

Persuasion, Contagion & Compliance-Gaining in Online Media

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Communication 114S
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Political campaigns “micro-target” their messages to individuals according to the issues each cares about. Endorsements of products and brands spread through Facebook. Mobile devices sense physical activity and coach people to meet diet and exercise goals. Using social-scientific research and real-world examples, this course examines the social and psychological processes by which communication technologies are used to change people’s attitudes, beliefs, and behaviors. By the end of the course, students will understand the psychology of persuasion and social influence, and they will have applied this to the design and criticism of new technologies, interventions, and messages.

The development and widespread adoption of digital communication technologies have enabled flexible and varied forms of persuasive experiences. Understanding, studying, and effectively creating these experiences requires confronting ideas that have often been treated separately, such as mass and interpersonal communication, intended and unintended media effects, and information processing and habit formation. It can also invite combining analysis of psychological processes, social structure, and the affordances of technology. This course focuses on social and psychological issues in how mediated communication is used to change attitudes and behaviors, including particular attention to interactive and networked digital communication technologies.

Readings are selected articles and book chapters, both classic and contemporary, from investigators in communication, psychology, computer science, sociology, economics, and network science. Lectures and discussion will emphasize both critical comparison of the varied theoretical and methodological perspectives employed and application to real-world influence attempts.

EVALUATION

Midterm

There will be a midterm testing the material from readings and lectures in the first half of the course. The emphasis will be on psychological models of attitude and behavior change. Because of the shortened quarter, we will schedule the midterm outside of class time. (25%)

Problem set

There will be a single, short problem set on graph theory, information diffusion, and contagion due on July 27th. (15%)

Term paper

The term paper should systematically review and apply research on persuasion, behavior change, and social influence in the context of online media. The specific topic for each student's paper – which should be quite focused – will be selected with my guidance. A full draft of the paper must be submitted on August 2nd (10%). This will receive comments to be used in writing the final draft, which is due on August 12th (35%).

Participation

Active participation in discussion in class and through online media. Includes some small assignments to look at services and information online, most of which should be completed. (15%)

Alternative: Final

Instead of writing a term paper, undergraduate students can elect to take a final exam during the final exam period for this class. This final would thus account for 45% of the grade.

READINGS

We will read all of Cialdini [2001]. Any edition of this book from 2001 or later will do. We will also read sections from Easley and Kleinberg [2010], which is available both online at no cost and in print.

All other readings are available to enrolled students via Coursework. Readings listed below are required unless otherwise indicated. Each section corresponds to one meeting of the course. The readings and order of lectures may change with sufficient notice.

Cialdini, R. B. (2001). *Influence: Science and Practice*. Allyn and Bacon.

Easley, D. and Kleinberg, J. (2010). *Networks, Crowds, and Markets*. Cambridge University Press.

1 OVERVIEW

Overview of course content. Motivating examples. Psychological and sociological levels of analysis. Administrative issues. Beginning topics from next session.

2 INTRODUCTION

Defining persuasion, social influence, compliance-gaining, and network effects. Roles for communication technologies in attitude and behavior change. Social responses to computers [Nass and Moon, 2000] as one persuasive role for computers [Fogg, 1998, optional]. Online media examples in politics [Bailenson et al., 2008, optional] and commerce [Baker, 2009].

Bailenson, J. N., Iyengar, S., Yee, N., and Collins, N. A. (2008). Facial similarity between voters and candidates causes influence. *Public Opinion Quarterly*.

Baker, S. (2009). Learning, and profiting, from online friendships. *BusinessWeek*.

Fogg, B. J. (1998). Persuasive computers: perspectives and research directions. In *Proceedings of the SIGCHI conference on human factors in computing systems*, pages 225–232, Los Angeles, California, United States. ACM Press.

Nass, C. I. and Moon, Y. (2000). Machines and mindlessness: Social responses to computers. *Journal of Social Issues*, 56(1):81–103.

3 ATTITUDE AND BEHAVIOR CHANGE

Public conformity and private acceptance; mere compliance and internalization. Attitudes, attitude strength, implicit attitudes, and attitude–behavior relations. Cognitive dissonance and overjustification effects. The diversity of behavior change goals [Fogg, 2010]. Taxonomies of compliance-gaining and influence tactics [Kellermann and Cole, 1994]. Forming and changing habits [Verplanken and Wood, 2006].

Fogg, B. J. (2010). Behavior grid. <http://www.behaviorwizard.org/wp/behavior-grid>. Stanford Persuasive Technology Lab.

Kellermann, K. and Cole, T. (1994). Classifying compliance gaining messages: Taxonomic disorder and strategic confusion. *Communication Theory*, 4(1):3–60.

Verplanken, B. and Wood, W. (2006). Interventions to break and create consumer habits. *Journal of Public Policy & Marketing*, 25(1):90–103.

4 DUAL-PROCESS MODELS

Dominant theoretical models of persuasion in social and consumer psychology. The elaboration likelihood model (ELM) [Petty et al., 2009], including extensions, criticisms, and defenses [Brinol and Petty, 2009; Petty and Wegener, 1999; Griffin, 2008, ch. 15, all optional]. Comparison with other dual-process models, such as the heuristic–systematic model (HSM) [Chaiken and Chen, 1999, optional].

Brinol, P. and Petty, R. E. (2009). Source factors in persuasion: A self-validation approach. *European Review of Social Psychology*, 20(1):4996.

Chaiken, S. and Chen, S. (1999). The Heuristic-Systematic model in its broader context. In Chaiken, S. and Trope, Y., editors, *Dual-process Theories in Social Psychology*, pages 73–96. Guilford Press.

Griffin, E. (2008). *A First Look at Communication Theory*. McGraw-Hill, 7 edition.

Petty, R. E., Barden, J., and Wheeler, S. C. (2009). The elaboration likelihood model of persuasion: Health promotions that yield sustained behavioral change. *Emerging theories in health promotion practice and research*, pages 71–99.

Petty, R. E. and Wegener, D. T. (1999). The elaboration likelihood model: Current status and controversies. In Chaiken, S. and Trope, Y., editors, *Dual-process theories in social psychology*, page 4172. Guilford Press, New York.

5 COMPUTERS AND PERSUASION

Prescient views of computers and persuasion [Licklider and Taylor, 1968]: persuasive simulation, actively mediated communication, and computers as social actors. More recent developments of these ideas in human–computer interaction and computer-mediated communication [Bailenson et al., 2004]. The appeal of mobile phones as platforms for attitude and behavior change. Health behavior change [Consolvo et al., 2008, optional]. Mobile communication in political and social action.

Bailenson, J. N., Beall, A. C., Loomis, J., Blascovich, J., and Turk, M. (2004). Transformed social interaction: Decoupling representation from behavior and form in collaborative virtual environments. *Presence: Teleoperators & Virtual Environments*, 13(4):428–441.

Consolvo, S., Klasnja, P., McDonald, D. W., Avrahami, D., Froehlich, J., LeGrand, L., Libby, R., Mosher, K., and Landay, J. A. (2008). Flowers or a robot army?: encouraging awareness & activity with personal, mobile displays. In *Proceedings of the 10th international conference on Ubiquitous computing*, page 5463, New York, NY, USA. ACM.

Licklider, J. and Taylor, R. (1968). The computer as a communication device. *Science and Technology*, pages 21–31.

6 SOCIAL INFLUENCE, COMPLIANCE, AND CONFORMITY

Social proof and liking [Cialdini, 2001, ch. 4, 6]. Field experiments on social influence [Goldstein et al., 2008, optional]. Social influence in cultural selection and hit-making [Salganik et al., 2006]. Social information and primes embedded in online environments [Sukumaran et al., 2011].

Goldstein, N. J., Cialdini, R. B., and Griskevicius, V. (2008). A room with a viewpoint: Using social norms to motivate environmental conservation in hotels. *Journal of Consumer Research*, 35(3):472–482.

Salganik, M. J., Dodds, P. S., and Watts, D. J. (2006). Experimental study of inequality and unpredictability in an artificial cultural market. *Science*, 311(5762):854–856.

Sukumaran, A., Vezich, S., McHugh, M., and Nass, C. (2011). Normative influences on thoughtful online participation. In *Proceedings of the 29th international conference on Human factors in computing systems*, Vancouver, British Columbia, Canada. ACM.

7 HEURISTICS AND AUTOMATIC PROCESSING

Fast, frugal, and simple procedures that are often adaptive, but that are not guaranteed to yield optimal results. The pervasiveness [Cialdini, 2001, ch. 1] and flexibility of automatic cognition. The availability, recognition, and representativeness heuristics [Tversky and Kahneman, 1974].

Tversky, A. and Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, 185(4157):1124–1131.

MIDTERM

Read the rest of Cialdini [2001].

8 HEURISTICS AND MEDIA

Problem set posted.

Automatic and heuristic processing of media. Heuristics as mechanisms of cultivation theory [Gerbner et al., 1980; Griffin, 2008, ch. 27]. How personalized online media can amplify social influence and false consensus effects [Pariser, 2011, excerpt].

Gerbner, G., Gross, L., Morgan, M., and Signorielli, N. (1980). The "Mainstreaming" of america: Violence profile no. 11. *Journal of Communication*, 30(3):10–29.

Griffin, E. (2008). *A First Look at Communication Theory*. McGraw-Hill, 7 edition.

Pariser, E. (2011). *The Filter Bubble*. Penguin.

9 MODELS OF INFLUENCE IN NETWORKS I

Social networks. Models of diffusion, cascades, and contagion [Easley and Kleinberg, 2010, ch. 19, 21]. Epidemiological models.

10 DESIGNING FOR BEHAVIOR CHANGE

Guest lecture and design exercises with B.J. Fogg (Stanford).

Generative uses of taxonomies of influence strategies [Fogg, 2003, Appendix]. Design patterns for persuasive technology [Lockton et al., 2010, read two or more lenses]. Theory-based design of systems [Consolvo et al., 2009]. Prototyping and learning from interactive interventions.

Consolvo, S., McDonald, D. W., and Landay, J. A. (2009). Theory-driven design strategies for technologies that support behavior change in everyday life. In *Proceedings of the 27th international conference on Human factors in computing systems, CHI '09*, page 405414, New York, NY, USA. ACM.

Fogg, B. J. (2003). *Persuasive Technology: Using Computers to Change What We Think and Do*. Morgan Kaufmann.

Lockton, D., Harrison, D., and Stanton, N. A. (2010). Design with intent toolkit: 101 patterns for influencing behaviour through design. http://www.danlockton.com/dwi/Main_Page.

11 MODELS OF INFLUENCE IN NETWORKS II

Cascades. Strategic choice models. Graphical games. Complex contagion. Comparison with epidemiological models. Illustration with non-network examples [Easley and Kleinberg, 2010, ch. 16, 17, optional]

12 MEASURING INFLUENCE

Cascades in social network services [Romero et al., 2011, optional]. Experimental studies of peer influence in networks: simple and complex contagion [Centola, 2010]. Methodological challenges [Johns, 2010; Manski, 2000].

Centola, D. (2010). The spread of behavior in an online social network experiment. *Science*, 329(5996):1194–1197.

Johns, D. (2010). Doubts about the social plague stir in the human superorganism. *Slate*.

Manski, C. F. (2000). Economic analysis of social interactions. *The Journal of Economic Perspectives*, 14(3):115–136.

Romero, D. M., Meeder, B., and Kleinberg, J. (2011). Differences in the mechanics of information diffusion across topics: Idioms, political hashtags, and complex contagion on twitter. In *Proceedings of WWW 2011*. ACM.

13 DESIGNING FOR CONTAGION

Designing services to increase contagion [Aral and Walker, 2011]. Identifying and targeting “influentials” and “susceptibles” [Watts, 2011, excerpt]. Affordances and emergent behaviors [Boyd et al., 2010].

Aral, S. and Walker, D. (2011). Creating social contagion through viral product design: A randomized trial of peer influence in networks. *Marketing Science*. Forthcoming.

Boyd, D., Golder, S., and Lotan, G. (2010). Tweet, tweet, retweet: Conversational aspects of retweeting on twitter. In *Hawaii International Conference on System Sciences*, pages 1–10, Los Alamitos, CA, USA. IEEE.

Watts, D. J. (2011). *Everything Is Obvious: *Once You Know the Answer*. Crown Business.

14 INDIVIDUAL DIFFERENCES

Draft of term paper due.

Commitment and consistency [Cialdini, 2001, review ch. 3] and variation in preference for consistency [Guadagno and Cialdini, 2010, optional]. Overview of traits associated with differences in attitude change processes [Gass and Seiter, 2010, pp. 98-104]. Modeling variation in the effects of influence strategies [Kaptein and Eckles, optional].

Gass, R. H. and Seiter, J. S. (2010). *Persuasion, Social Influence, and Compliance Gaining*. Allyn & Bacon, 4 edition.

Guadagno, R. E. and Cialdini, R. B. (2010). Preference for consistency and social influence: A review of current research findings. *Social Influence*, 5(3):152–163.

Kaptein, M. and Eckles, D. Magnitude and structure of heterogeneity in the effects of influence strategies.

15 TAILORING AND ADAPTIVE SYSTEMS

Interactive technologies can scalably personalize and tailor interventions to increase the desired attitude or behavior change. Beniger [1987] is an early and provocative description of this. Current practices in online commerce and advertising. Current research includes adaptively determining the design of Web experiences [Urban et al., 2009].

Beniger, J. R. (1987). Personalization of mass media and the growth of Pseudo-Community. *Communication Research*, 14(3):352.

Urban, G. L., Hauser, J. R., Liberali, G., Braun, M., and Sultan, F. (2009). Morph the web to build empathy, trust and sales. *Sloan Management Review*, 50(4):5361.

16 REVIEW AND FUTURE DIRECTIONS

Connections between psychology and sociology of attitude and behavior change. Some emerging social practices and technologies. The value of social science for decision-making. Further reflection on ethical issues.

OTHER INFORMATION

Announcements for this course will be made via Coursework (<http://coursework.stanford.edu>). Make sure you are signed up for the course there.

Office hours

By appointment, generally in 120–332. We will schedule some continuous slots for discussing term paper topics.

Honor Code

Your participation in this course is covered by the Honor Code (<http://honorcode.stanford.edu>). Please be sure you understand what the Honor Code requires. In particular, review the definition of plagiarism. Note: students may collaborate on the problem set by discussing the problems, but each student must separately write up their solutions and indicate on the problem set who they have discussed the problems with.

Students with disabilities

Students who have a disability which may necessitate an academic accommodation or the use of auxiliary aids and services in a class, must initiate the request with the Student Disability Resource Center (SDRC), located within the Office of Accessible Education (OAE). The SDRC will evaluate the request with required documentation, recommend appropriate accommodations, and prepare a verification letter dated in the current academic term in which the request is being made. Please contact the SDRC as soon as possible; timely notice is needed to arrange for appropriate accommodations. The Office of Accessible Education is located at 563 Salvatierra Walk (phone: 723-1066; TDD: 725-1067; <http://studentaffairs.stanford.edu/oe>).