

# **FOR 6005 – Conservation Behavior (Research)**

**University of Florida**

**School of Forest Resources and Conservation**

Fall 2018

Wednesday periods 7-9; 1:55 – 4:55 p.m.

222 Newins Ziegler Hall

In-person Section: 2177. Online: 3G91, 3G92, 3G93

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Conservation behavior is becoming an increasingly important concept as natural resource managers, development officers, educators, politicians, regulators, and business leaders consider what it takes to nudge people toward sustainable behaviors. Most acknowledge that our behavior plays an important role in creating and resolving environmental challenges. This course will explore what we know about human behavior and apply it to the design of helpful education and communication tools.

A variety of disciplines have something to contribute to the field of conservation behavior. While this class will be firmly rooted in psychology, we will also explore other social sciences, such as anthropology, sociology, and communication.

While it is important to understand environmental issues, that is not the purpose of this course. Education and communication play essential roles in creating a sustainable future. We will explore the theoretical foundation and application of using education and communication strategies in our collective efforts to reach this goal. This course is geared toward those who will be conducting research on behavior change through work with the public in a variety of formal and informal settings to develop strategies that support responsible environmental behavior.

## **Course Overview:**

Link theories of human behavior and change to education and communication strategies designed to move toward sustainability.

## **Course Objectives:**

- Explain the models or theoretical frameworks that can be used to analyze the questions: Why do some people demonstrate environmentally responsible behaviors (ERB)? What are some psychological barriers to pro-environmental behavior? What encourages the formation and adoption of ERB? Students will identify the similarities and differences among these models and become comfortable using them.
- Increase familiarity with social science research designs and goals to discuss what we can learn from theories and models and how they add value to your research.

- Explain a range of education and communication strategies and identify the underlying theoretical assumptions about human behavior.
- Examine current programs that are working toward sustainability by identifying how the programs address change, the behaviors that are targeted, the strategies that are used, and the theoretical frameworks/assumptions that might drive the programs.
- Explore your own ideas and experiences regarding personal behavior change and develop a composite model of what you think works to support behavior change in people like you.

### **Required Readings:**

There is one textbook and a pile of reading materials for this course. It is imperative that you read the materials before class, as much of our class time will be spent discussing the readings. The readings are available on electronic reserve at <https://ares.uflib.ufl.edu/ares/> and there is a link to them in the Canvas course at <https://elearning.ufl.edu>. Access from off campus is through the UF VPN client. For more information on downloading, installing and using the VPN client, please go to <http://www.uflib.ufl.edu/login/vpn.html>. For general information on course reserves, please contact the Course Reserves Unit at 352-273-2520, or email at [eres@uflib.ufl.edu](mailto:eres@uflib.ufl.edu).

To find readings, please use the tags. Required readings are tagged by the week they should be read (i.e., Week 3). Loads of goodies are tagged Optional and Background.

The text should be available at bookstores or Amazon: McKenzie-Mohr, Douglas. 2011. *Fostering Sustainable Behavior, third edition*. Gabriola Island, BC: New Society Publishers. You will be reading this book for discussion October 31.

### **Course Policies**

This course depends on active student engagement. You will read and discuss a number of models and research studies that contribute to our understanding of conservation behavior. The workload is heavy on theory and thinking in the first half of the course to give you a practical, working knowledge of this literature. The time you spend on reading probably correlates to your ability to engage in productive discussion and the amount you will learn about each theory.

Students are expected to attend class, engage in discussion, submit assignments on time, and participate in group work. Absences will be excused only if accompanied by advanced notice or appropriate paperwork and if students join the online discussion for that week. Non excused absences will result in a deduction of .5 points from the participation score. Assignments should be uploaded to Canvas by midnight on the day they are due.

#### Academic Honesty

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest

standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honorcode/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class. Please also refer to the UF guidelines on plagiarism at <http://web.uflib.ufl.edu/msl/07b/instructorplagiarism.html> and plan on avoiding all types of plagiarism: stealing, misquoting, insufficient paraphrasing, and duplication.

### UF Campus Resources

Resources are available on campus for students having concerns or challenges related to their personal life, their academic progress, or their future that might interfere with their academic performance. These resources include:

Health and Wellness U Matter, We Care: If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) or 352 3921575 so that a team member can reach out to the student.

Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc/Default.aspx>, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies. Sexual Assault Recovery Services (SARS) Student Health Care Center, 392-1161.

University Police Department, 392-1111 (or 9-1-1 for emergencies).  
<http://www.police.ufl.edu/>

Academic Resources E-learning technical support, 352-392-4357 (select option 2) or e-mail to [Learningsupport@ufl.edu](mailto:Learningsupport@ufl.edu). <https://lss.at.ufl.edu/help.shtml>.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling.  
<http://www.crc.ufl.edu/>

Library Support, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.  
<http://teachingcenter.ufl.edu/>

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers. <http://writing.ufl.edu/writing-studio/>

Student Complaints Campus:

[https://www.dso.ufl.edu/documents/UF\\_Complaints\\_policy.pdf](https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf)

On-Line Students Complaints: <http://www.distance.ufl.edu/student-complaintprocess>

### Software Use

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.

### Disabilities

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/)) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

### **Evaluation**

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

### **Grades**

Your grade will be determined from the level and frequency of class participation, class worksheets and presentations, attendance, and 8 take-home assignments that total 100 points. The following scale will be used:

#### Grading Scale

A	3.67 – 4.0	93 – 100%	C	1.67 – 1.99	73 – 76%
A-	3.33 – 3.66	90 – 92%	C-	1.33 – 1.66	70 – 72%
B+	3.00 – 3.32	87 – 89%	D+	1.00 – 1.32	67 – 69%
B	2.67 – 2.99	83 – 86%	D	0.67 – 0.99	63 – 66%
B-	2.33 – 2.66	80 – 82%	D-	0.33 – 0.66	60 – 62%
C+	2.00 – 2.32	77 – 79%	E	0	59% or below

## **Course Schedule**

### **Aug 22 1. Introduction, General Framework, Getting Started**

Assignments and Comparison Chart  
Thinking behind the course design  
Discuss ideas for personal habitual behavior changes  
Sign up lists

## **Section 1: Exploring Theories**

### **Aug 29      2. Intuitive and traditional models of human behavior change**

Bucchi, Massimiano. 2008. Of deficits, deviations, and dialogues: Theories of public communication of science, in Bucchi, M. and Trench, B. (eds.) *Handbook of Public Communication of Science and Technology*. London: Routledge, pages 57-76.

Kibert, C., M. Monroe, A. Peterson, R. Plate, L. Thiele. 2012. Portion of chapter 8: Improving our thinking about sustainability, from *Working toward Sustainability: Ethical decision making in a technological world*. NY: John Wiley & Sons, pages 209-222.

Goode, E. 2002. On profit, loss and the mysteries of the mind: A conversation with Daniel Kahneman. *New York Times*, November 5, 2002.

Schultz, P. Wesley. 2002. Knowledge, Information, and Household Recycling: Examining the knowledge-deficit model of behavior change. In Dietz, Thomas and Paul C. Stern (eds) *New Tools for environmental protection: Education, information, and voluntary measures*. Washington DC: National Academy Press, Pages 67-82.

### **Sept 5      3. Motives, values, attitudes and behavior change**

Due: Assignment 1: Barriers and motives for personal behavior  
And Assignment 2a

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

Aronson, E. 1997. Back to the future: Retrospective review of Leon Festinger's A Theory of Cognitive Dissonance. *American Journal of Psychology*. 110 (1): 127-137

Dietz, T., A. Fitzgerald, and R. Shwom. 2005. Environmental Values. *Annual Review of Environment and Resources* 30:335-372.

### **Sept 12      4. Responsibility, hope, identity and behavior**

Due: Assignment 2b

Kaiser, F. and T. Shimoda. 1999. Responsibility as a predictor of ecological behavior. *Journal of Environmental Psychology*. 19, 243-253.

Clayton, S. 2003. Environmental identity: A conceptual and an operational definition. In Clayton, S. and S. Opatow. 2003. *Identity and the Natural Environment*. Cambridge, MA: MIT Press. Pages 45-65.

Snyder, C.R., Rand, K. L., and Sigmon, D.R. 2001. Hope theory. A member of the positive psychology family. In *Handbook of positive psychology*, ed. C.R. Snyder and S.J. Lopez, 257-75. New York, NY: Oxford University Press.

Oyserman, Daphna, Neil A. Lewis, Veronica X. Yan, Oliver Fisher, S. Casey O'Donnell, & Eric Horowitz. 2017. An identity-based motivation framework for self-regulation. *Psychological Inquiry*, 28(2-3):139-147.

### **Sept 19        5. Major models of behavior**

Due: Assignment 3a

Ajzen, I. 1985. From intentions to actions: A theory of planned behavior. In Kuhl, J. and J. Beckman (eds) *Action-control: From cognition to behavior*. Heidelberg: Springer, pp 11-39.

Stern, Paul C. 2000. Toward a coherent theory of environmentally significant behavior. *Journal of Social Issues*. 56 (3): 407-424.

### **Sept 26        6. Communication**

Due: Assignment 3b

Petty, Richard E. and Joseph R. Priester. 1994. Mass Media Attitude Change: Implications of the Elaboration Likelihood model of persuasion. In Bryant, Jennings and Dolf Zillmann, *Media Effects: Advances in theory and research*. Hillsdale NJ: Lawrence Erlbaum Associates. Pages 91-122.

Rogers, Everett. M. 2003. *Diffusion of Innovations*. Fifth edition New York: Free Press. Chapter 1.

### **October 3      7. Moral and worldview contributions to behavior**

Due: Assignment 4a; Start working on Assignment 5

Haidt, Jonathan. 2007. The new synthesis in moral psychology. *Science*. 316: 998-1001.

Haidt, Jonathan. 2001. The emotional dog and its rational tail: a social intuitionist approach to moral judgment. *Psychological Review*, 108:4, 814-834.

Kahan, Dan M. 2015. What is the “science of science communication”? *Journal of Science Communication*, 14(3): 1-10.

Kahan, D. 2010. Fixing the communications failure. *Nature*. 463: 296-297.

## **October 10 8. Using motives and supportive environments**

Due: Assignment 4b; Keep working on Assignment 5

Kaplan S. and 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.

Geller, Scott. 2002. Chapter 34: The challenge of increasing proenvironment behavior. In Bechtel, Robert and Arza Churchman (eds) *Handbook of Environmental Psychology*.

Ryan, R. M. and E. L. Deci. 2000. Self-determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being. *American Psychologist*. 55(1): 68-78.

## **Section 2: Review and Compare Theories**

### **October 17 9. Presentations and Review (Assignment 5)**

Upload presentations and handouts by midnight Sunday October 7, though you can upload it any time prior to this, of course. Come to class prepared to give your presentation, ask questions of others, and answer questions about yours.

Vining, Joanne and Angela Ebreo. 2002. Emerging theoretical and methodological perspectives on conservation behavior. In Bechtel, Robert and Arza Churchman (eds) *Handbook of Environmental Psychology*. New York: John Wiley, 541-558.

### **Oct 24 10. Discuss Assignment 6 and Other Theories**

Come with questions and a completed chart (Assignment 6).

## **Section 3: Apply Theories**

### **Oct 31 11. Social Marketing**

Use your comparison chart to think about what theories social marketing uses!

McKenzie-Mohr, Doug. 2011. *Fostering sustainable behavior: An introduction to community-based social marketing*. Gabriola Island, BC: New Society Publishers.

### **Nov 7 12. Questioning and Using Social Marketing**

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

Crompton, T. 2008. *Weathercocks and Signposts: The environment movement at a crossroads. A report of the WWF-UK's Strategies for Change Project*. Surrey, UK: WWF.

Thaler, R. H. and C. R. Sunstein. 2003. Libertarian Paternalism. *The American Economic Review*. 93(2): 175-179.

Hausman, D. M. and B. Welch. 2010. Debate: To nudge or not to nudge. *Journal of political philosophy*. 18(1): 123-136.

**Nov 14            13. Change at the Community Level and in Resource Management**

Muro, M. and P. Jeffrey. 2008. A critical review of the theory and application of social learning in participatory natural resource management processes. *Journal of environmental planning and management*. 51(3): 325-344.

Berkes, F. 2009. Evolution of co-management: Role of knowledge generation, bridging organizations, and social learning. *Journal of environmental management*. 90: 1692-1702.

Pretty, J. 2003. Social Capital and the Collective Management of Resources. *Science*, 302(5652): 1912-1914.

Bodin and Crona. 2009. The role of social networks in natural resource governance: What relational patterns make a difference? *Global environmental change*, 19(3): 366-374.

Chase, Sarah K. and Arielle Levine. 2018. Citizen science: Exploring the potential of natural resource monitoring programs to influence environmental attitudes and behaviors. *Conservation Letters*, 11(2): 1-10.

**Nov 21            No Class            Thanksgiving Break**

**Nov 28            14. Poster Presentations (Assignment 7)**

Bring poster to class, review and discuss.

Kollmus, A. and J. Agyeman. 2002. Mind the gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research* 8 (3): 239-260.

**Section 4: Synthesis**

**Dec 5            15. Putting it All Together**

### **Assignment 8 due**

Submit your synthesis paper and model. Present your experiences with your Behavior Buddies to compare what worked and why to change your behavior. Organize a joint model with others who have selected a similar set of theories, discuss and draw a model. Present on your joint model.

Dietz, T., E. Ostrom, P. C. Stern. 2003. The struggle to govern the commons. *Science*. 302(5652): 1907-1912.

Weick, Karl E. 1984. Small Wins: Redefining the scale of social problems. *American Psychologist*, 39 (1): 40-49.

## **Assignments**

### **1. Barriers and motives for personal behavior**

**Aug 29 5 points**

Throughout this semester you will use readings and class discussions to change a personal behavior that you select. To give yourself the most fodder for contemplation, please select a behavior that you do frequently that relates to food, transportation, or energy.

For this first assignment, you will 1) define the behavior you wish to change, 2) explain why you think this is an important behavior to change, 3) explain why you haven't changed it yet, 4) describe the barriers you experience to making this change, and 5) describe your motivations for wanting to change it. 1-2 pages, single spaced.

Then, throughout the semester you will keep a journal that records your attempts and measures your success, try different strategies to adopt a new behavior, discuss your efforts with "behavior buddies" and analyze your efforts in the context of the theories we discuss in this course. Aim to record evidence of your attempts, in addition to your thoughts about your behavior, and to reflect on your progress with your "behavior buddies" during class.

### **2, 3, and 4. Three research articles on theories**

**10 points each**

For each assignment, select one theory/paper from class that you are interested in and find a **research-based article** that explores this theory with a topic of interest to you. Please avoid assigned reading for the course (you will have to check ahead in the syllabus). Read the article, write a 1-2 page paper in which you summarize the findings and reflect on the theory you selected, and come to class prepared to discuss how the theory we read has or has not worked in this case. Submit your paper on the day we discuss the theory.

- **Assignment 2;** If you select cognitive dissonance, motives, or any of the theories listed in the Dietz review, this is due Sept 5. If you select responsibility, hope, or environmental identity, it is due Sept 12.

- **Assignment 3:** Use TPB or Stern’s Coherent Theory for a paper due Sept 19, or use ELM or Diffusion for a paper due Sept 26.
- **Assignment 4:** Use Moral Reasoning or Cultural Cognition for a paper due October 3, or RPM, Flow, or Self-Determination for a paper due October 19.

Please note that some of these authors have written about many things – aim to find articles that reference these theories. In addition, some authors talk about someone else’s theory – please hunt for research articles that **test and explore the theory**. To find cited works, go to [www.uflib.ufl.edu](http://www.uflib.ufl.edu) and follow these steps: Click on Databases and Journals tab, then Project Starters, Web of Science, Cited Reference Search, and input Cited Author and Cited Work. Narrow your search with ‘social science,’ etc.

**5. Present another behavior change theory Oct 17 15 points**

Using Vining’s overview of behavior change theories (and others), identify one that we have not yet covered and become an expert on it. Please work in pairs on this assignment. You will explain the theory, find at least two articles that use the theory, and explain those too. Some may not have been applied to conservation topics yet. What can we learn from these authors? Prepare a 1-2 page handout for the class to accompany your short (10 minute) presentation that will help everyone complete their Comparison Charts. Upload your handout and presentation to Voice Thread by October 14 and narrate the presentation in Voice Thread. Respond to comments and questions in class on October 17.

Bandura	Self efficacy and outcome expectancy
Brehm and Brehm	Reactance
Chawla	Significant Life Experience
Fazio	Attitudes and Behavior
Hungerford and Volk	Environmental Citizen Model
Kals & Schumacher	Emotional Affinity
Krasny	Civic Ecology Education
Millar and Millar	Direct Experience, Information
Prochaska	Stages of Change
Sansone	Self Regulation
Schwartz	Norm Activation
Seguin & Pelletier	Environmental activism
Tuan	Sense of Place (see Jorgensen and Stedman)

**6. Application of Theories Oct 24 10 points**

Complete a take home quiz that asks you to apply these theories to potential survey questions. We will discuss in class on October 24. Everyone will submit their original responses and new reflections after class discussion.

**7. Case study of a program/project Nov 28 15 points**

Identify a program or project that is designed to encourage people to engage in or change environmental behavior. Describe the program, critique the degree to which the program is successful, and suggest which theories are or are not working. Explain why. Create a

poster that describes your program or project and makes clear the connection to theory. Bring the poster to class.

### **8. Reflection & Model of Personal Behavior Change** **Dec 5 15 points**

Throughout the semester you have worked on changing a personal behavior that you selected. Return to your first assignment and reflect on your initial ideas about motivations and barriers. Review your journal that noted your attempts to alter your behavior and the evidence of your effort. Reflect on what worked and why. What incentives did you try? Did commitment work? To what extent is perceived control or subjective norm a relevant factor? Summarize your experience in the language we used in the course (identifying variables, barriers, theories, etc.) in about 2 single spaced pages.

Then, using what did or did not work for you, develop and describe an all-encompassing synthesis model that explains your behavior change using at least four of the theories and models that resonate most strongly with your experience. You should consider and define the context in which this model might hold true – all behaviors, just personal behavior, just public behavior; any behavior or only self-selected behaviors; only when motivated by a class assignment, with peer support, etc. Then describe how you could use this model to design communication or education programs to change other people's personal behaviors. Due in our last class. The model description should be about 3-4 pages. The final assignment should be a total of 5 pages, single spaced, with a graphic model.

### **Participation points from participation, questions, attendance** **10 points**

Asking questions, providing answers, facilitating conversation, attending class, and engaging in small group work are important components of this class.

### **Suggested background to support conservation behavior**

Oskamp, S. 2000. Psychological contributions to achieving an ecologically sustainable future for humanity. *Journal of Social Issues*, 56 (3): 373-390.

Meadows, D.J., Meadows, and Randers. 2002. Overshoot but not collapse, in *Beyond the Limits*.

Monroe, M. C. 2003. Two avenues for encouraging conservation behaviors, *Human Ec Rev* 10(2): 113-125.

Heimlich, J.E., & Ardoin, N.M. 2008. Understanding Behavior to Understand Behavior Change: A Literature Review. *Environmental Education Research*. Vol. 14, No. 3, pp. 215-237.

Wackernagel, M. et al. 2002. Tracking the ecological overshoot of the human economy. *PNAS*. 99(14): 9266-9271.

Marten, G. et al. 2005. Environmental Tipping Points. *World Watch*. 18(6): 10-14.

### **Specific theories and papers to help with Assignment 5**

Chawla, L. 1998. Significant life experiences revisited: A review of research on sources of environmental sensitivity. *Environmental Education Research*. 4 (4): 369-382. Also of interest: Chawla. 1999. *Journal of Environmental Education* 31 (1): last 2 pages.

Hines, J. M., H. R. Hungerford, A.N. Tomera. 1986/87. Analysis and synthesis of research on responsible environmental behavior: A meta-analysis. *Journal of environmental education*. 18 (2): 1-8.

Hungerford, Harold R. and Trudi L. Volk. 1990. Changing learner behavior through environmental education, *Journal of Environmental Education*. 21 (3): 8-22.

Jorgensen. B. S. and R. C. Stedman. 2001. Sense of place as an attitude: Lakeshore owners attitudes toward their properties. *Journal of Environmental Psychology*. 21, 233-248.

### **Optional readings that support class discussions**

Adler, P. S. and S-W Kwon. 2002. Social Capital: Prospects for a new concept. *The Academy of Management Review*. 27(1): 17-40.

Keen, M., V. A. Brown, and R. Dyball. 2005. *Social Learning in environmental management: Towards a sustainable future*. London: Earthscan.

Kaplan, Stephen. 2000. Human nature and environmentally responsible behavior. *Journal of Social Issues*. 56 (3): 491-508.

Pahl-Wostl, C. 2006. The importance of social learning in restoring the multifunctionality of rivers and floodplains. *Ecology and Society*. 11(1): 10. <http://www.ecologyandsociety.org/vol11/iss1/art10/>

Zelezny, L. C. 1999. Educational interventions that improve environmental behaviors. *JEE* 31(1): 5-10.

### **To help you select a personal behavior to change:**

Dietz, T., G. T. Gardner, J. Gilligan, P. C. Stern, M. P. Vandenbergh. 2009. Household actions can provide a behavioral wedge to rapidly reduce U.S. carbon emissions. *PNAS*. 106(44): 18452-18456. Available at [www.pnas.org/cgi/doi/10.1073/pnas.0908738106](http://www.pnas.org/cgi/doi/10.1073/pnas.0908738106)

“The problem of what to eat” *Conservation*, July-Sept 2008, 9(3): 28-38

Project Drawdown – <http://www.drawdown.org>