

Psychology 1500  
Mythbusting: Distinguishing Fact and Fallacy in Psychology and Everyday Life  
Spring, 2012; T & T, GAB 201 at 3:30 and at 5

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

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

**Texts** – all are paperback

Levy, D. A. (2010). *Tools of Critical Thinking: Metathoughts for Psychology* (2<sup>nd</sup> ed). Waveland Press. Required and bring it to class once the readings start. Referred to as L in the reading list.

Ruscio, J. (2006). *Critical Thinking in Psychology: Separating Sense from Nonsense* (2<sup>nd</sup> ed). Wadsworth, Belmont, CA. Required reading and bring it to class once the readings start. Referred to as R in the reading list.

Tavris, C. & Aronson, E. (2007). *Mistakes Were Made But Not By Me*. Harcourt Books. Recommended.

**Overview**

This course is on metacognition – thinking about thinking. You will discover how cognitive biases can be useful and can also lead to the acceptance of myths. You will learn to be a mythbuster using tactics and strategies to counter these biases.

Traditional, experiential, and action learning methods will help you become a proficient mythbuster. (Note the term is experiential, not experimental.) This combination ensures everyone has an equal chance to master the material and skills if the student exerts sufficient effort in class, in log entries and other assignments.

This course is writing intensive and labor intensive. The rule of thumb for college courses, is that students should spend two hours outside of class for every hour inside class. So this course should take an average of about 9 hours each week.

Please make mistakes and errors on log entries and in class. That's the most valuable thing you can do because people learn more from mistakes than from being right.

**Grading Points**, 235 possible points for requirements

Grading will be on a curve (A = 90%; B=80-89.9%; C=70-79.9%; D=60-69.9%; F = <60%). Everyone can earn an A and a B is typical for students who complete all the requirements on time. No more than half of the possible points will be given for any late assignment.

**Individual Behavior** – 135 possible

30 pts attendance, 1 for class presence, 1/2 if late/excused absence, 1/4 if email prior to unexcused absence

15 pts for details - following directions in syllabus

20 pts for improvement, pre- to post-test

50 pts for log entries

10 pts for seeking feedback on alternative perspective and changed mind log entries (5 each, up to twice)

10 pts for seeking feedback for application log entries (5 each, up to twice)

**Family Behavior** – 100 possible

30 pts for overall family behavior; involvement, contributions, responsibility

25 pts for family improvement pre-post test; 25 for family with largest positive change, 5 for smallest change

10 pts peer evaluation of each member's contributions showing critical thinking and absence of response biases

10 pts for being the one judged to have helped others the most, improved the most, was most important

(each family will have 3 different people for these awards)

25 pts class judgment most effective family (20, 15, 10, 5 for lesser to least effective)

(family members cannot vote on their own family)

***THE SYSTEM IS SET SO THAT STUDENTS MUST COME TO CLASS AND MUST DO THE LOG ENTRIES TO PASS. In other words, an F is likely if either the log entries are not done or class is not attended regularly. Students who have failed have missed several classes (usually more than 4) and/or done fewer than 85% of the log entries.***

**Additional Points**

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). Family bonus points may be given to family members who are present during specific classroom exercises. Bonus points may also be given for attendance at the professor's discretion.

Extra Credit: 10 pts earned by participating in or writing a research paper for insight into evaluating data resulting from research. Go to <http://www.psyc.unt.edu/undergraduate/undergraduate-research>.

**Due Dates** Most due dates will be stated in class and via email, with at least one week notice.

January 24, Implicit Associations Test Demo for Age and for Religion completed for class discussion

<https://implicit.harvard.edu/implicit/demo/>

April 26, homework logs are due at midnight including all entries and all comments

May 1, family evaluations on the paper forms are due in class

May 3, Analytic Essay 4 is due at midnight

**Instructions for email and formatting assignments** – [psyc1500@yahoo.com](mailto:psyc1500@yahoo.com)

Assignments will be turned in via email as an attachment. The attachment's filename must include your last name in the title. Every student should provide two email addresses in case there is a problem with one.

Log entries and essays must have ½ to ¾ inch margins, single spacing and a 10 to 12 point font. Most assignments will be due at midnight. Failure to follow formatting instructions will result in points lost.

### **Attendance**

You are ***REQUIRED*** to attend class because intense involvement and class practice is necessary to break old habits and effectively develop the skills and habit of using critical thinking techniques. Written excuses must be emailed to me ahead of time if possible or a doctor's note given to me at the next class for partial points. 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 to receive an attendance point. I may give bonus points when attendance is 100%) and/or days when attendance is around 60% or less.

### **Pre-Post Test**

On January 19 and May 8, you will be given versions of a standardized test for four reasons. 1) The results help direct the course to be most relevant to each specific class. 2) Change in scores across the semester indicates individual and 3) family improvement as well as ways the course should be adjusted. 4) Your family configuration will help you determine how best to help each other.

### **Homework Logs**

The purpose is to ensure you practice critical thinking by applying what you learn. The specific constructs to apply each week are named in the reading schedule. Keep all entries in one word processing file. Date and describe the type of each entry. Add new entries at the beginning of the file, always keeping all preceding entries and comments. 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, improvement in thinking and communication, and responsiveness to feedback. When the readings start, the Log will consist of 5 entries every week.

You may turn in your complete log at your discretion (i.e., all entries you have made to date) to get feedback on either 2 consecutive weeks of alternate perspective and changed mind entries or 2 consecutive weeks of application entries. You will earn 5 points each time by asking for feedback on your entries. Be sure to note which entries I should read for feedback.

**ALTERNATE PERSPECTIVE:** Once every week you must purposefully attempt 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 you must seriously consider changing your mind about something that is not trivial (i.e., not something like what TV/movie to watch, where/what to go eat). 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.

**APPLICATION:** Three entries each week based on a construct for that week in the reading list. Name the construct. Describe the information or event to which you applied the construct/principle. Be sure to describe the source, the principle, and your conclusion. One purpose of application entries is to force you to learn the strategies/constructs out of context, leading to the ability to think in new ways.

#### **4 Analytic Essays**

These essays will have a minimum of 500 words unless otherwise specified. Grading criteria include details involved in the format & appearance of the essay (e.g., no typos, margins as required, consistency of space after periods); technical details involved in appropriate writing (e.g., sentencings, paragraphing); the clarity and thoughtfulness of the content; the depth and thoroughness of the content; and how responsive it is to the assignment. A late assignment will receive no more than 5 points and may receive less. Three of the assignments are to help you learn to limit the effects of biases we have that are largely a function of the culture.

Implicit Associations Test, due Jan. 31, via email by midnight. To be an effective mythbuster we need to learn more about ourselves and culture. That is the purpose and function of Implicit Associations Tests. For this essay you will complete 2 of the tests on the website that will be assigned randomly when you login at <https://implicit.harvard.edu/implicit/research/> and choose study. Which tests did you do? What were the results? What did you learn about yourself? How do the results compare with what you think you know about yourself (e.g., what was surprising, what was as you would expect)? What effect do the results have on the way you think about yourself and why? What does the experience imply about the culture?

Two 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 at final time: 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**

I will create 4 or 5 person families that you will remain with all semester. Family members should get to know each other well, communicating during and outside of class. Members are required to take turns as family spokesperson. Family members should learn early how to give and accept critical feedback from each other.

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 cooperation and collaboration requirement is emphasized by being able to earn up to 25 points for family improvement on the post test. Further, 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 a variety of 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.

#### **Peer evaluation**

Every family member will evaluate the others in their own family on a variety of behaviors. Your evaluations must show critical thinking skills and the ability to make judgments despite any bias you have about an individual. Response biases must not be evident (e.g., little variation in specific ratings for a specific individual or little variation in ratings across individuals).

**Readings** - When we start Reading #1, you are expected to bring the texts to class for reference.

### **#1**

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

[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?]

[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 & Tautologous 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 – 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]

## **#6 – Biases –**

L - C20 through C29 – Deductive & Inductive Inference; Reactivity; Self Fulfilling Prophecy; Assimilation Bias; Confirmation Bias; Belief Perseverance; Hindsight Bias; Representativeness Bias; Availability Bias; Insight Fallacy [salience and absence]

[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). 24-looking for = finding, selectively gather information to confirm beliefs or question (disconfirmation not as salient as confirmation evidence). 25-belief perseverance-discounting, denying, ignoring challenges (harder to change than create beliefs). 26-knew it all the time, retrospective clarity. 27-representativeness affected by invalid schema, underused base rates, small samples, misunderstood probability, motivational biases). 28-availability affected by salience, vividness, over generalizing, recency. 29-understanding ≠ change

## **#7 - More Biases –**

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. Schemes: conspiracy theories. Illusions: endowment effect; perceived control; certainty; just world beliefs; self-blame; learned helplessness; problems with illusions of control]

## **#8 - Decision Making -**

L - C30 – Decision-making 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 hoof beats, think horses not zebras: cost-benefit analysis (projections of benefit & harm)]

## **#9 – Summary –**

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.

See <http://www.unt.edu/catalog/undergrad/enrollment.htm> for the UNT attendance policy. You are responsible for documenting your attendance on the sign in sheet. You must sign your name each and every day to receive an attendance point.

You are expected to remain in class during each class period.

If used, cell phones, texting, ear buds, etc. may be taken away. If you must take a 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](http://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.