

Psychology 1980
Mythbusting: Distinguishing Fact and Fallacy in Psychology and Everyday Life
Spring, 2011; T & T, GAB room 201

Instructor: Dr. Linda L. Marshall, Professor
Office:

Email:
Office hours: 2:30, T & T and by appointment

Texts – all are paperback

Levy, D. A. (2010). *Tools of Critical Thinking: Metathoughts for Psychology* (2nd ed). Waveland Press, Long Grove, IL. [Referred to as L in reading list. Bring the book to class.]

Lilienfeld, S. O., Lynn, S. J., Ruscio, J. & Beyerstein, B.L. (2009). *50 Great Myths of Popular Psychology: Shattering Widespread Misconceptions about Human Behavior*. Wiley-Blackwell, Chichester, West Sussex, UK. [Referred to as LLRB in reading list.]

Ruscio, J. (2006). *Critical Thinking in Psychology: Separating Sense from Nonsense* (2nd ed). Wadsworth, Belmont, CA. [Referred to as R in reading list. Bring the book to class.]

Objectives

TV shows mythbuster can be fun (or at least interesting). This course is on metacognition – thinking about thinking. You will discover how to use critical thinking skills in courses and everyday life. As we're constantly exposed to increases in the amount and complexity of information, the need to be adept at evaluating the quality of that information increases. We all should be able to separate fact from fallacy to improve our own lives and to be responsible as family members, friends and citizens. Moreover, with changes in knowledge occurring so quickly, it is necessary to be able to be flexible and adapt to the new knowledge.

Traditional, experiential, and action learning methods will be used to help you become a proficient mythbuster. This combination will ensure everyone has an equal chance to master the material and skills if they exert sufficient effort in class, in their logs and other assignments. By learning the blocks to critical thinking and gaining the skills to counteract those blocks, students will gain flexibility that will help you successfully navigate life. For example, you will learn about automatic cognitive processes (i.e., biases and heuristics) that interfere with effectively evaluating information and how to counteract these processes.

All home and in-class assignments are designed to discover, identify, practice or emphasize the difficulty we face when judging the quality of information to which we are exposed. It takes about 28 days of practice to create or change habits. By having the opportunity to learn and repetitively perform new behaviors, the use of critical thinking skills and separating fact from fallacy should become "second nature" to everyone.

This course is labor intensive. As is generally the case for college courses, students are expected to spend at least two hours outside of class for every hour inside class. Thus, this course should take an average of about 9 hours each week.

Email and formatting

The electronic files (in Word please) must have your last name in the title. Assignments and logs will be turned via email as attachments and assignments will be given and described via email. Every student should give me two email addresses in case there is a problem with one. The written assignments (logs and formal assignments) will be done in a major word processing program (preferably Word), using ½ to ¾ inch margins, single spacing and a 10 or 12 point font. The title of the file should include your last name. The last assignment will be due at the time our final is scheduled but other assignment will be due at midnight. Be sure to follow instructions because failure to do so will result in points lost.

Grading Points – required, 235 possible points for requirements

Grading will be done on a curve; 90% of the highest score will be required for an A, 80% for a B, 70% for a C, and 60% for a D. Anyone earning less than 60% will receive an F for the course. Anything turned in late will be able to receive only half of the points possible.

30 pts for attendance; 1 point for presence at each class, ½ point if late or have an excused absence.
70 pts for homework log entries, including points for improvement
40 pts for analytic essays; 10 points for up to 4 written assignments to be assigned (includes final one)
30 pts for family behavior, 20 for involvement and contributions plus 10 for improvement
25 pts for general improvement, considering entire course
20 pts for involvement, engagement, effort, and responsibility to self, peers and instructor
10 pts for critical evaluation of family members, free of forms of response bias
10 pts research (SONA)-participate in or write a research paper for insight into evaluating research data

Bonus points may be given to individuals who show outstanding behavior (e.g., consistently attending class and consistently turn in assignments on time with the work reflecting more than the minimum required). Late assignments cannot receive full credit.

Attendance

You are required to attend class because intense involvement and class practice is necessary for students to be able to break old habits and effectively develop the skills and habit of using critical thinking techniques. Written excuses must be sent to me ahead of time if possible or a doctor's note given to me at the next class. See <http://www.unt.edu/catalog/undergrad/enrollment.htm> for UNT attendance policy.

You must sign your name on the sign-up sheet each and every day. If you are not listed on the sheet I collect for any given day, you will not receive an attendance point. To receive a half (1/2) point if you are late, you must sign for that day before you leave. In addition to excused absences as defined in the catalog, I must receive an email before class time if you are ill or have an unusual and unavoidable emergency.

Homework Logs – up to 10 pts each time due plus 50 pts at end of semester (May 5, midnight)

This is not a journal. In a journal you might simply write about your thoughts or how you handle a situation. The purpose is to practice critical thinking by applying what you learn. Keep all entries in one word processing file. Add new entries at the end. Keep any notes written as feedback to you and simply add new entries after those notes. Logs will be sent via email.

The number of points earned will be based on the number of entries, breadth of entries (i.e., number of different areas/topics), writing clarity (i.e., degree to which any reader can understand the points made), depth of thinking, evidence of improvement in thinking and communication over time, and responsiveness to feedback. The Log will consist of at least 5 entries every week. Your log serves purposes of ensuring you practice what you are learning, show improvement, are involved in the course and are keeping up with class. Please do not write in any type of "short hand" or other abbreviations I may not understand. Date each entry and title it either PRACTICE, ALTERNATE PERSPECTIVE, or CHANGED MIND. You cannot use commercials or ads after we start the 10 reading assignments.

PRACTICE: At least 3 entries each week. Entries should consist of a description of the information or event to which you applied at least one critical thinking principle. Be sure to describe the source, the principle, and your conclusion. Focus on the experience of applying one or more of the principles that enhance mythbusting skills and improve your ability to overcome barriers to critical thinking.

When the readings start, the entries should be approached in one of two ways. 1) Start with a principle or tactic. Then look around your world for several examples in which that principle/tactic was evident during the day. 2) Start with something that catches your interest. Then evaluate it by showing how several of the principles or tactics are functioning. In either case, describe the principle/tactic and explain your application sufficiently to make your thinking evident. Specific principles/tactics are listed in brackets in the reading list.

ALTERNATE PERSPECTIVE: Once every week describe a time when you purposefully attempted to take a perspective opposite to your "normal" reaction. Describe what you thought first, why you decided to use this situation to practice thinking in an alternative way, and describe what you think when you take the alternate perspective. That is, describe both the (original and alternative) content of your thoughts and the process you used to take an alternate perspective on the information.

CHANGED MIND: Once every week describe a time when you changed your mind or seriously considered changing your mind. Describe what you thought first, the information and/or experience that led you to reconsider what you thought, why or how the quality of that information led to your reconsideration, and, as much as possible, the thinking process you went through to come to the new opinion, belief or state of mind.

Analytic Essays – 10 points each, due dates and other specific assignments to be determined

There will be at least a one-week notification for the formal assignments which will be given via email. These essays will have a minimum of 500 words unless otherwise specified. Grading will be based on: 1) details involved in the format & appearance of the essay (e.g., no typos, margins as required, consistency of space after periods); 2) technical details involved in appropriate writing (e.g., sentencing, paragraphing); 3) the clarity and thoughtfulness of the content; 4) the depth and thoroughness of the content; and 5) how responsive it is to the assignment. A late assignment will receive no more than 5 points and may receive less.

Two of the assignments will be: Find a column in a newspaper or news magazine by a conservative (liberal) columnist from the list of names I give you. Not a blogger and not a TV or radio “personality.” You will turn in the hard copy of the column which can be retrieved from the internet, although it must have appeared printed in a newspaper or news magazine. Find and identify: 1) The grain of truth and your alternate source for that truth, 2) misleading statements or lies and how you know they are misleading or lies, 3) Show which tactics and strategies referring each to class or the text, 4) List the sources you used to check for accuracy of the column’s content and justify why you judged each source to be likely to have accurate information.

Final Assignment due Wed, May 11 at midnight: Self-Evaluation in lieu of a final. This will be a minimum of 1000 words. Use critical thinking to evaluate the quality of your performance in all aspects of the class. Include attention to strengths, weaknesses, and change during the semester. Address all course requirements, including how you were affected by others in your family and how you affected them. Address your effort, involvement, and accomplishments in all aspects of the course. Include any issue that caused you to perform at a less than optimal level. Detailed information is necessary. Be sure to discuss ways you improved and evidence for that improvement. You may use this as a chance to influence your grade, but I will be most influenced by the quality of your thinking. You might want to keep notes during the semester to help prepare for this.

Family Behavior – 30 points

I will create 4 or 5 person families. You will remain with the assigned family all semester. You will work with your own family and communicate with other families. I expect members of each family to get to know each other and work together so that everyone gains experience learning from each other.

Each family is expected to be in communication with each other outside of class as well as during class. Family members are expected to be responsible to and for each other. Family members must be able to rely on each other for contributing to the family’s tasks. It is everyone’s responsibility to help the other family members improve their critical thinking skills. This is one other reason why attendance is required. It is not possible to be a responsible family member in absentia.

To be a responsible family member, you must work to ensure everyone participates in every task and that each person learns to participate in different ways. Each time a family task is presented to the class, it must reflect the combined contributions of everyone. It will not be sufficient for family members to simply present different parts of the task. Instead, it will be necessary for everyone to be flexible and to practice negotiation skills within their family.

General Improvement – 25 points

I will use five types of data to assign points for improvement. 1) Comparison of the first and last sets of log entries will show how much the quality and depth of thinking and expression has improved. 2) Students’ overall self-evaluation describing ways their critical thinking improved and the number of points they would assign for their own improvement. 3) Family members’ ratings of improvement. 4) The amount of difference seen by comparing results on the standardized critical thinking tests. 5) My evaluation of improvement in class.

Responsibility, involvement, engagement, and effort – 20 points

Your critical thinking skills cannot improve without you being involved and engaged with the course content, exerting effort to master the skills, and behaving in a responsible way to yourself, classmates, and your instructor. As a college student planning to have a successful life, I expect you to have a strong sense of responsibility.

This class is weighted toward personal involvement and active learning. Therefore, each student has a variety of responsibilities to themselves and to all others. You are expected to critique tasks you do yourself, your family does and those done by other families. By learning to effectively critique your own and others’ work, you will be improving your mythbusting skills as well as their mythbusting skills. Research from a

variety of perspectives has shown that by helping another individual improve (e.g., their writing, the way they think or answer questions) you actually improve too.

Peer evaluation – 10 points

All family members will evaluate others in their own family on improvement in critical thinking skills across the semester on a scale from 1 (no improvement) to 5 (a great deal of improvement). These ratings will be considered when I assign a grade for improvement as will a description with examples of the way each person has improved.

In addition, family members will rate each other on: a) improvement in communication, b) quality of contributions, c) thoughtfulness of feedback to peers, d) overall communication with others in the group, and e) overall communication with others in the class. A 5-point scale will be used from 1 (poor) to 5 (excellent). A 3 would be “about average.” Also, three overall ratings (How involved was this person with family members and family work? How much did this person contribute to the family? How responsible was this person to the family?) will be considered when assigning points for Family Behavior.

Because this will occur at the end of the semester, your evaluations must show your critical thinking skills and ability to make judgments despite any bias you have about an individual. If response biases are evident (e.g., little variation in specific ratings for a specific individual or little variation in ratings across individuals), no points will be assigned, your responsibility points may be decreased, and you will be ineligible for any bonus points that are available.

Research participation – 10 points

This requirement will be done through the SONA system used by the psychology department. Research participation is required because it will give insight into ways social science knowledge is generated and will help students learn to distinguish social science research from pseudoscience.

Readings

There are 10 weeks of numbered readings and 15 weeks of class. We will not begin the readings for a couple of weeks which is why they are numbered instead of dated. Once we start Reading #1, you are expected to bring the texts to class for reference.

This set should be read during the first weeks of class to provide an overview. You are expected to do these readings yourself and prepare to discuss them with your family.

LLRB – Fact vs Fiction - Introduction: The Wide World of Psychomythology

L – Metathoughts Summary & Antidote Table – summary of critical thinking principles in text

R – C16 - Tools: Suggestions for Critical Thinking – summary of critical thinking principles in text

#1 -

R – Evaluating Sources Whether in Print or on the World Wide Web.

[To evaluate sources – Is there a commercial purpose? Who is responsible for accuracy? Updated when & how often? Well documented with reliable references? Is size or likelihood of effect given? Consistency of evidence? Alternative interpretation given?]

R – C1 & C2 - Introduction: Pseudoscience and the Need for Critical Thinking and Science: Evaluating Claims to Knowledge.

[10 keys to pseudoscience: superficial appearance of science, peer review absent, personal experience, evades risky tests, supernatural explanation, refers to holism, inconsistencies, appeal to authority, promise too much, static & stagnant. 6 keys to science: falsifiability, logic, comprehensiveness, honesty, replicability, sufficiency. Misplaced belief in everyone is different.]

#2 - Deception and Conceptualizing

L – C1, C2 & C3 - Evaluative Bias of Language; Reification Error; and Multiple Levels of Description

[Description vs prescription. A name doesn't make it real. Differing perspectives and “starting points.”]

R – C3 – Language: Misleading and Evasive Tactics.

[weasel words, framing, quality-based on adequate evidence, quantity-appropriately informative, directly relevant information, unambiguous language (clear & concise), false dichotomies, slippery slope.]

#3 - Self-Deception and Conceptualizing

L – C4 through C9 - Nominal Fallacy & Tautological Reasoning, Dichotomous & Continuous Variables; Contrasting; Similarity & Uniqueness; Naturalistic Fallacy; and Barnum Effect

[4-naming doesn't explain; repeating with different words doesn't convey information. 5-dichotomy vs continuum. 6-define by contrast with opposite. 7-similarities and differences (differences can obscure similarities & similarities can obscure differences). 8-common ≠ good, uncommon ≠ bad, common ≠ bad, uncommon ≠ good. 9-overly inclusive & generic interpretations.]

R – C7 - Plausibility: All Beliefs Are Not Created Equal.

[Plausibility: claim vs reality; empty promises; evasive maneuvers; contamination effect (affecting reliability & validity of info); contradictions]

#4 - Explaining

L – C10 through C14 – Correlation & Causation; Bidirectional Causation; Multiple Causation; Degrees of Causation; and Different Causes, Same Effect

[10-association ≠ cause (what vs why); contiguity-causation error; 11-bidirectional causes. 12-multiple causes. 13-partial cause. 14-multiple pathways (different cause, same effect).]

R – C8 - Association: Establishing and Interpreting Correlations.

[establish & interpret associations (correlations): presume association through examples; presume association through one rate; pattern of correlations for possible causation (consistency, strength, dose-response relationship, plausibility, coherence of associations)]

#5 - Deception

R – C4 & C5 - Magic: The Allure of Exotic Rituals, Fantasy, and Mysticism and Authority: Appeals to Blind Obedience.

[wishful thinking; superstition; rituals; representative thinking (things seem consistent); mysticism. Appeals to authority & obedience: ancient wisdom; popularity; self-proclaimed experts; political lobbying]

#6 - Misattributions

L – C15 through C19 – Fundamental Attribution Error; Intervention-Causation Fallacy; Consequence-Intention Fallacy; If I feel it, it must be right; and Spectacular Explanation Fallacy

[15-cognitive & motivational biases (e.g., just world, blame victim, illusion of control). 16-don't infer cause based on response to intervention. 17-a consequence does not reflect or imply intent. 18-feelings do not reflect or imply truth; memory can be true or false. 19-extraordinary events typically have common causes.]

R – C6 - Experience: The Limitations of Testimonials as Evidence.

[self-deception; competing explanations (i.e., evaluate for placebo, spontaneous remission; cyclic diseases; misdiagnosis, symptomatic relief, hedged bets, derivative benefits); distorted reality; single cases vs general principles]

#7 - Biases

L – C20 through C23, C25, C27 through C29 – Deductive & Inductive Inference; Reactivity; Self Fulfilling Prophecy; Assimilation Bias; Belief Perseverance; Representativeness Bias; Availability Bias; Insight Fallacy

[20-deductive reasoning, inductive reasoning. 21-observing = disturbing. 22-expectations can create reality. 23-schema biases affect what perceptions (assimilation, accommodation, availability, belief perseverance, confirmation, hindsight, self-fulfilling prophecy). 25-belief perseverance-discounting, denying, ignoring challenges (harder to change than create beliefs). 27-representativeness affected by invalid schema, underused base rates, small samples, misunderstood probability, motivational biases). 28-availability affected by salience, vividness, overgeneralizing, recency. 29-understanding ≠ change]

#8 - More Biases

L – C24 and C26 – Confirmation Bias and Hindsight Bias

[24-looking for = finding, selectively gather information to confirm beliefs or question (disconfirmation not as salient as confirmation evidence). 26-knew it all the time, retrospective clarity.

R – C9 through C12 - Risk: Biased Perceptions and the Media Paradox; Belief: Confirmation Bias, Post-Hockery, and Overconfidence; Schemas: Seductive Grand Conspiracy Theories; Illusions: Perception of Control.

[Risk: vividness; availability; 4 principles to evaluate media information (p113). Belief persistence: discover vs verify (prediction vs *post hoc* "cause"; confirmation bias; absent, misleading or misperceived feedback; hindsight bias; overconfidence. Schemas: conspiracy theories. Illusions: endowment effect; perceived control; certainty; just world beliefs; self-blame; learned helplessness; problems with illusions of control]

#9 - Decision Making

L – C30 – Decisionmaking Trade-Offs

[30-costs & benefits, pluses and minuses.]

R – C13 through C15 - Assessment: Classical Decision Theory; Decisions: Clinical Vs. Statistical Approaches;

and Ethics: The Use and Promotion of Unverified Treatments.

[Assessment: frequency trees; base rate (also positive & negative prediction); validity (also sensitivity & specificity; threshold (also false positives & false negatives). Clinical vs statistical decision making (i.e., belief in own judgment vs believing results of research. Unverified treatments: rephrased sections-when you hear hoofbeats, think horses not zebras: cost-benefit analysis (projections of benefit & harm)]

#10 - Summary

LLRB – Fact vs Fiction - Introduction: The Wide World of Psychom mythology

L – Metathoughts Summary & Antidote Table – summary of critical thinking principles in text

R – C16 - Tools: Suggestions for Critical Thinking – summary of critical thinking principles in text

POLICIES

This description is not to be interpreted as a contract. Plans for this course may be modified during the semester.

Cell phones, texting, ear buds, etc. will not be tolerated. If you must take a phone call, I will assume it is an emergency and expect you to have to leave class for the rest of that day.

Lateness. For both attendance and assignments, lateness will result in losing half the points possible.

Incompletes. This course is more cumulative than most. Knowledge and skills gained in the course build on and use knowledge and skills addressed in previous classes and assignments. Moreover, students will be relying on each other for their own improvement. Consequently, it will be extremely difficult, if not impossible, to get an I. In any rare situation where an I is assigned, the student must complete the entire course again. It will not be possible to “make up” an assignment out of the context of the entire course.

Plagiarism and Cheating. Academic misconduct is very serious and will not be tolerated. This includes, but is not limited to looking at another person’s exam, citing another person’s ideas or using words without proper acknowledgement. Plagiarism and/or any form of cheating will be grounds for an F in the course and possible sanctions by the university. All students should be familiar with UNT’s policies on academic misconduct.

ODA. UNT is committed to the spirit and letter of federal equal opportunity legislation. With passage of the Americans with Disabilities Act, pursuant to section 504 of the Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens. I will not discriminate on the basis of a disability. Students must inform me of the need for reasonable accommodations and provide authorized documentation through administrative channels. See www.unt.edu/oda/apply/index.html, visit the Office of Disability Accommodation Union (room 321) or call (940) 565-4323.

Student Evaluation of Teaching Effectiveness. SETE is required for all organized classes. The short survey will be available at the end of the semester. By completing SETE you will be able to comment on how the class is taught and affect how I teach it in the future. Your feedback is very important to me. I consider SETE to be an important part of your participation in this class.