

FALLACIES (in Handout)

1. appeal to force
2. ad hominem, abusive/circumstantial
3. appeal to ignorance
4. appeal to pity
5. appeal to the people
6. appeal to authority
7. accident, converse accident
8. begging the question (circular reasoning)
9. false cause
10. complex question
11. irrelevant conclusion

SOME ADDITIONAL RELATED FALLACIES

1. appeal to fear, argument from adverse circumstances
2. tu quoque (you're another), poisoning the well
3. disproving the negative
4. appeal to emotion
5. appeal to the gallery
6. appeal to inexperienced authority, appeal to tradition
7. statistics of small numbers, observational selection
8. assuming the answer, invincible ignorance
9. slippery slope
10. meaningless question
11. straw man, excluded middle (false alternative)

RHETORIC AND PROPAGANDA

1. beware of passionate appeals
2. because something is published (or broadcast, or on the Internet, etc.) does not make it valid or accurate (consider the source's intellectual rigor)
3. analogies are useful, but beware misleading analogies (comparisons must be similar in significant ways—may be different in trivial ways)
4. beware of tacit assumptions behind adjectives and adverbs used in persuasive speech
5. beware of the manipulative use of terms that are not widely understood
6. beware of double-speak and invented terms that mask real meanings
7. guard against inconsistent standards of judgment in favored and disfavored ideas
8. every link in a chain of arguments must hold for the conclusion to be acceptable; therefore, avoid *unnecessary* complications in arguments

THE SCIENTIFIC METHOD

1. observation-->theory-->hypothesis-->operationalization-->experimentation
2. remember that results are only as valid as the research design
3. don't forget the difference between experience and perception versus reality
4. insist on a clear definition of terms before addressing the issue at hand
5. recognize the difference between hearsay and significant evidence
6. beware univariable explanations
7. consider alternative hypotheses and all sides of an argument
8. don't confuse independent and dependent variables
9. operational indicators must be free of bias
10. good experiments require a control group
11. experiments should be double-blind if possible
12. others should be able to duplicate the results of valid experiments
13. realize and accept that some degree of uncertainty is natural and unavoidable (remember chaos theory)
14. scientific laws are theories whose conclusions that have not yet been disproved

CALCULATIONS

1. remember that one case does not make a rule and general conditions often have exceptional cases
2. apply a cost-benefit analysis, being careful to include all costs and benefits
3. remember the margin of error, and the accuracy and reliability of your indicators
4. beware of statistical manipulations (% of what, exactly?)
5. question how far back one should consider in compiling data that illustrate trends
6. examine all charts and graphics for validity (graphic representations are powerful; be careful)

POLICY ANALYSIS

1. remember that common sense is *common*, but not always *sensible*
2. remember that public policy must be based on more than anecdotal evidence of individuals
3. take human nature into account when constructing solutions
4. "objective solutions" are rare; consider the author and ask whether he/she benefits
5. true understanding of a concept is difficult if it is not personalized; beware of judgments from a distance
6. question why reformers most often want to solve easy problems rather than more serious ones
7. public policy crises are never a problem *before* they occur (ignored dangers do not always disappear)
8. mere results of a decision do not prove the decision's merits (other outcomes were possible)

SELF-CRITICISM

1. be *skeptical*, not *cynical*; skepticism leads to questioning and analysis, cynicism is destructive
2. remember that your own biases, values, and experiences will color your conclusions
3. guard against confirmation bias: the tendency to seek, validate, and interpret information that confirms one's existing conclusions and beliefs
4. guard against attribution error: recognize that things that others do that offend us may be due to misunderstandings, circumstances, or impersonal conditions-- just as we forgive ourselves for our actions, attributing them to external circumstances beyond our control
5. keep an open mind; don't leap to judgment
6. when making a decision, encourage criticism--or at least appoint a devil's advocate
7. avoid undue attachment to your original argument--real intellectuals are willing to change their views
8. be humble in your analyses; don't claim more than you can prove