Science and Society – Psychology of Creativity

Honors 204 Section 01 Spring 2014 Dumbach Room 125 Thurs 4:15 – 6:45p Professor Robert (Bob) Morrison rmorrison@luc.edu 312-498-2612 www.canlab.org Office: Coffey 244

Lab: Coffey LL21

Office Hours: Tuesday 1-3p or by apt

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...believing that the dots will connect down the road will give you the confidence to follow your heart even when it leads you off the well-worn path, and that will make all the difference.

Steve Jobs, CEO Apple Computer

The analysis of creativity in all its forms is beyond the competence of any one accepted discipline. It requires a consortium of talents: Psychologists, biologists, philosophers, computer scientists, artists, and poets would all expect to have their say. That "creativity is beyond analysis" is a romantic illusion we must now outgrow.

Peter Medawar, Nobel Prize winning Immunologist

Description

During the last sixty-years scientists have explored the personality traits, mental processes, and brain functions that allow people to exhibit creative behavior. In this course we will survey a variety of different theories of creativity drawing on cognitive, developmental, personality and social psychology and neuroscience. We will consider artistic, scientific and cultural creativity, making extensive use of reading and film to encounter creators and their products directly and through the minds of their students and scholars. Together we will reflect on our own creative processes via discussion and writing and engage in a group study of a living eminent creative individual here in Chicago.

Goals

As some of you may have heard, Loyola is adopting a new way to help faculty and students get the most out of their courses. The IDEA Student Ratings of Instruction system (http://www.theideacenter.org/) asks instructors to identify several core course-learning objectives, and then asks students to rate their own experience of learning with respect to these objectives. The system is intended to use student feedback to help instructors improve their courses to maximize student learning. I regularly change courses based on student feedback, so I'm really excited about this possibility for you to help me make this course as good as possible for classes to come.

Here is what I hope you will learn this semester:

IDEA Objective 1: Gaining factual knowledge (terminology, classifications, methods, trends)

In this course I hope you will learn much about how psychologists study creativity. This will include learning about the methods we use, but also much about various findings. I hope you will be able to:

- Be able to describe several different ways that psychologists study the topic of creativity
- Become more familiar with the creative personality

 Describe developmental and sociocognitive mechanisms important for the success of the creative individual

IDEA Objective 2: Learning fundamental principles, generalizations, or theories

Hopefully you will develop a personal working definition of creativity and be able to use it to evaluate creative production within a given domain and field. You should also be able to describe how this compares to other people's theories of creativity.

IDEA Objective 5: Acquiring skills in working with others as a member of a team

You will be working in a team for much of the class completing several group projects together. Part of your ability to be successful on that project will be about how to find out what people enjoy doing and what they are good at and constructing a project around the abilities of the team. This is an invaluable skill to develop regardless of what you do in the future.

IDEA Objective 8: Developing skill in expressing myself orally or in writing

Learning to write is more than cranking out another term paper. In fact that style of writing is used relatively little in contemporary society, even by scientists. In this course I focus you on writing for the public. Remember the public includes your grandmother and your first grade teacher as well as your friends. Make what you do and are learning in this course accessible and engaging for all of them!

Materials

The following books are required for the course and are available at the Loyola University Bookstore:

- 1. GARDNER: Gardner, H. (1993). *Creating minds: An anatomy of creativity sen through the lives of Freud, Einstein, Picasso, Stravinsky, Eliot, Graham, and Gandhi*. New York: Basic Books. head of project zero at Harvard University, Gardner was the originator of a well known theory of multiple intelligences. Herein he takes us for a tour of personality and cognitive perspectives on several of the most creative individuals from human history. The book is available in paper and electronic versions on Amazon.com.
- 2. Readings underlined on the course schedule will be available as PDF files from Sakai and the course Box site. Just click on "Course Content" in the course Sakai site and you will be taken to the course Box site.

Assignments & Assessment

- Participation and Attendance (10pts). I expect you to be in class (there will be a signin sheet and it is
 your responsibility to initial it whenever you are in class) and to actively participant while in class during
 class discussions, and in your group both in and out of class. This includes reviewing the readings for the
 class before class and being ready to discuss them.
- 2. What's Creative Blog (30pts). A goal of the course is to open your eyes to creative discoveries and people all around you, and better understand your own creative process. A day almost never goes by when I am not struck by an amazing idea, invention, or discovery in the news...sometimes in my lab...and even once in a while at home. Find them and share them...what's creative? Why is it creative? Do other's in the field agree? What lead's the person to the discovery, invention, or idea? What principles from the course may have been in play in the discovery, or even its reception by the public. This is your chance to share some or all of this and what you are learning in the course with the world.

During the semester you will be responsible for making three posts and three comments on other's posts. Your posts may feature three different creative products or instead you may go into depth on one.

Remember this is the psychology of creativity, so you should focus not just on the product, but also the human creators and their creative process. To help you stay on track I've put deadlines for the

posts and comments on the course schedule. Pay attention to the deadlines, there are penalties for being late

In your blog entry you need to include information from the course readings other than Gardner. There are many to choose from, but you must reference a concept in at least one reading in each of your posts. You need to use a different concept for each of your posts. Try to use something you have recently read about. You don't need to do this in your comment posts, but can if you like.

To facilitate the sharing I have set up a real world (not Sakai) blog: whatscreativeluc.blogspot.com Before the next class please complete assignment 1 found under the Assignment tab in Sakai and submit a non-luc.edu email address (e.g., Gmail, Hotmail, Yahoo, etc.) to use for your blog account. After you do this we will send an invitation to that email address to join the blog as an author. Please follow the link in the email to set up your account. Always use this account to post to the blog. Make sure to write down the password you create for the account, we don't have access to it. If you don't receive this by the end of the second week of class please check the junk mail folder in your email account. If you still can't find it please email your TA, Lorri and ask nicely for her to send it again.

Remember this is an open blog so invite your friends and family to visit the blog (you can invite using Facebook or Twitter if you like or just email them the URL). You can also use your browser or an RSS reader to subscribe.

To receive credit for your blog entries you must paste the URL of your post or comment (and the content of your post) to the assignment sheets under the Assignment tab in Sakai. This must be done before midnight on the day indicated on the schedule. You will loose one grade for each day your post is late, so please make sure to post by the deadline. No late comments will be accepted so please plan ahead.

3. **Great Mind Presentation (25pts).** We will be considering the lives of seven "great minds" discussed in the GARDNER book. These individuals (i.e., Freud - psychology, Einstein - physics), Picasso - visual art, Stravinsky - music, Elliot - literature, Graham - modern dance, and Gandhi - politics) demonstrated "Big C" creativity (see the Kaufman reading) in their various domains of work. As a part of the class you will work in small groups students to consider one of these individuals in depth and help the class answer the question, Why are we talking about this person in this class? To answer this question your group would likely consider what this person did and why we consider it creative. You will also want to consider if there where particular things about this person's environment or thought processes that helped them to be creative. Your presentation should incorporate concepts from course readings and lecture and you should also look for additional material in the literature relevant to helping us understand what the person did and how. Given Gardner's multifaceted approach to these individuals you will also want to consider the reaction of the field to this individual's life and work.

Your group will have 30-45 minutes on the day indicated on the course schedule to facilitate the classes' consideration of these issues. What should your group do to lead the class? That is entirely up to you! This is a creativity course...so BE CREATIVE. DON'T BORE US! Get us out of our chairs, maybe even out of our minds! When planning, try to think of ways to make the learning experience active for the entire class. You may create a film, write a play or opera, make a music video, do a demonstration, lecture, lead a discussion, run an experiment, take us for a walk etc. Most likely you will want to use a combination of these approaches to use your time effectively and keep it interesting.

Everyone in the group should be involved in creating the project, but you may have different roles to build on your individual strengths. It's up to the group to make sure everyone is doing their fair share.

4. **Real World Creativity Presentation (35pts)**. During the last two class sessions (including the final exam time) you will work in your same small group of students to make a class presentation on a notable creative person based here in Chicago. It is your group's responsibility to identify this individual, and have them agree to share their time and work with you (start looking for this person IMMEDIATELY and feel free to ask for suggestions). This person SHOULD NOT be a member of the Loyola community...reach outside into the great city of Chicago, home to many, many creative individuals. If you need suggestions talk to me. The person should have made some type of creative product (a new method of growing giant goose

livers?) you can share with the class. We like to eat! Your study should be in on an individual. They can work in a group or some type of collaboration, but ultimately your story is about them and what they did (this is psychology after all). This person's creative product needs to be public as you will look for evidence of how it has been accepted in the field.

The intent of the project is to allow you as a group to try your hands at the methods of studying creativity we have been reading about, particularly in Gardner. As in the your Gardner presentation you will want to address what this person has done and why we should consider it creative as well as consider what factors contributed to this persons development as a creative individual. You have an advantage over Gardner, in that you are going to choose a living person who you can talk to. This is closer to the method used by Csikszentmihayli in his book, *Creativity: Flow and the psychology of discovery and invention* (I've put his interview questions on the course website). Your presentation should incorporate the foundational course material whenever applicable and also reach outside of the assigned course material where appropriate. Make sure to address the field's reaction to the work (and person) and try to help us understand that. What you do for your presentation is wide open, but it should be accessible and encourage engagement with the class just like your Gardner presentation...don't go out with a fizzle...give us a BANG!

Expectations

- 1. Academic conduct: All students are expected to abide by the academic integrity policies outlined in the Loyola University Undergraduate Studies Catalog (e.g., online information at). Each individual student is expected to complete his/her work in the course in an honest and ethical manner. Furthermore, you may not submit a paper or assignment for this class that has already been submitted by you in another class. All forms of academic misconduct (including but not limited to cheating; plagiarism; tampering with materials, grades, or records; aiding in academic misconduct) will not be tolerated, and acts of cheating and plagiarism will be punishable by failure in the respective assignment/quiz. In addition, university policy states that instructors must report all forms of academic misconduct to their departmental chairperson. The chairperson is required to report all forms of academic misconduct to the dean's office, and all forms of academic misconduct are recorded. The administration may impose additional sanctions against the student including expulsion from the university. The consequences of academic misconduct go beyond the imposed sanctions. For example, consider the following process for application to medical or law school and how these schools would use records of academic misconduct in their decision to accept or reject applicants. As part of a general policy in the selection process, medical and law schools contact the administration at the applicant's undergraduate institution to inquire about instances of academic misconduct. Any record of academic misconduct on the part of the applicant is reported to the medical or law school, which would then likely translate into a rejection.
- 2. You are expected to attend every class and be prepared to discuss the assigned readings. Many of our class goals are dependent on your participation in in-class activities. Your success, as well as the success of your classmates is thus dependent on your presence and active participation. To enforce this expectation we will take attendance every day and this will be a part of your grade (see below). If you come to class more than 15 minutes late or leave more than 15 minutes early this will count as a half absence for that day.

Students who wish to observe their religious holidays need to notify me within the first two weeks of the semester of the date(s) when they will be absent so that course accommodations can be made. If you do not do this these absences will be recorded and counted towards your grade.

Student athletes are responsible for providing their travel schedule to me within the first two weeks of class or these absences will be recorded and counted towards your grade. You will be responsible for all work missed during your absence.

Extended absences from class because of severe illnesses or family or personal emergencies may keep students away from class for extended periods. Such situations will be resolved on a case-by-case basis. Students who are absent from a significant number of classes due to one of these causes may want to consider taking the course at another time.

- 3. A significant way you will be exposed to new information in this course is through regular reading assignments. Assigned readings must be read BEFORE the class for which they are assigned. As you read try to outline or concept map the information you are reading. Also write down questions you have about the material and questions based on the material you can ask each other.
- 4. Class participation and discussion are mandatory for all students. I expect you to participate verbally in class by asking and answering questions and contributing to discussion. I also expect you to participate in in-class activities including various group activities.
- 5. I also expect you to maintain respectful behavior towards all course members as consistent with the Loyola Student Promise (http://www.luc.edu/judicial/thepromise.shtml). Please do not talk when others are speaking, or interrupt during discussion. Please consider other's perspectives and try to be constructive when providing feedback and critiques. We will all (including the professor and TA) turn off our cell phones at the beginning of class. If your phone rings during class please gather your belongings and leave for the day. This will count as an absence. Reading email or instant messaging on your phone or on a computer is also not appropriate during class. Please focus your attention on what is happening in class and not on things outside of class.
- 8. Except as noted late assignments and/or papers will be graded down according to the number of days that the paper is late, with the exception of unforeseen emergencies and extenuating circumstances with documentation and only at the discretion of the instructor. There will be a deduction of 10% of the total possible points for each day that the paper or assignment is late (e.g., 10% point deduction if the paper is one day late, 20% point deduction if the paper is two days late, and so on).
- 9. General e-mail policy: I reply to e- mails within 1 to 2 business days, with the exception of when I am away on university business. Typically I will check class email first thing in the morning and around 6p. Please make sure you spell my e-mail address correctly (rmorrison@luc.edu).
- 10. Students with disabilities who require accommodations for access and participation in this course must be registered with the Services for Students with Disabilities (SSWD) office. Please contact SSWD at 773-508-7714 (http://www.luc.edu/sswd/index.shtml), and see me immediately. All students with special needs are expected to fulfill all course requirements.

Grading. Final Grades will be assigned as follows:

A: 93-100%

A-: 90-92.9%

B+: 87-89.9%

B: 83-86.9%

B. 80-82.9%

C+: 77-79.9%

C: 73-76.9%

C-: 70-72.9%

D+: 67-69.9%

D: 60-66.9%

F: less than 60%

Bibliography

- <u>Barron & Harrington</u>: Barron, F., & Harrington, D.H. (1981). Creativity, intelligence and personality. *Annual Review of Psychology*, *37*, 439-76.
- Bennis: Bennis, W. (1998). A computer with a rebel heart. In W. Bennis & P.W. Biederman, *Organizing Genius*. New York, NY: Basic Books.
- Cai: Cai D.J., Mednick S.A., Harrison E.M., Kanady J.C., & Mednick S.C. (2009). REM, not incubation, improves creativity by priming associative networks. *Proc Natl Acad Sci U S A., 106*(25),10130-4.
- Collins & Amabile: Collins, M. A., & Amabile, T. M. (1999). Motivation and creativity. In Robert J. Sternberg (Ed.) *Handbook of Creativity*. New York: Cambridge University Press.
- <u>Csikszentmihalyi</u>: Csikszentmihalyi, M. (1996). The creative personality. In M. Csikszentmihalyi, *Creativity:* Flow and the psychology of discovery and invention. New York: Harper/Collins.
- <u>Feldman</u>: Feldman, D.H. (1993). Child prodigies: A distinctive form of giftedness. *Gifted Child Quarterly, 37*, 188-193. DOI: 10.1177/001698629303700408
- GARDNER: Gardner, H. (1993). Creating minds: An anatomy of creativity sen through the lives of Freud, Einstein, Picasso, Stravinsky, Eliot, Graham, and Gandhi. New York: Basic Books.
- Gentner et al: Gentner et al. (1999). Analogy and creativity in the works of Johannes Kepler. In T. B. Ward, S. M. Smith, & J. Vaid (Eds.), *Creative thought: An investigation of conceptual structures and processes* (pp. 403-459). Washington, DC: American Psychological Association.
- Gladwell: Gladwell, M. (2008, October 20). Late bloomers: Why do we equate genius with precocity? In *The New Yorker* (pp 38-44). New York, NY: The New Yorker.
- <u>Hagendoorn</u>: Hagendoorn, I. (2011). Dance, choreography and the brain. In F. Bacci and D. Melcher (Eds.) *Art & The Senses*. New York, NY: Oxford University Press.
- <u>Kaufman & Baer:</u> Kaufman, J. C, & Baer, J. (2002). I bask in dreams of suicide: Mental illness and poetry. *Review of General Psychology, 6,* 271-286
- <u>Kaufman & Beghetto:</u> Kaufman, J. C., & Beghetto, R. A. (2009). Beyond big and little: The Four C Model of Creativity. *Review of General Psychology, 13,* 1-12
- Keri. Keri, S. (2009).Genes for psychosis and Creativity: A promoter polymorphism of the Neuregulin 1 gene is related to creativity in people with high intellectual achievement. *Psychological Science*, *20*(9), 1070-1073.
- Kris: Kris, E. (1953). Psychoanalysis and the study of creative imagination. Bull N Y Acad Med., 29(4), 334-51.
- <u>Krumhansl and Lerdahl</u>: Krumhansl, C.L., & Lerdahl, F. (2011). Musical tension. In F. Bacci and D. Melcher (Eds.) *Art & The Senses*. New York, NY: Oxford University Press
- <u>Lubart</u>: Lubart, T.I. (1999). Creativity across cultures. In R.J. Sternberg (Ed.) Handbook of creativity (pp. 339 349). New York, NY: Cambridge University Press.
- <u>Lubart & Sternberg</u>: Lubart, T.I., & Sternberg, R.J. (1995). An investment approach to creativity: theory and data. In S.M. Smith, T.B. Ward, & R.A. Finke (Eds.) *The Creative Cognition Approach* (pp.271–302). Cambridge, MA: MIT Press.
- Melcher: Melcher, D. (2011). Improvisation in time: The art of jazz- An interview with Greg Osby and Skip Hadden. In F. Bacci and D. Melcher (Eds.) *Art & The Senses*. New York, NY: Oxford University Press.
- Raina: Raina, M.K. (1993). Ethnocentric confines in creativity research. In S.G. Isaksen, M.C. Murdock, R.L. Firestein, & D.J. Treffinger (Eds.). *Understanding and recognizing creativity: The emergence of a discipline* (pp. 435-453). Norwood, NJ: Ablex.
- Russ: Russ, S. (200-2001). Primary-process thinking and creativity: Affect and cognition. *The Creativity Research Journal*, 13, (1), 27–35.

- Russ_etal: Russ, S.W., Robins, A.L. & Christiano, B.A. (1999). Pretend play: Longitudinal prediction of creativity and affect in fantasy in children. *Creativity Research Journal*, *12*(2), 129-139. doi:10.1207/s15326934crj1202_5
- Sacks: Sacks, O. An anthropologist on mars. In O. An anthropologist on mars.
- <u>Sawyer</u>: Sawyer, R.K. (2000). Improvisation and the creative process: Dewey, Collingwood, and the aesthetics of spontaneity. *The Journal of Aesthetics and Art Criticism*, *58*,(2), 149-161.
- <u>Simonton:</u> Simonton, D. K. (2012). Genius. In K. J. Holyoak & R. G. Morrison (Eds.), *Oxford handbook of thinking and reasoning*. New York: Oxford University Press.
- Smith & Ward: Smith, S.M. & Ward, T.B. (2012). Cognition and the creation of ideas. In K. J. Holyoak & R. G. Morrison (Eds.), *Oxford handbook of thinking and reasoning*. New York: Oxford University Press.
- Sternberg et al.: Sternberg, R. J., Lubart, T. I., Kaufman, J. C., & Pretz, J. E. (2005). Creativity. In K. J. Holyoak & R. G. Morrison (Eds.), *Cambridge handbook of thinking and reasoning* (pp. 351-370). New York: Cambridge University Press.
- <u>Uzzi & Shapiro</u>: Uzzi, B., & Spiro, J. (2005). Collaboration and creativity: The small world problem. *AJS*, 111(2), 447–504.
- <u>Van Steenburgh et al.:</u> Van Steenburgh. (2012). Insight. In K. J. Holyoak & R. G. Morrison (Eds.), *Oxford handbook of thinking and reasoning*. New York: Oxford University Press.
- Ward: Ward, T. B. (1995). What's old about new ideas? In S. M. Smith, T.B. Ward, & R. A. Finke (Eds.), *The creative cognition approach* (157–178). Cambridge, MA: MIT Pres
- Ward, Finke, & Smith Ch. 3: Ward, T. B., Finke, R. A., and Smith, S. M. (1995). Chapter 3. *Creativity and the Mind: Discovering the Genius Within*. New York: Plenum Press.
- Weisberg: Weisberg, R. W. (1993). Chapter 4: Creative problem solving. *Creativity: Beyond the myth of genius*. New York: Freeman.
- Zhong et al.: Zhong, C.B., Dijksterhuis, A., & Galinsky, A.D. (2008). The merits of unconscious thought in creativity. Psychological Science, 19(9), 912-8.

Week	Date	In Class	Readings*	Due
1	1/15	Course Introduction & Syllabus Introduction to methods in psychology Latin Liver	GARDNER Ch. 1	
2	1/22	What is Creativity and how can we measure it? Meet your group Sketches of Frank Gehry	GARDNER Ch. 2 Kaufman & Beghetto Sternberg et al	
3	1/29	How are people creative? Group Time Sketches of Frank Gehry	Smith & Ward Gentner et al Weisberg	Read Gardner Chapter for your group
4	2/5	The Brain and Creativity Group Time	Van Steenburgh et al. Sacks	Blog: First Post
5	2/12	Creative Personality Dog Town and Z-Boys	Csikszentmihalyi Barron & Harrington Lubart & Sternberg	Blog: First Comment
6	2/19	Play Tim Brown	GARDNER Ch. 4 Russet al Sawyer Melcher	Great Mind: Einstein Final Project Topic Identified
7	2/26	Unconscious Danielson Familie	GARDNER Ch. 3 Kris Cai et al. Zhong et al.	Great Mind: Freud
8	3/5	SPRING BREAK NO CLASS		
9	3/12	Motivation	GARDNER Ch. 9 Collins & Amabile	Great Mind: Gandhi Blog: Second Post

^{* &}lt;u>Underlined</u> readings available on Sakai under course content

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Week	Date	In Class	Readings	Due
10	3/19	Collaboration	GARDNER Ch. 8	Great Mind: Graham
		The Secret of Life	Uzzi & Shapiro	Blog: Second Comment
			Bennis	
			Hagendoorn	
11	3/26	Prodigies	GARDNER Ch. 5	Great Mind: Picasso
		Group Time	<u>Feldman</u>	Final Project Proposal Due
			Gladwell	
12	4/5	Mental Illness	GARDNER Ch. 7	Great Mind: Eliot
		The Hours	Russ	Blog: Third Post
			Kaufman & Baer	
			<u>Keri</u>	
13	4/12	Culture	GARDNER Ch. 6	Great Mind: Stravinsky
		Group Check-In on Final Projects	<u>Lubart</u>	Blog: Third Comment
			Raina	
			Krumhansl & Lerdahl	
14	4/19	Group Time & Wrap Up	GARDNER Ch. 10 & Epilogue	
15	4/26	Four Group Presentations	***************************************	
16	5/5	FINAL: Remaining Three Group Presentations		
16	5/5	FINAL: Remaining T	hree Group Presentations	hree Group Presentations

DATES ARE TENTATIVE. ASSIGNMENT DUE DATES MAY CHANGE DURING THE SEMESTER! I will communicate changes both in class and also on Blackboard.

15 January 2014

^{* &}lt;u>Underlined</u> readings available on Sakai under course content