FOR 6005 – Conservation Behavior

University of Florida
School of Forest Resources and Conservation
Fall 2010
Wednesday periods 8-10; 3:00 – 6:00 p.m.
219 Newins Ziegler Hall

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Office Hours: Wednesday 9-12 and on request

Conservation behavior is becoming a more important concept as natural resource managers, development officers, educators, politicians, regulators, and business leaders consider what it takes to change people's personal behaviors toward sustainability. 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 firmly rooted in psychology due to the role of individuals, we also explore sociological perspectives because change can be supported or motivated at the community level Education, communication, and policy also have theoretical underpinnings and models that are useful in this course. Disciplines as varied as anthropology, engineering, recreation, economics, and health could also be tapped as we consider motives for and applications of behavior change research.

Education and communication play essential roles in imagining and creating a sustainable future. While it is important to understand environmental issues and solutions, that is not the purpose of this course. We will explore the theoretical foundation and application of using education and communication strategies in our collective efforts to nudge society toward a sustainable future. This course is geared toward those who will be conducting research on behavior change or working with the public in a variety of formal and nonformal 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 alternative models or theoretical frameworks that can be used for analyzing the questions: Why do some people demonstrate environmentally responsible behaviors (ERB)? What are the barriers to pro-environmental behavior? What encourages the formation of ERB? Identify the similarities and differences among these models.
- 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 are addressing 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/ You can set your page with your courses, and can find this one under FOR 6005 or Monroe. The text should be available at most bookstores:

McKenzie-Mohr, Douglas and William Smith. 1999. *Fostering Sustainable Behavior*. Gabriola Island, BC: New Society Publishers.

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 in the first half of the course and designed 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 if accompanied by appropriate paperwork. Assignments are to be turned in during class on the day they are due.

Academic Honesty

As a result of completing the registration form at the University of Florida, every student has signed the following statement: "I understand that the University of Florida expects its students to be honest in their academic work. I agree to this commitment to academic honesty and understand that my failure to comply with this commitment may result in disciplinary action up to and including expulsion from the University." 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, duplication.

UF Counseling Services

Resources are available on campus for students having personal problems or lacking clear career and academic goals with interfere with their academic performance. These resources include:

1. University Counseling Center, 301 Peabody Hall, 392-1575 (personal and career counseling);
2. Student Mental Health, Student Health Care Center, 392-1171 (personal counseling);
3. Center for Sexual Assault /Abuse Recovery and Education (CARE), Student Health Care Center, 392-1161 ext. 4231 (counseling related to sexual assault and abuse);
4. Career Resource Center, Reitz Union, 392-1601 (career development assistance and counseling).

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.

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 25 Introduction, General Framework, Taking Stock (wk 1)

Defining terms: EE, ESD, Advocacy, Social Marketing, Sustainability, WCS
Evolution of attention to conservation behavior: UN events, MA,
Develop personal behavior groups around food, transportation, energy

Sept 1 Traditional models of human behavior change (wk 2)

Discussion of rationality, knowledge deficit (Schultz), and cognitive dissonance
Begin to complete the comparison chart
Due: Assignment 1: Barriers and motives for personal behavior

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 measurers*. Pages 67-82.

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

Kibert, C., A. Peterson, L. Thiele, M. Monroe, R. Plate. Unpublished draft portion of chapter 8: The Process of Decision Making, from Ethics of Sustainability. To be published by Wiley.

Sept 8 Motives, emotion, and behavior change (wk 3)

Discussion of DeYoung, Geller, Schultz (empathy); comparison chart
Discussion of personal behavior efforts; new ideas about barriers & motives

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

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

Schultz, P. W. 2000. Empathizing with nature: The effects of perspective taking on concern for environmental issues. *Journal of Social Issues* 56 (3): 391-406.

Sept 15 Values, responsibility, personality, identity and behavior (wk 4)

Discussion of Deitz et al., Kaiser and Shimoda, Arnocky et al., comparison chart
Due: Assignment 2: Research on a theory from week 3 or 4

Arnocky, S., M Stroink, and T. DeCicco. 2007. Self-construal predicts environmental concern, cooperation, and conservation. Journal of Environmental Psychology. 27: 255-264.

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

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

Sept 22 Major models of behavior (wk 5)

Discussion of Ajzen, Stern, Kaplan, comparison chart
Discussion of personal behavior efforts; new ideas about barriers & motives
Due: Assignment 3: Research using models from week 5

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.

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.

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

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

Sept 29 Communication and social change (wk 6)

Discussion of Petty and Priester, Rogers; comparison chart
Discussion of personal behavior efforts; new ideas about barriers & motives

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. 1995. *Diffusion of Innovations*. New York: Free Press. Pages 1-37.

October 6 How education might change behavior (wk 7)

Discussion of Hines et al., Hungerford and Volk, Ernst, Billig; comparison chart
Due: Assignment 4: Research on a theory from week 6 or 7

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.

Bamberg, S. and G. Moser. 2007. Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behavior. Journal of Environmental Psychology. 27: 14-25.

Ernst, J. and M. C. Monroe. 2004. The effects of environment-based education on students' critical thinking skills and disposition toward critical thinking, *Environmental Education Research* 10(4): 507-522.

Billig, S. H. 2000. Research on K-12 school-based service learning: The evidence builds. Phi Delta Kappan. May 2000. 658-664.

Oct 13 Your Presentations (Assignment 5) on Other Theories (wk 8)
Presentations; comparison chart

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 20 Your Presentations (Assignment 5) on Other Theories (wk 9)
Presentations; comparison chart

Oct 27 Social Marketing (wk 10)
Discuss social marketing tools, and why they work
Assignment 6: Application of Theories

McKenzie-Mohr, Doug and William Smith. 1999. *Fostering sustainable behavior: An introduction to community-based social marketing*. Gabriola Island, BC: New Society Publishers. (book available in bookstores)

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

Nov 3 Designing campaigns (wk 11)
Discussion of personal behavior efforts; social marketing or not?

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

Crompton, T. and J. Thogersen. 2009. Simple and painless: The limitations of spillover in environmental campaigning. WWF-UK. 32 pages.
http://assets.wwf.org.uk/downloads/simple_painless_report.pdf

Nov 10 Designing programs with experience (wk 12)

Wells, N. M. and K. S. Lekies. 2006. Nature and the life course: Pathways from childhood nature experiences to adult environmentalism. Children, Youth, and Environments. 16(1): 1-25.

Hammond, William F. 1996/97. Educating for action: A framework for thinking about the place of action in environmental education, *Green Teacher*. 50: 6-14.

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

Nov 17 Building community into social change (wk 13)

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.

Keen, M., V. A. Brown, and R. Dyball. 2005. Social learning: a new approach to environmental management. *Social Learning in environmental management: Towards a sustainable future*. London: Earthscan, 3-21.

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

Nov 24 Class decides whether to meet; optional field trip to Gainesville locations where behavior change is encouraged (or juggle remaining dates to best meet student wishes)

Dec 1 Your Projects (Assignment 7) (wk 14)
Poster display and discussion
Discussion of personal behavior efforts – what worked?

Dec 8 Climate Change and Behavior Change (wk 15)
Read one of the following frameworks/ on climate change and the Kollmus/Agyeman article and come prepared to discuss why key elements may or may not work, what else should be included in a synthesis of behavior change.

Pike, C., B Doppelt, and M. Herr. 2010. Climate communications and behavior change: A guide for practitioners. The climate leadership initiative. 54 pages.
OR
Center for Research on Environmental Decisions. 2009. The psychology of climate change communication: A guide for scientists, journalists, educators, political aides, and the interested public. 2010. Columbia University, New York. Cred.columbia.edu/guide.

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.

Exam Time: Monday December 13 by 5:00 pm Assignment 8 due

Assignments

1. Barriers and motives for personal behavior Sept 1 5 points
Throughout this semester you will use readings and class discussions to change your own behavior regarding food, transportation, or energy. During the first week you will select one of these categories. For this assignment, you will 1) define the behavior you wish to change within this category, 2) explain why you think this is an important behavior to

change, 3) why you haven't changed it yet, 4) what you think are barriers to making this change, and 5) your motivations for wanting to change it. 2 pages single spaced. Please note you will be keeping a journal on your efforts to submit as Assignment 8.

2. Summary of research article on motivation, values etc. Sept 15 10 points

Select a theory or model that you are interested in of the authors we covered on Sept 8 or Sept 15. Find a research article that explores this theory and relates to a topic of interest to you. Read the article, write a 1-2 page paper in which you summarize the findings and reflect on the theory, and come to class prepared to discuss how the theory we read has or has not worked in this case. To find cited works, go to www.uflib.ufl.edu, Databases tab, Project Starters, Web of Knowledge, Web of Science, input Cited Author and Cited Work. Narrow search with social science, etc.

3. Summary of article citing a big model Sept 22 10 points

Select a theory or model from the work of Ajzen, Fishbein, Stern, or Kaplan, and complete assignment as described in #2.

4. Summary of education/communication research Oct. 6 10 points

Select a theory or model that you are interested in of the authors we covered on Sept 29 or October 6. Complete assignment as described in #2.

5. Summary of relevant behavior change theory Oct 20 20 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. Read the author's explanation of this theory and find one application of it. Some will probably not have been applied to conservation topics yet. Prepare a 1-2 page handout for the class to accompany your short (10 minute) presentation that will help everyone complete their Comparison Chart. Submit your handout for credit. You can develop a short ppt.

Bandura	Self efficacy
Brehm and Brehm	Reactance
Chawla	Significant Life Experience
Deci and Ryan	Self Determination
Emerson and Cook	Social Exchange Theory
Fazio	Attitudes and Behavior
Kahneman & Tversky	Decision Heuristics
Kals & Schumacher	Emotional Affinity
Krasny	Civic Ecology Education
Millar MG and Millar K	Direct Experience, Information
Pretty, Jules	Social Capital
Prochaska	Stages of Change
Sansone	Self Regulation
Seligman	Learned Helplessness
Schwartz	Norm Activation
Seguin & Pelletier	Environmental activism
Tuan	Sense of Place (see Jorgensen and Stedman)

Vaske and Donnelly Value-Attitude-Behavior Model, Cognitive Hierarchy

6. Application of Theories Oct 27 5 points

Complete a take home quiz that asks you to apply these theories to potential survey questions. For any 4 theories you are less sure about, explain what variables could be operationalized (1 paragraph) and write a sample survey question that does so.

7. Case study of a program/project Dec 1 20 pnts

Identify a program or project that is designed to encourage people to engage in environmental behaviors. 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.

8. Reflection & Model of Personal Behavior Change By Dec 13 20 pnts

Throughout the semester you have worked on changing a behavior that you selected. Return to your first assignment and reflect on what you now think about motivations and barriers. Reflect on your attempts to alter your behavior and what worked and why. Describe an all-encompassing model that explains your behavior, using at least four of the theories and models that resonate most strongly with your experience. Consider the context in which this model might hold true – all behavior, just personal behavior, just public behavior, etc.? Then describe how you could use this model to design communication or education programs to change personal behaviors.

We will use the opportunity of this course to support your personal reflection on the motives and barriers that are most responsible for a daily environmental behavior.

Aug 25: You will begin by selecting a daily environmental behavior that you wish to modify. You can choose one of three areas that are deemed to be most useful at conserving resources: transportation, food, or home energy, or one of the household actions that Dietz et al. suggest can rapidly reduce U.S. carbon emissions: carpooling and trip chaining, driving behavior, line drying, thermostat setback, and standby electricity. The goal is to select a personal, habitual behavior that you would like to change a over this semester. We should have some time during class to form groups to begin a discussion of the types of behaviors you might select. For your first assignment, collect information to answer questions and assumptions to enable you to select a behavior.

For this two-page paper, you will 1) define the behavior you wish to change, 2) explain why you think this is an important behavior to change, 3) why you haven't changed it yet, 4) what you think are barriers to making this change, and 5) your motivations for wanting to change it.

September 1: Share with your group which behavior you are attempting to change and the role that information plays in your decision.

September 8, 22, 29: In small groups you will reflect on four weeks of psychological frameworks to explore the role of motives, values, personal attributes, attitudes, social

norm, subjective norm, information, consequences, etc. on your behavior. How successful have you been in making a change? Recalling your first paper, has your perspective changed?

October 13: By this point in the term you have been introduced to a great deal of information about theories and models of human behavior. In your small groups discuss which models resonate with you and your behavior change, and why. What is it about your choice of a behavior that might affect this resonance? How generalizable to others would these models be? Why?

November 3: With your group, discuss various ways you could create social marketing tools for each other to increase the frequency or success of your behavior change and plan to do so over the next month. The course assignment has created a public commitment. Can you explore the role of prompts, incentives, feedback, and models together?

December 8: This is our last opportunity to discuss your personal behavior change in class. Either in small groups or the full class, report on your sense of what worked to change your behavior and why. Which of these strategies might work with others?

December 13: Your final assignment is due on or before this day. This is your opportunity to reflect on your 15 week excursion into behavior change theories and your experience of manipulating your personal change. Please draw on at least 4 different theories to explain your behavior change and develop a composite model of either what changes behavior or how education/communication tools should change behavior.

Suggested readings 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 Ecology Review* 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.

Advisory Committee for Environmental Research and Education. 2009. Transitions and tipping points in complex environmental systems. A report by the NSF Advisory Committee for Environmental Research and Education. 56 pages.

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 Concepts

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.

NEETF. 2001. Using Environment-based Education to advance learning skills and character development. http://www.neefusa.org/pdf/EnviroEdReport.pdf

Kaplan R. and Kaplan S. (2008). Bringing out the best in people: A psychological perspective. *Conservation Behavior*. 22(4): 826-829.

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.

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

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.

Andrews, Elaine, Mark Stevens, and Greg Wise. 2002. A model of community-based environmental education. In Dietz, Thomas and Paul C. Stern (eds) *New Tools for environmental protection: Education, information, and voluntary measurers*. Pp 161-182.

To select a behavior:

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

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

The Topos Partnership with C. Pike and M. Herr. 2009? Climate crossroads: A research-based framing guide for global warming advocates. 71 pages.