

	<p>ICS 464 10/30/06</p> <p>Introduction to Cognitive Science</p>
	<p>¹ Next</p>

	<p>Today's Activities</p>
	<p>Quiz05 – Chapter10 Quiz review Human subjects experiments in cognition Tuesday Noon - Chapter 11-12 summaries due</p> <p>Wednesday Quiz07 – Human Subjects Quiz review Chapter 11-12 review</p>
	<p>² Next</p>

	<p>Quiz05</p>
	<p>³ Next</p>

	<p>Quiz05 #1</p>
	<ul style="list-style-type: none">■ In general, what does "Universal Grammar" refer to?■ "Universal Grammar" is used to refer to the system of principles defining what the grammar of a human language can be. p295■ Principles of grammar shared by all languages.
	<p>⁴ Next</p>

Quiz05 #2

Optimal Theory (Prince and Smolensky 1993) asserts that Universal Grammar provides a set of general, universal constraints which evaluate possible structural descriptions of linguistic objects. Optimality theory has six principles listed below:

- Principle 1: Universal Grammar provides a function, Gen, which maps each input to its set of candidate structural descriptions.
- Principle 2: Universal Grammar provides Con, a set of universal constraints assessing the well-formedness of structural descriptions.
- Principle 3: A grammar is a total ranking of the constraints of Con into a strict domination hierarchy.

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Next

Quiz05 #2

Optimal Theory (Prince and Smolensky 1993) asserts that Universal Grammar provides a set of general, universal constraints which evaluate possible structural descriptions of linguistic objects. Optimality theory has six principles listed below:

- Principle 4: Cross-linguistic variation is explained by variation in the ranking of the universal constraints.
- Principle 5: Richness of the base: the set of possible inputs is the same for all languages.
- Principle 6: The universal constraints include faithfulness constraints, which are violated by discrepancies between the surface form of a description and the input.

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Quiz05 #2

- Select two principles, except #4, and explain what problem Optimality Theory would have if it were missing.
- For example: If Principle # 4 did not exist then Optimality Theory would not be able to account for why different languages have difference priorities of the constraints.

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Next

Quiz05 #3

- 3. Optimality Theory makes the claim that all phonological interactions can be analyzed as the interaction of faithfulness and markedness. According to Optimality Theory, what is faithfulness and markedness?
- Comparing "input with output and in each case require that the output preserve some feature of the input: these are faithfulness constraints." p299

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Quiz05 #3

- 3. Optimality Theory makes the claim that all phonological interactions can be analyzed as the interaction of faithfulness and markedness. According to Optimality Theory, what is faithfulness and markedness?
- "Linguistic markedness, or inherent complexity of structures . . ." p305
- "markedness: "marked", or linguistically complex, structures are literally marked as such by the constraints they violate." p305
- "The basic notion of a marked structure is directly built into the theory: a marked structure is one receiving a violation mark by a constraint in Con." p306
- "Linguistic markedness is captured by the use of constraints which can be violated . . ." p323

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Quiz05 #1

- 4. What is the most significant difference between Optimality theory and connectionist theory?
- Harmony function of the connectionist theory is "the weighted connections of the network define a function, often labeled energy or harmony (Smolensky 1986). . . " p315
- The harmony function of Optimality theory is the ranking of constraints specific to each language.

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Quiz05 #1

- 4. What is the most significant difference between Optimality theory and connectionist theory?
- "The most significant difference between Optimality Theory and connectionist theory is the nature of the harmony function.
- Connectionist theory uses numerical optimization: the constraints are assigned numeric weights, so the relative strength of different constraints is determined by the relative magnitudes of their respective numeric weights.
- Optimality Theory uses strict domination optimization (Principles 3 and 4)" p316 (constraint ranking and prioritization based on language)

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Next

Institutional Review Board (IRB)

- To promote the safety and well being of human participants
- To ensure adherence to the ethical values and principles underlying research
- To ensure that only ethical and scientifically valid research is implemented
- To allay concerns by the general public about the responsible conduct of research

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Human Subjects Research

- **What qualifies as "Research" requiring IRB review?**
- Research means a systematic investigation designed to develop or contribute to generalizable knowledge
- Including
 - Research development
 - Testing and evaluation

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Next

Human Subjects Research

- Activities which meet this definition constitute research for purposes of this policy, whether or not they are conducted or supported under a program which is considered research for other purposes.
- Some demonstration and service programs may include research activities.

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Next

What is the definition of "Human Subject"?

- Human subject means a living individual about whom an investigator (whether professional or student) conducting research obtains
 - (1) data through intervention or interaction with the individual
 - (2) identifiable private information.

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Next

Training before being eligible to conduct human subject research?

- Recommended
- Required for some federal agencies
- Two hour on-line training
- <http://cme.cancer.gov/clinicaltrials/learning/humanparticipant-protections.asp>
- Extra credit #4 worth 10 points

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Next

Belmont Report

- **Boundaries Between Practice and Research**
 - "practice" refers to interventions that are designed solely to enhance the well being of an individual patient or client
 - research is designed to evaluate
- **Basic Ethical Principles**

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Next

Basic Ethical Principles

- *Respect for Persons*
 - Individuals should be treated as autonomous agents
 - Persons with diminished autonomy are entitled to protection.

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Next

Basic Ethical Principles

- *Beneficence*
 - Do not harm
 - Maximize possible benefits and minimize possible harms.

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Basic Ethical Principles

- *Justice*
 - To each person an equal share
 - To each person according to individual need
 - To each person according to individual effort
 - To each person according to societal contribution
 - To each person according to merit.

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Next

Applications of the General Principles - *Informed Consent*

- Information - includes: the research procedure, their purposes, risks and anticipated benefits, alternative procedures
- Comprehension - Investigators are responsible for ascertaining that the subject has comprehended the information

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Next

Applications of the General Principles - *Informed Consent*

- Voluntariness - informed consent requires conditions free of coercion and undue influence

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Next

Applications of the General Principles - *Risks and Benefits*

- The Nature and Scope of Risks and Benefits
 - "risk" refers to a possibility that harm
 - "benefit" is used in the research context to refer to something of positive value
- Systematic Assessment of Risks and Benefits
 - benefits and risks must be "balanced" and shown to be "in a favorable ratio."

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Next

Applications of the General Principles - *Selection of Subjects*

- A matter of social justice that there is an order of preference in the selection of classes of subjects.
- Injustice results from the involvement of vulnerable subjects.
 - Racial minorities
 - Economically disadvantaged
 - Very sick
 - Institutionalized subjects

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Next

	<h2>How long does it take for CHS review?</h2>
	<ul style="list-style-type: none"> ■ Applications / proposals that require full Committee review may take up to as long as two months. ■ Some research may be <u>exempt</u> from IRB review or eligible for <u>expedited</u> review. <p style="text-align: right;">25 Next</p>

	<h2>Yes = Probably Not Exempt</h2>
	<ul style="list-style-type: none"> ■ Does the research in question involve a living individual about whom an investigator (whether professional or student) conducting research activities obtains either: <ul style="list-style-type: none"> – Data through intervention or interaction with the individual? – Identifiable, private information? <p style="text-align: right;">26 Next</p>

	<h2>Yes = Probably Not Exempt</h2>
	<ul style="list-style-type: none"> ■ Do any of the targeted populations for this research project consist of persons who are: <ul style="list-style-type: none"> – legally incompetent – significantly mentally ill or impaired – vulnerable to extraordinary institutional coercion such as: <ul style="list-style-type: none"> ■ prisoners ■ residents of 24-hour skilled nursing facilities ■ anyone who is involuntarily confined? <p style="text-align: right;">27 Next</p>

	<h2>Categories of Possible Exemption</h2>
	<ul style="list-style-type: none"> ■ 1. Educational Practices ■ 2. Educational Tests ■ 3. Surveying or Interviewing ■ 4. Public Observations ■ 5. Public Officials ■ 6. Existing Data <p style="text-align: right;">28 Next</p>

Categories of Possible Expedited Review

(Minimal risk to human subjects)

- Some clinical studies
- Some type of blood samples collection
- Some type of biological specimens collection
- Some collection of data through noninvasive procedures

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Next

Categories of Possible Expedited Review

(Minimal risk to human subjects)

- Collection of data from voice, video, digital, or image recordings made for research purposes.
- Continuing review of research previously approved
- Research involving materials solely for nonresearch purposes

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Next

Categories of Possible Expedited Review

(Minimal risk to human subjects)

- Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

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Next