate change. In I. Weissbecker (ed.), *Climate Change and Human Well-Being: Global Challenges and Opportunities*, Springer Switzerland. From: [https://link.springer.com/content/pdf/10.1007%2F978-1-4419-9742-5\\_9.pdf](https://link.springer.com/content/pdf/10.1007%2F978-1-4419-9742-5_9.pdf)
- [Extra] Edwards, T. & J Wiseman (2011) Climate change, resilience and transformation: Challenges and opportunities for local communities. In I. Weissbecker (ed.), *Climate Change and Human Well-Being: Global Challenges and Opportunities*, Springer Switzerland. From: [https://link.springer.com/content/pdf/10.1007%2F978-1-4419-9742-5\\_10.pdf](https://link.springer.com/content/pdf/10.1007%2F978-1-4419-9742-5_10.pdf)
- [Extra] Venhoeven, L. A., J. Willem Bolderdijk & L. Steg (2013) Explaining the paradox: How pro-environmental behaviour can both thwart and foster well-being. *Sustainability*, 5: 1372-1386.
- [Extra] Steg, L., G. Perlaviciute, E. van der Werff & J. Lurvink (2014) The significance of hedonic values for environmentally relevant attitudes, preferences, and actions. *Environment and Behavior*, 46(2): 163-192
- [Extra] Suárez-Varela, M., J. Guardiola & F. González-Gómez (2014) Do pro-environmental behaviors and awareness contribute to improve subjective well-being? *Applied Research Quality Life*, 10.1007/s11482-014-9372-9: 1-16.
- [Extra] Kasser, T. (2017) Living both well and sustainably: A review of the literature, with some reflections on future research, interventions and policy. *Philosophical Transactions of Royal Society A*, 375(2095), 20160369.
- [Extra] Kasser, T. (2009) Psychological need satisfaction, personal well-being, and ecological sustainability. *Ecopsychology*, 1(4), 175-180.
- [Extra] Cantor, N. & C. A. Sanderson (1999) Life task participation and well-being: The importance of taking part in daily life. In D. Kahneman, E. Diener and N. Schwarz [Eds.] *Well-Being: The Foundations of Hedonic Psychology*. (pp. 230-243) NY: Russell Sage Foundation.

## **ENVISIONING, STORIES, PROSPECTION AND STORYCORPS**

**1-12-22**

### **Envisioning**

Meadows, Donella H. (1994). Envisioning a sustainable world. Presented at the *Third Biennial Meeting of the International Society for Ecological Economics*, October 24-28, 1994, San Jose, Costa Rica.

### **Stories**

- Monroe, M. & R. De Young (1994) The role of interest in environmental information: A new agenda. *Children's Environments*, 11(3), 243-250. From: [https://www.researchgate.net/publication/242408506\\_The\\_Role\\_of\\_Interest\\_in\\_Environmental\\_Information\\_A\\_New\\_Agenda](https://www.researchgate.net/publication/242408506_The_Role_of_Interest_in_Environmental_Information_A_New_Agenda)
- [Extra] Kaplan, S. (1989) Past environments and past stories in human effectiveness and well-being. In G. Hardie, R. Moore and H. Sanoff (Eds.) (Pp. 223-228) *EDRA 20: Changing Paradigms*. Oklahoma City: Environmental Design Research Association.

- [Extra] Yale Program on Climate Change Communication (2019) *Storytelling is key to understanding climate change*, From: <https://yaleclimateconnections.org/2019/04/help-wanted-more-climate-storytellers>
- [Extra] De Young, R. & M. C. Monroe, (1996). Some fundamentals of engaging stories. *Environmental Education Research*, 2, 171-187.
- [Extra] Dahlstrom, M. F. (2014) Using narratives and storytelling to communicate science with nonexpert audiences. *PNAS*, 111: 13614-13620. From: <https://doi.org/10.1073/pnas.1320645111>.
- [Extra] Monroe, M. & S. Kaplan (1988) When words speak louder than actions: Environmental problem solving in the classroom. *Journal of Environmental Education*, 19(3): 38-41.
- [Extra] Kearney, A. R. (1994) Understanding global change: A cognitive perspective on communicating through stories. *Climate Change*, 27: 419-441.
- [Extra] Holthaus, E. (2020) In 2030, we ended the climate emergency - here's how. *The Correspondent* (8 Jan).
- [Extra] De Young, R., M. Gilbert, L. Manning & A. Weissman (1993) *Knowledge-based interventions for promoting conservation behavior: Stories as replacements for direct experience*. From: [https://www.researchgate.net/publication/271516416\\_Knowledge-based\\_interventions\\_for\\_promoting\\_conservation\\_behavior\\_Stories\\_as\\_replacements\\_for\\_direct\\_experience](https://www.researchgate.net/publication/271516416_Knowledge-based_interventions_for_promoting_conservation_behavior_Stories_as_replacements_for_direct_experience)

### **Prospection**

- Seligman, M. E., P. Railton, R. F. Baumeister & C. Sripada (2013). Navigating into the future or driven by the past. *Perspectives on Psychological Science*, 8(2): 119-141.
- Suárez, E., B. Hernández, D. Gil-Giménez & V. Corral-Verdugo (2020) Determinants of frugal behavior: The influences of consciousness for sustainable consumption, materialism, and the consideration of future consequences. *Frontiers in Psychology*, 11, 3279. [www.frontiersin.org/article/10.3389/fpsyg.2020.567752](http://www.frontiersin.org/article/10.3389/fpsyg.2020.567752)
- [Extra] Szpunar, K. K., R. N. Spreng & D. L. Schacter (2014) A taxonomy of prospection: Introducing an organizational framework for future oriented cognition. *PNAS*, November 21. From: [www.pnas.org/cgi/doi/10.1073/pnas.1417144111](http://www.pnas.org/cgi/doi/10.1073/pnas.1417144111).
- [Extra] Carmi, N. & S. Arnon (2014) The role of future orientation in environmental behavior. *Society and Natural Resources*, 27(12): 1304-1320.
- [Extra] Oettingen, G., & Reininger, K. M. (2016). The power of prospection: mental contrasting and behavior change. *Social and Personality Psychology Compass*, 10(11), 591-604.

### **StoryCorps**

- Brooks, D. (2020) Nine nonobvious ways to have deeper conversations, *New York Times* (November 11). From: [www.nytimes.com/2020/11/19/opinion/nine-nonobvious-ways-to-have-deeper-conversations.html](http://www.nytimes.com/2020/11/19/opinion/nine-nonobvious-ways-to-have-deeper-conversations.html)

### **Review the following:**

- (1) **Resilient Ann Arbor interviews** (2021), listen to a few stories previous classes:  
<https://archive.storycorps.org/communities/resilient-ann-arbor>
- (2) StoryCorps (2021) **Getting started**:  
<https://storycorpsorg-staging.s3.amazonaws.com/uploads/Getting-Started.pdf>

[Extra] StoryCorps (2021) **Homepage**: <https://storycorps.org>

[Extra] StoryCorps (2021) **Interview tips**: <https://storycorpsorg-staging.s3.amazonaws.com/uploads/Interview-Tips.pdf>

[Extra] StoryCorps (2021) **Sound quality**: <https://storycorpsorg-staging.s3.amazonaws.com/uploads/Improve-Sound-Quality.pdf>

[Extra] StoryCorps (2017) **Best practices for conducting an interview**: <https://youtu.be/PHs5UvwhKDO>

### **Install, activate, and test the following:**

- (1) For **remote interviewing** use the **StoryCorps Connect** service: <https://storycorps.org/introducing-storycorps-connect-a-new-way-to-come-together-through-remote-conversations>

[Extra] **StoryCorps Connect Teacher Toolkit (2020)**: <http://storycorps.org/SCC/Toolkit>

- (2) For **in-person interviewing** use the **StoryCorps App**: <https://storycorps.org/participate/storycorps-app>

## BEHAVIOR CHANGE MODELS and THEORIES

### TEAM-BASED (COLLECTIVE ACTION) MODELS

1-19-22

Staats, H., P. Harland & H. Wilke (2004). Effecting durable change: A team approach to improve environmental behavior in the household. *Environment and Behavior*, 36: 341-367.

Fisher, J., & Irvine, K. (2016). Reducing energy use and carbon emissions: a critical assessment of small-group interventions. *Energies*, 9(3), 172.

[Extra] Fritsche, I. & T. Masson (2021) Collective climate action: When do people turn into collective environmental agents? *Current Opinion in Psychology*, 42: 114–119. From: <https://doi.org/10.1016/j.copsy.2021.05.00>

[Extra] Parnell, R. & O. P. Larsen (2005). Informing the development of domestic energy efficiency initiatives: An everyday householder-centered framework. *Environment & Behavior*. 37: 787-807.

[Extra] Boyer, Robert H. W. (2016) Achieving one-planet living through transitions in social practice: A case study of Dancing Rabbit Ecovillage. *Sustainability: Science, Practice, & Policy*, 12(1): 1-13.

### EVALUATION METRICS

1-24-22

De Young, R. (1993). Changing behavior and making it stick: The conceptualization and management of conservation behavior. *Environment and Behavior*, 25: 485-505.

Carrico, A. R. (2021) Climate change, behavior, and the possibility of spillover effects: Recent advances and future directions, *Current Opinion in Behavioral Sciences*, 42: 76-82. From: <https://doi.org/10.1016/j.cobeha.2021.03.025>

Kaplan, R. & S. Kaplan (1996). The restorative environment (pp. 177-182). In *The Experience of Nature: A Psychological Perspective*. NY: Cambridge University Press.

[Extra] Nilsson, A., Bergquist, M., & Schultz, W. P. (2017). Spillover effects in environmental behaviors, across time and context: A review and research agenda. *Environmental Education Research*, 23(4): 573-589.

[Extra] Lanzini, P. & J. Thøgersen (2014) Behavioural spillover in the environmental domain: An intervention study. *Journal of Environmental Psychology*, 40: 381-390. From: <http://dx.doi.org/10.1016/j.jenvp.2014.09.006>

[Extra] Truelove, H. B., A. R. Carrico, E.U. Weber, K.T. Raimi & M.P. Vandenberg (2014) Positive and negative spillover of pro-environmental behavior: An integrative review and theoretical framework. *Global Environmental Change*, 29, 127-138.

[Extra] Carter, D. M. (2011). Recognizing the role of positive emotions in fostering environmentally responsible behaviors. *Ecopsychology*, 3(1): 65-69.

[Extra] McGregor, I. & B. Little (1998). Personal projects, happiness, and meaning: On doing well and being yourself. *Journal of Personality and Social Psychology*. 74(2): 494-512.

[Extra] Thøgersen, J. & T. Crompton (2009) Simple and Painless?: The Limitations of Spillover in Environmental Campaigning. *Journal of Consumer Policy*. 32: 141–163.

[Extra] Moore H.E. and Boldero, J. (2017). Designing interventions that last: A classification of environmental behaviors in relation to the activities, costs, and effort involved for adoption and maintenance. *Frontiers in Psychology*, 8(1874). doi: 10.3389/fpsyg.2017.01874

[Extra] De Young, R. (2011) Slow wins: Patience, perseverance and behavior change. *Carbon Management*, 2: 607-611.

[Extra] Kaplan, S. & R. De Young (2002) Toward a better understanding of prosocial behavior: The role of evolution and directed attention. *Behavioral and Brain Sciences*, 25(2): 263-264. From: <http://hdl.handle.net/2027.42/83666>

### INFORMATION PROCESSING-BASED MODELS (SEE)

1-26-22

Basu, A, & Kaplan, R. (2015). The Reasonable Person Model: Introducing the framework and the chapters. In R. Kaplan & A. Basu (Eds.) *Fostering reasonableness: Supportive environments for bringing out our best* (excerpt pp.1-16). Ann Arbor, MI: Michigan Publishing.



Kaplan, S. & Kaplan, R. (2009) Creating a larger role for environmental psychology: The Reasonable Person Model as an integrative framework. *Journal of Environmental Psychology*, 29: 329–339.

Kaplan, R., et al. (2021) *Supportive Environments for Effectiveness (SEE)*. From: <https://redirect.org/>

[Extra] Basu, A., R. Kaplan & S. Kaplan (2014) Creating supportive environments to foster reasonableness and achieve sustainable well-being. Chapter 7 (pp. 182-218). In Timo J. Hämmäläinen & Juliet Michaelson (Eds.) *Well-Being and Beyond*. Edward Elgar Publishing. From: [https://ideas.repec.org/h/elg/eechap/15686\\_7.html](https://ideas.repec.org/h/elg/eechap/15686_7.html)

[Extra] Kaplan, S. & Kaplan, R. (2008) Bringing Out the Best in People: A Psychological Perspective. *Conservation Biology*. 22(4): 826–829.

[Extra] Kaplan, S. & Kaplan, R. (2003) Health, supportive environments, and the Reasonable Person Model. *American Journal of Public Health*, 93: 1484-1489.

[Extra] Verplanken, B. (2002). Environmental concern: The key to communication effects and behavioural change (pp. 213-222). In Bartels, G. (Editor) *Marketing for Sustainability: Towards transactional policy-making*. Amsterdam: IOS Press.

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## **PROJECT DAY: A2ZERO STRATEGY, VISION, AND BEHAVIOR**

**1-31-22**

### **Neighborhoods**

McCullough, K. K. (2020) Creating livable workshop neighborhoods. *Public Square: A CNU Journal*. From: <https://www.cnu.org/publicsquare/2020/08/26/creating-livable-workshop-neighborhoods>

[Extra] Stanton, R. (2021) Ann Arbor wants to have '20-minuteneighborhoods.' So what are they, *Ann Arbor News*, January 17.

### **A2Zero Climate Action Plan**

City of Ann Arbor (2020) *A2Zero Climate Action Plan*. Ann Arbor, Michigan, USA (Version 4.0). From: [https://www.a2gov.org/departments/sustainability/Documents/A2Zero%20Climate%20Action%20Plan%20\\_4.0.pdf](https://www.a2gov.org/departments/sustainability/Documents/A2Zero%20Climate%20Action%20Plan%20_4.0.pdf)

- **Read** the following sections:
  - Executive summary – Pages 6-9
  - Introduction – Pages 12-18
  - Strategy 4 – Reduce the miles we travel – Pages 69-81
  - Strategy 5 – Change the Way We Use, Reuse, and Dispose of Materials – Pages 85-98
  - Strategy 6 – Enhance the resilience of our people and our place – Page 99-111
- **Scan** rest of the plan looking for behaviors relevant for individuals, families, and neighborhoods.

### **Office of Sustainability and Innovation (OSI)**

- **Scan the OSI webpages and documents.**
- **Read the following webpages:**
  - OSI home page (2022) <https://www.a2gov.org/departments/sustainability/Pages/default.aspx>
  - Adaptation and resilience (2022) <https://www.a2gov.org/departments/sustainability/Adaptation-Resilience/Pages/default.aspx>
  - Sustainability and Me (2022) <https://www.a2gov.org/departments/sustainability/Sustainability-Me/Pages/default.aspx>

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## **NORM-BASED MODELS (NAM, VBN)**

**2-2-22**

Van der Werff, E. & L. Steg (2015). One model to predict them all: Predicting energy behaviours with the norm activation model. *Energy Research & Social Science*, 6: 8-14.

Stern, P. C. (2000). New environmental theories: toward a coherent theory of environmentally significant behavior. *Journal of Social Issues*, 56(3), 407-424.

[Extra] Bamberg, S. & P. Schmidt (2003). Incentives, morality or habit?: Predicting students' car use for university routes with the models of Ajzen, Schwartz & Trandis. *Environment and Behavior*, 35: 264-285.

[Extra] Wall, R., P. Devine-Wright & G. Mill (2007). Comparing and combining theories to explain proenvironmental intentions. *Environment and Behavior*, 39: 731-753.

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### **SELF-REGULATED BEHAVIOR CHANGE MODEL (SRBC)**

**2-7-22**

Bamberg, S. (2013). Applying the stage model of self-regulated behavioral change in a car use reduction intervention. *Journal of Environmental Psychology*, 33: 68-75.

[Extra] Bamberg, S. (2013). Changing environmentally harmful behaviors: A stage model of self-regulated behavioral change. *Journal of Environmental Psychology*, 34, 151-159.

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### **EDUCATION-BASED MODELS (R and R, HINES et al.)**

**2-9-22**

Hines, J. M., H. R. Hungerford & A. N. Tomera (1987). Analysis and synthesis of research on responsible environmental behavior: A meta-analysis. *Journal of Environmental Education*, 18(2): 1-8.

Hungerford H.R. & T. Volk (1990). Changing learner behavior through environmental education. *Journal of Environmental Education*, 21(3): 8-21.

[Extra] Monroe, M. (2003) Two avenues for encouraging conservation behaviors. *Human Ecology Review*, 10(2): 113-125.

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### **RATIONAL ACTOR MODELS (TRA, TPB)**

**2-14-22**

Ajzen, I. & M. Fishbein (1980). A theory of reasoned action. (Chapter 1, pp. 5-9). *Understanding Attitudes and Predicting Social Behavior*. NJ: Prentice-Hall.

Arli, D., A. Badejo, J. Carlini, et al. (2019) Predicting intention to recycle on the basis of the theory of planned behaviour. *International Journal of Nonprofit and Voluntary Sector Marketing*, e1653, 1-14. From: <https://doi.org/10.1002/nvsm.1653>

[Extra] Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior & Human Dec. Processes*, 50: 179-211.

[Extra] Donald, I. J., S. R. Cooper & S. M. Conchie (2014) An extended theory of planned behaviour model of the psychological factors affecting commuters' transport mode use. *Journal of Environmental Psychology*, 40: 39-48.

[Extra] Sniehotta, F. F., Pesseau, J., & Araújo-Soares, V. (2014). Time to retire the theory of planned behaviour. *Health Psychology*, 8(1): 1-7.

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### **CLARITY-BASED MODEL (CBDM), DIFFUSION OF INNOVATION, and SMALL EXPERIMENTS**

**2-16-22**

#### **Clarity-based Mode**

Kaplan, S. (1991) Beyond rationality: Clarity-based decision making. (pp. 171-190). In T. Gärling & G. W. Evans [Eds.] *Environment, Cognition, and Action*. NY: Oxford University Press.

#### **Small Experiments**

Kaplan, R. (1996) The small experiment: Achieving more with less. (pp. 170-174). In J. L. Nasar & B. B. Brown (Eds.) *Public and Private Places*. Edmond, OK: Environmental Design Research Association.

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### **PROJECT DAY: BEHAVIOR CHANGE MODEL**

**2-21-22**

Environmental Psychology Lab (2022) *Behavior change models and constructs chart*.

## **BEHAVIOR CHANGE INTERVENTIONS**

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### **SELF-INTEREST, MORAL JUDGEMENT, and MOTIVATION SURVEY RESULTS**

**3-7-22**

#### **Self Interest**

Kearney, A., S. Kaplan & R. De Young (1997) Some psychological aspects of altruism and self-interest. *Western Psychological Association 77th Annual Convention*, (April 24-27). From:

[https://www.researchgate.net/publication/259496409\\_Some\\_psychological\\_aspects\\_of\\_altruism\\_and\\_self-interest](https://www.researchgate.net/publication/259496409_Some_psychological_aspects_of_altruism_and_self-interest)

### **Moral Judgement**

Van der Werff, E., L. Steg & K. Keizer (2013) It is a moral issue: The relationship between environmental self-identity, obligation-based intrinsic motivation and pro-environmental behavior. *Global Environmental Change*, 23(5): 1258-1265.

### **COMMUNITY-BASED SOCIAL MARKETING (CBSM)**

**3-9-22**

McKenzie-Mohr, D. (2011). Fostering sustainable behavior (pp. 1-10). *Fostering sustainable behavior: An introduction to Community-Based-Social Marketing*. Gabriola Island, BC: New Society Publishers.

[Extra] McKenzie-Mohr, D. (2011). Step 1: Selecting behaviors (pp. 11-20). *Fostering sustainable behavior: An introduction to Community-Based-Social Marketing*. Gabriola Island, BC: New Society Publishers.

[Extra] Dressen, P. & B. Hillebrand (2002). Adoption and diffusion of green innovations (pp. 343-355). In Bartels, G. (Editor) *Marketing for Sustainability: Towards transactional policy-making*. Amsterdam: IOS Press.

### **MINIMUM JUSTIFICATION AND COMMITMENT**

**3-14-22**

Katzev, R. D. (1986) The impact of commitment in promoting consumer energy conservation. (Chapter 21, pp. 280-294). In E. Monnier, G. Gaskell, P. Ester, B. Joerges, B. Lapillonne, C. Midden and L. Puiseux (Eds.). *Consumer Behavior and Energy Policy: An International Perspective*. NY: Praeger.

Lokhorst, A. M., Werner, C., Staats, H., van Dijk, E., & Gale, J. L. (2013) Commitment and behavior change: A meta-analysis and critical review of commitment-making strategies in environmental research. *Environment and Behavior*, 45(1): 3-34.

### **INTRINSIC MOTIVATION**

**3-16-22**

Howell, R.A. (2013) It's not (just) "the environment, stupid!" Values, motivations, and routes to engagement of people adopting lower-carbon lifestyles. *Global Environmental Change*, 23(1): 281-290.

De Young, R. (2000). Expanding and evaluating motives for environmentally responsible behavior. *Journal of Social Issues*, 56(3): 509-526.

[Extra] Silvi, M, & E. Padilla (2021) Pro-environmental behavior: Social norms, intrinsic motivation and external conditions. *Environmental Policy and Governance*, 31(6): 619-632. From: <https://doi.org/10.1002/eet.1960>

[Extra] Nguyen-Van, P., A. Stenger & T. Tiet (2021) Social incentive factors in interventions promoting sustainable behaviors: A meta-analysis. *PLoS ONE*, 16(12): e0260932. From: <https://doi.org/10.1371/journal.pone.0260932>

[Extra] Wullenkord, M. C. (2020) Climate change through the lens of self-determination theory. (*Zeitschrift Umweltpsychologie*) *Umweltpsychologie*, 24(2): 110-129. From: <http://www.umps.de/php/artikeldetails.php?id=743>

[Extra] Cooke, C. & K. Fielding (2009) Fun environmentalism!: Potential contributions of autonomy supportive psychology to sustainable lifestyles. *Management of Environmental Quality*, 21(2): 155-164.

[Extra] Aitken, N. M., Pelletier, L. G., & Baxter, D. E. (2016) Doing the difficult stuff: Influence of self-determined motivation toward the environment on transportation pro-environmental behavior. *Ecopsychology*, 8(2), 153-162.

[Extra] Skinner, E. A., U. Chi & The Learning-Gardens Educational Assessment Group (2012) Intrinsic motivation and engagement as "active ingredients" in garden-based education: Examining models and measures derived from self-determination theory. *Journal of Environmental Education*, 43(1): 16-36. From: <https://doi.org/10.1080/00958964.2011.596856>

[Extra] Sheldon, K. M., C. P. Nichols & T. Kasser (2011) Americans recommend smaller ecological footprints when reminded of intrinsic American values of self-expression, family and generosity. *Ecopsychology*, 3(2): 97-104

[Extra] Sheldon, K. M., Wineland, A., Venhoeven, L. & Osin, E. (2016) Understanding the motivation of environmental activists: A comparison of self-determination theory and functional motives theory. *Ecopsychology*, December: 228–238.

[Extra] Granzin, K. L. & J. E. Olsen (1991) Characterizing participants in activities protecting the environment: A focus on donating, recycling, and conservation behaviors. *Journal of Public Policy and Marketing*, 10: 18-21.

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## **NORMS AND MODELING**

**3-21-22**

### **Norms**

Cialdini, R. B. & R. P. Jacobson (2021) Influences of social norms on climate change-related behaviors. *Current Opinion in Behavioral Sciences*, 42: 1-8. From: <https://doi.org/10.1016/j.cobeha.2021.01.005>

[Extra] Nolan, J. M. (2021) Social norm interventions as a tool for pro-climate change. *Current Opinion in Psychology*, 42(December): 120-125. From: <https://doi.org/10.1016/j.copsy.2021.06.001>

[Extra] Vaske, J. J., A. C. Landon & C. A. Miller (2020) Normative influences on farmers' intentions to practice conservation without compensation. *Environmental Management*, 66: 191-201. From: <https://link.springer.com/article/10.1007/s00267-020-01306-4>

[Extra] Cialdini, R. (2003). Crafting normative messages to protect the environment. *Current Directions in Psychological Science*, 12: 105-109.

[Extra] Sparkman, G., & Walton, G. M. (2017). Dynamic norms promote sustainable behavior, even if it is counternormative. *Psychological Science*, 28(11), 1663-1674.

[Extra] Schultz, P. W., J. M. Nolan, R. B. Cialdini, N. J. Goldstein & V. Griskevicius (2007). The constructive, destructive, and reconstructive power of social norms. *Psychological Science*, 18: 429-434.

[Extra] Nolan, J. M., P. W. Schultz, R. B. Cialdini, N. J. Goldstein, & V. Griskevicius (2008). Normative social influence is underdetected. *Personality and Social Psychology Bulletin*, 34(7): 913-923.

### **Modeling**

Bloodhart, B., J. K. Swim & M. J. Zawadzki (2013) Spreading the eco-message: Using proactive coping to aid eco-rep behavior change programming. *Sustainability*, 5: 1661-1679. From: [www.mdpi.com/2071-1050/5/4/1661](http://www.mdpi.com/2071-1050/5/4/1661).

[Extra] Aronson, E., & O'Leary, M. (1982) The relative effectiveness of models and prompts on energy conservation: A field experiment in a shower room. *Journal of Environmental Systems*, 12(3): 219-224.

[Extra] Burn, S. M. (1991) Social psychology and the stimulation of recycling behaviors: The block leader approach. *Journal of Applied Social Psychology*, 21(8): 611–29.

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## **FEEDBACK AND GOAL SETTING**

**3-23-22**

### **Feedback**

Sanguinetti, A., Dombrovski, K., & Sikand, S. (2018) Information, timing, and display: A design-behavior framework for improving the effectiveness of eco-feedback. *Energy Research & Social Science*, 39, 55-68.

Buchanan, K., Russo, R., & Anderson, B. (2015) The question of energy reduction: The problem(s) with feedback. *Energy Policy*, 77, 89-96.

[Extra] Fischer, C. (2008). Feedback on household electricity consumption: A tool for saving energy? *Energy Efficiency*, 1: 79-104.

[Extra] Darby, S. (2001) Making it obvious: Designing feedback into energy consumption. In Bertoldi, Ricci & de Almeida (Eds.) *Energy Efficiency in Household Appliances and Lighting*. Heidelberg: Springer.

[Extra] Toner, K., M. Gan & M. R. Leary (2014) The impact of individual and group feedback on environmental intentions and self-beliefs. *Environment and Behavior*, 46(1): 24-45.

[Extra] Maan, S., Merkus, B., Ham, J., & Midden, C. (2010) Making it not too obvious: the effect of ambient light feedback on space heating energy consumption. *Energy Efficiency*, 4(2), 175–183.

## **Goal setting**

Rogers, T., Milkman, K. L., John, L. K., & Norton, M. I. (2015) Beyond good intentions: Prompting people to make plans improves follow-through on important tasks. *Behavioral Science & Policy*, 1(2), 33-41.

[Extra] Becker, L. J. (1978) Joint effect of feedback and goal setting on performance: A field study of residential energy conservation. *Journal of Applied Psychology*, 63(4): 428-433.

## **KNOWLEDGE AND ATTITUDES**

**3-28-22**

Kaiser, R. G. & U. Fuhrer (2003) Ecological behavior's dependency on different forms of knowledge. *Applied Psychology: An International Review*, 52(4): Excerpt 598-613. **Read only pp. 598-604.**

Henn, L., S. Otto & F. G. Kaiser (2020) Positive spillover: The result of attitude change. *Journal of Environmental Psychology*, 69: 101429.

Christiano, A. & Neimand, A. (2017) Stop raising awareness already. *Stanford Social Innovation Review*, 15: 34-41.

[Extra] Wyss, A. M., D. Knoch & S. B Erger (2022) When and how pro-environmental attitudes turn into behavior. *Journal of Environmental Psychology*, 79, 101748. From: <https://doi.org/10.1016/j.jenvp.2021.101748>

[Extra] Alexander, J. H., A. S. Singh, A. Zwickle, T. M. Koontz, K. M. Slagle & A. C. McCreery (2016) Is sustainability knowledge half the battle? *International Journal of Sustainability in Higher Education*. 17(5): 613-632. From: <http://dx.doi.org/10.1108/IJSHE-02-2015-0014>

[Extra] Holland, R. W., H. Aarts, & D. Langendam (2006). Breaking and creating habits on the working floor: A field-experiment on the power of implementation intentions. *Journal of Experimental Social Psychology*. 42: 776-783.

[Extra] Osbaldiston, R. & J. P. Schott (2012) Environmental sustainability and behavioral science: Meta-analysis of pro-environmental behavior experiments. *Environment and Behavior*, 44(2): 257-299.

[Extra] Thompson, S. & M. A. Barton (1994) Ecocentric and anthropocentric attitudes toward the environment. *Journal of Environmental Psychology*, 14: 149-157.

[Extra] Markowitz, E. M., L. Goldberg, M. Ashton & K. Lee (2012) Profiling the 'Pro-environmental individual': A personality perspective. *J. Pers*, 80(1): 81-111.

## **PROJECT DAY: INTERVENTIONS AND DRAFT OF PRESENTATION**

**3-30-22**

Presentation template (2022).

## **FRAMING AND FEAR**

**4-4-22**

Nisbet, M. (2009) Communicating climate change: Why frames matter for public engagement. *Environment*, 51: 12-23.

Thaler, A. D. (2016) When I talk about Climate Change, I don't talk about science. Southern Fried Science. Available at <http://www.southernfriedscience.com/when-i-talk-about-climate-change-i-dont-talk-about-science/>

Nordhaus, T. & M. Shellenberger (2014) Global warming scare tactics. *New York Times*, April 8.

[Extra] Schwarz, N., Newman, E., & Leach, W. (2016) Making the truth stick & the myths fade: Lessons from cognitive psychology. *Behavioral Science & Policy*, 2(1), 85-95.

## **EXTRINSIC MOTIVATION**

**4-6-22**

Maki, A., Burns, R. J., Ha, L., & Rothman, A. J. (2016) Paying people to protect the environment: A meta-analysis of financial incentive interventions to promote proenvironmental behaviors. *Journal of Environmental Psychology*, 47, 242-255.

Gneezy, U., Meier, S., & Rey-Biel, P. (2011) When and why incentives (don't) work to modify behavior. *Journal of Economic Perspectives*, 25(4), 191-210.

[Extra] Attari, S. Z. et al. (2010) Public perceptions of energy consumption and savings. *PNAS Early Edition*. (<http://www.pnas.org/cgi/doi/10.1073/pnas.1001509107>)

[Extra] Geller, E. S., R. Winett & P. Everett (1982) Waste Reduction and Resource Recovery. (Chapter 4, Pp. 113-157). *Preserving the Environment: New Strategies for Behavioral Change*. NY: Pergamon Press.

[Extra] Katzev, R. D. & T. R. Johnson (1987) Social Influences (Chapter 4, Pp. 89-107). *Promoting Energy Conservation: An Analysis of Behavioral Research*. Boulder, CO: Westview Press.

[Extra] Price, E. A., J. Vining & C. D. Saunders (2009) Intrinsic and extrinsic rewards in a nonformal environmental education program. *Zoo Biol.* 28(5): 361-376. doi: 10.1002/zoo.20183

## OPTIONAL MATERIAL – RECOMMENDED BUT NOT COVERED IN THE COURSE

A number of topics regularly come up during discussions. Suggested readings for these topics are offered below. These are not required readings but may be of interest and/or prove useful for the term projects.

### GENERAL OVERVIEW

Abrahamse, W. & L. Steg (2013) Social influence approaches to encourage resource conservation: A meta-analysis.

*Global Environ Change*, 23: 1773–1785. From: <https://doi.org/10.1016/j.gloenvcha.2013.07.029>

Abrahamse W., Steg L., Vlek C., Rothengatter T. (2005) A review of intervention studies aimed at energy conservation.

*Journal of Environmental Psychology* 25(3): 273–291. doi.org/10.1016/j.jenvp.2005.08.002

Schmidt, R. (2019) Broadening the nature of behavioral design. *Behavioral Scientist*. (April 23). From:

<https://behavioralscientist.org/broadening-the-nature-of-behavioral-design>

Schon, D. A. (1983) *The reflective practitioner: How professionals think in action*. Routledge. NY: Basic Books. From:

[https://www.academia.edu/36335079/Donald\\_A\\_Sch%C3%B6n\\_The\\_Reflective\\_Practitioner\\_How\\_Professionals\\_Think\\_In\\_Action\\_Basic\\_Books\\_1984\\_pdf](https://www.academia.edu/36335079/Donald_A_Sch%C3%B6n_The_Reflective_Practitioner_How_Professionals_Think_In_Action_Basic_Books_1984_pdf)

Nielsen, K.S., V. Cologna, F. Lange, C. Brick & P. Stern (2021) The case for impact-focused environmental psychology.

*Journal of Environmental Psychology*, 74(April): 101559. Preprint from: <https://doi.org/10.31234/osf.io/w39c5>

Van Lange, P. A., Joireman, J., & Milinski, M. (2018) Climate change: What psychology can offer in terms of insights and solutions. *Current Directions in Psychological Science*, 27(4), 269-274.

Van Lange, P. & J. A. Joireman (2008) How we can promote behavior that serves all of us in the future. *Social Issues and Policy Review*, 2(1): 127-157.

De Young, R. (2019). Supporting behavioral entrepreneurs: Using the biodiversity-health relationship to help citizens self-initiate sustainability behavior. In Marselle, M., J. Stadler, H. Korn, K. Irvine & A. Bonn [Eds.] *Biodiversity and Health in the Face of Climate Change*. (pp. 295-313) Switzerland: Springer. From:

[https://www.researchgate.net/publication/333710978\\_Supporting\\_Behavioural\\_Entrepreneurs\\_Using\\_the\\_Biodiversity-Health\\_Relationship\\_to\\_Help\\_Citizens\\_Self-Initiate\\_Sustainability\\_Behaviour](https://www.researchgate.net/publication/333710978_Supporting_Behavioural_Entrepreneurs_Using_the_Biodiversity-Health_Relationship_to_Help_Citizens_Self-Initiate_Sustainability_Behaviour)

### AFFECT

Brosch, T. and L. Steg (2021) Leveraging emotion for sustainable action. *One Earth*, 4(12): 1693-1703. From:

<https://doi.org/10.1016/j.oneear.2021.11.006>

Schneider, C.R., L. Zaval and E.M. Markowitz (2021) Positive emotions and climate change. *Current Opinion in Behavioral Sciences*, 42: 114–120. From: <https://doi.org/10.1016/j.cobeha.2021.04.009>

Geiger, N., J. K. Swim, K. Gasper, J. Fraser & K. Flinner (2021) How do I feel when I think about taking action? Hope and boredom, not anxiety and helplessness, predict intentions to take climate action. *Journal of Environmental Psychology*, 76: 101649. From: <https://doi.org/10.1016/j.jenvp.2021.101649>.

Zelenski, J. M. & J. E. Desrochers (2021) Can positive and self-transcendent emotions promote pro-environmental behavior? *Current Opinion in Psychology*, 42: 31-35. From: <https://doi.org/10.1016/j.copsyc.2021.02.009>

Lertzman, R. (2017) Tackling apathy and denial, *Climate 2020*, (September 18): 62-64. From:

<https://www.climate2020.org.uk/tackling-apathy-denial>

### AFFORDANCES

Hamilton, E. (2020) Green building, Green behavior?: An analysis of building characteristics that support environmentally responsible behaviors. *Environment and Behavior*, 1-42. doi.org/10.1177/0013916520942601

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## HABITS

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- Kurz, T., Gardner, B., Verplanken, B. & Abraham, C. (2015) Habitual behaviors or patterns of practice? Explaining and changing repetitive climate-relevant actions. *Wiley Interdisciplinary Reviews: Climate Change*, 6(1), 113-128.
- Holland, R. W., H. Aarts & D. Langendam (2006) Breaking and creating habits on the working floor: A field-experiment on the power of implementation intentions. *Journal of Experimental Social Psychology*. 42: 776-783.
- Verplanken, B., I. Walker, A. Davis & M. Jurasek (2008) Context change and travel mode choice: Combining the habit discontinuity and self-activation hypotheses. *Journal of Environmental Psychology*, 28: 121- 127.

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## DOMINANT VERSUS VARIANT INTERVENTIONS

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## **GRADING SCHEME**

A+ = 97-100	B+ = 87- 89.9	C+ = 77-79.9	D+ = 67-69.9
A = 93-96.9	B = 83-86.9	C = 73-76.9	D = 63-66.9
A- = 90-92.9	B- = 80-82.9	C- = 70-72.9	D- = 60-62.9

## **CLASS POLICIES**

**MUTUAL RESPECT:** There are expectations for respectful and appropriate behavior. Please be polite to others in class. Every effort will be made to create and maintain an open atmosphere for discussion, and any effort to disrespect or demean others will NOT be tolerated. Please be aware of your own behavior and how it affects the atmosphere of the classroom. Perhaps the most significant contribution one can make is demonstrating to one another that you are an attentive and alert participant. Students who cannot control themselves will be asked to leave. Among our most important goals is maintaining an atmosphere that encourages intellectual curiosity and discourse. In particular:

1. **Leaving class:** Try to avoid stepping out of the classroom during the class period to go to the bathroom, take a phone call, etc. These activities disturb and distract the instructor and students from our focus on the matters at hand; they demonstrate a lack of consideration for others. Take care of these activities prior to the start of class. If you have a health issue, please speak with the instructors before the start of class.
2. **Electronic equipment policy:** Laptops, tablets, and smartphones are wonderful devices, but they often get in the way of listening to others and sharing our thoughts. Research in psychology, education, and other fields has

consistently indicated that these devices can interfere with our ability to learn and process new information. **Given this, we have decided that class periods are an electronic-free zone.** Except for particular project days (announced in advance, and in the syllabus) no devices (e.g., computers, tablets, smartphones) will be allowed. If you decide to ignore this rule, please be aware that texting or doing work on your laptop will have a significant negative impact on your participation grade. **Please turn off these devices before coming into class** and/or leave them out of sight. Exceptions will be made only through an official medical or learning accommodation. If we have to ask you to set aside your device during class time, you have demonstrated that you are not only inattentive to the class discussion but that you lack consideration for your instructors and classmates.

**LATE ASSIGNMENTS:** Late assignments will be deducted 5% for each day late, and after 5 days will be given a grade of 0 (zero), unless a legitimate reason for lateness is given within 48 hours or prior arrangements were made with the instructor. Students having difficulty completing assignments should contact their GSI **before** assignment due dates to discuss any issues that may be affecting their ability to complete work.

**REGISTRATION and SPECIAL ACCOMMODATIONS:** Standard LSA and SEAS guidelines will be followed without exception for dropping/adding of this course, disabilities, etc. If students need special accommodations for exams or assignments, appropriate documentation must be provided in advance.

**CHEATING and PLAGIARISM:** Cheating, plagiarizing, and/or unacceptable collaboration will result in a grade of 0 (zero) for the entire assignment and sent to the *Assistant Dean of Student Academic Affairs* if serious enough. Academic misconduct will have serious consequences and you should be conscious of it, especially when writing exams or papers. The LSA website ([www.lsa.umich.edu/academicintegrity/examples.html](http://www.lsa.umich.edu/academicintegrity/examples.html)) states that academic misconduct includes, but is not limited to the following:

***Cheating:*** Cheating is committing fraud and/or deception on a record, report, paper, computer assignment, examination, or any other course requirement. Examples of cheating include:

- Obtaining work or information from someone else and submitting it under one's own name.
- Using unauthorized notes, study aids, or information from another student or their paper on an examination.
- Communicating answers with another person during an exam.
- Altering graded work after it has been returned, and then submitting the work for regrading.
- Allowing another person to do one's work and submitting it under one's own name.
- Preprogramming a calculator to contain answers or other unauthorized information for exams.
- Submitting substantially the same paper for two or more classes in the same or different terms without the expressed approval of each instructor.
- Taking an exam for another person or having someone take an exam for you.
- Fabricating data not gathered in accordance with the appropriate methods for collecting or generating data and failing to include a substantially accurate account of the method by which the data were gathered or collected.

***Plagiarism:*** Plagiarism is representing someone else's ideas, words, statements, or other work as one's own without proper acknowledgment or citation. Examples of plagiarism include:

- Copying word for word or lifting phrases or a special term from a source or reference, whether oral, printed, or on the internet, without proper attribution.
- Paraphrasing, that is, using another person's written words or ideas, albeit in one's own words, as if they were one's own thought.
- Borrowing facts, statistics, graphs, or other illustrative material without proper reference, unless the information is common knowledge, in common public use.

**UNACCEPTABLE COLLABORATION:** Collaboration is unacceptable when a student works with another or others on a project and then submits written work which is represented explicitly or implicitly as the student's own individual work. Using answers, solutions, or ideas that are the result of collaboration without citing the fact of collaboration is improper. Students also engage in unacceptable collaboration when they expressly have been instructed to do their own work and have not been given prior approval by the instructor to collaborate.

**NOTE:** The LSA website has further examples including aiding and abetting dishonesty, classroom disturbances, tampering with computers, and falsification of data/records/official documents.

## **COPYRIGHT/PRIVACY INFORMATION**

Course lectures may be audio/video recorded. **These recordings should not be shared outside of your course and will only be available to registered students to protect the privacy of both instructors and students.** As part of your participation in this course, you will be asked to consent to be recorded for the purpose of sharing the recording with your classmates. If you do not wish to be recorded, please contact your GSI the first week of class (or as soon as you enroll in the course, whichever is latest).

Under University rules, students are prohibited from recording/distributing any class activity without written permission from the instructor, except as necessary as part of approved accommodations for students with disabilities. Any approved recordings may only be used for the student's own private use. Here is a link to the ITS *Recording and Privacy Concerns FAQ*: <https://safecomputing.umich.edu/be-aware/privacy/privacy-u-m/videoconferencing/recording-privacy-concerns-faq>

## **ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES**

If you think you need an accommodation for a disability, please let your GSI know as soon as possible. Some aspects of this course, assignments, or activities may be modified to facilitate your participation and progress. As soon as you make your GSI aware of your needs, we can work with the *Services for Students with Disabilities* (SSD) office to help us determine appropriate academic accommodations. SSD (734-763-3000; <http://ssd.umich.edu>) typically recommends accommodations through a *Verified Individualized Services and Accommodations* (VISA) form. Any information you provide is private and confidential.

## **COVID-19 SPECIFIC INFORMATION**

Much like our evolutionary environment required that humans remain situationally aware, flexible, and innovative; the pandemic continues to require us to respond in adaptive ways. We embrace, rather than shrink from, the adaptivity that this situation demands of us and consider it a demonstration of how humans are psychologically equipped to carry out and learn from small experiments during uncertain times. Our brains evolved to respond to just the types of challenges that we all now face.

- The course uses a variety of instructional modes and modification due to changing circumstances will be shared via *Canvas Announcements*.
- COVID-19 requires a flexible and dynamic response. Elements of the syllabus, assignments, and course structure may change based on potential public health developments. We, as instructors, also pledge our own adaptability in addressing and supporting your personal physical and psychological health needs, which may be affected by the pandemic during the semester. **Please reach out to us if you feel you need support for any reason.**
- We want to remind you that you need to adhere to all safety measures mandated by the State of Michigan and the University, including wearing a face covering that covers the mouth and nose in all classrooms, and not coming to class when ill or in quarantine. Other applicable safety measures may be described in the [Wolverine Culture of Care](#), the [University's Face Covering Policy for COVID-19](#), and the [SEAS Questions & Concerns](#) document. We also encourage you to review the [Statement of Students Rights and Responsibilities](#) and check-in with the SEAS Student Center Director to navigate support and resources for you.

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