

Evolutionary Psychology: Human Behavior and the Modern World

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Course Title	Evolutionary Developmental Psychology: Human Behavior in Mating and Social Motivation
Instructor	Dr. Max Krasnow, Harvard University
Required Text & Tools	Slides provided throughout the course
Course Key Words	Psychology, Behavior Psychology, Psychological Perspectives, Motivation, Evolutionary Psychology, Mating Strategies, Sexual Selection, Parenting, Social Hierarchies, Group Dynamics



Course Overview

In this course, we will explore the foundational theories of evolutionary psychology and how they can be applied to a wide range of human experiences, including cooperation, reproduction, friendship, aggression, kinship, morality, personality, and individual differences. How do ancient survival mechanisms shape the way we interact, form relationships, and make choices today? Why do people make the mating choices they do,

and how has human social motivation evolved to influence cooperation, kinship, and conflict?

Throughout the course, students will delve into topics such as natural selection, mating strategies, kinship relationships, social interactions, and cognitive adaptations to environmental challenges. The course combines knowledge from psychology, anthropology, cognitive science, and biology to explain how humans have evolved to solve problems related to survival, reproduction, and cooperation. In addition to exploring cutting-edge theories, students will engage in hands-on research, critically analyzing how evolutionary principles continue to shape human behavior in today's social and cultural contexts.

Learning Objectives

- Understand and articulate the key principles of evolutionary psychology and how they apply to human mating behavior and social motivation.
- Analyze the role of natural selection in shaping mating strategies, family bonds, and social cooperation throughout human history.
- Critically evaluate current research on social-emotional learning, exploring how evolutionary theory informs modern teaching methods and educational practices.
- Compare and contrast human behaviors from an evolutionary perspective with those from social-cultural viewpoints to understand both universals and variations across societies.
- Develop skills in presenting research findings through both written research papers and oral presentations, with an emphasis on applying evolutionary psychology to real-world social issues.

Course Requirements

The course will involve a mix of lectures and project-focused seminars supervised by the Professor. Students will also have recurring meetings with the TA to work and their research teams. Students are expected to participate actively in all components of the course.

For the class to provide successful learning experiences, students must do all the readings prior to each session and come to the session with questions. Students are expected to participate actively in the discussion sessions.

Prerequisites

No specific prerequisites are required for this course; however, students are encouraged to familiarize themselves with basic psychological concepts to better engage with the material. A general understanding of topics like human behavior, cognition, and social

psychology will provide a helpful foundation for exploring the evolutionary theories discussed in class.

Assessment and Grading

- Class attendance and participation (10%)
- Quizzes/Homework (20%)
- Presentation (20%)
- Research Paper (50%)

Description of Assignments

All assignments are indicated throughout the syllabus in red with submission dates indicated. Students should submit assignments to their Research Mentor. Assignments should include the students' Korean and English names.

• Participation

All students should be prepared to contribute to class discussions by doing all the readings in advance and being prepared to ask questions about or discuss the readings during our seminar sessions. The professor or the research mentor may ask individual students to discuss the readings during the seminar sessions, so every student should come prepared to do so.

• Assignments

To help students move toward a final research paper, the course includes a number of assignments that lead to the final paper. Students are expected to complete each assignment by the time indicated on the syllabus.

• Research project

The goal of this course is for students to complete a research project focused on a specific research question testing a theory with an Evolutionary Psychology framing. Students will be divided into smaller groups to collaborate on a common research question based on their shared interests. Students will have ample opportunity to discuss the research question with the professor and with the teaching assistant.

Suggested Research Topics & Description

- o **Pick an area of mental illness or psychopathology.** How can we understand & potentially treat it better by using the perspective of evolutionary psychology?
 - o *Example Topic:* Why do we face a loneliness epidemic even though we are surrounded by more people than ever?

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- o **Pick a phenomenon that varies across cultures.** How can we understand that variation using the perspective of evolutionary psychology?
 - o *Example Topic:* Why is polygamy seen as morally wrong in only some countries?
- o **Pick a trait or behavior that varies between the sexes.** How can we understand that variation using the perspective of evolutionary psychology?
 - o *Example Topic:* Why are there male incels but no female incels?
- o **Pick a problem of modern society.** How can we understand its existence and potentially how to fix it using the perspective of evolutionary psychology?
 - o *Example Topic:* Why are conspiracy theories so popular and persistent?

Syllabus

Pre-meeting: Research topic introduction; Professor will give students 3-5 potential research topics the students can choose.

Day 1: Natural Selection, Causal Models, & Evolutionary Psych

Key questions:

- Demonstration of the importance of causal modeling
- Review of natural selection as the fundamental causal model in the natural sciences.
- Introduction to Marr & Tinbergen's levels of analysis & Evolutionary Psychology

Homework:

- **Reflection:** Write a 1/2 page reflection on your understanding of psychology before taking this course. What questions or curiosities do you have about the field?

Day 2: Species Typicality (Why there is a 'human nature')

Key questions:

- The history of sexual reproduction & why sexually reproducing species must have a species typical genotype
- The difference between the functional & biochemical levels of organization
- Models of individual difference, including Frequency Dependent Selection, Facultative Adaptation, and Mutation-Selection Balance.

Homework:

- **Read:** “On the universality of human nature and the uniqueness of the individual: The role of genetics and adaptation”

Research question confirmation

- How to conduct research?
 - How to identify and use sources?
 - Research teams assigned
- Due:* Research synopsis

Day 3: Development of a Domain Specific Mind

Key questions:

- Development from an evolutionary perspective.
- Domain specificity vs Domain generality in the history of Psychology
- Innateness & The problem of learning

Homework: **Read:** “Origins of domain specificity: the evolution of functional organization”

Literature review I

- Discussion of the role of a literature review
- How to develop and build a literature review
- Initial team meetings with supervision from the professor to identify research sources
- *Due:* Annotated Bibliography w/ 3 sources

Day 4: The History of Life on Earth

Key questions:

- 2+ billion years of evolution
- Adaptive problems, adaptations, and EEAs
- The Adaptationist Program

Homework: **Read:** “Conceptual Foundations of Evolutionary Psychology”

Literature review II

- Make a clear contribution to an identified gap in the existing body of literature
- How to structure an argument
- How to develop a thesis
- The importance of the thesis in shaping the paper
- *Due:* Annotated Bibliography w/ 6 sources

Day 5: Sexual Selection & Parental Investment

Key questions:

- Inter- vs intra-sexual selection
- Arms race co-evolution
- Parental Investment Theory

Homework: **Read:** “Fundamentals of human mating”

Methodology Development

- Choose research tools
- Design methods
- Writing a preregistration
- *Due:* Paper outline

Day 6: Adaptations for finding food

- Is there a sexual division of foraging labor, and why?
- How does this impact our spatial psychology?

Homework: **Read:** “Spatial adaptations for plant foraging: women excel and calories count”

Methodology Development & Data Collection

- Finalizing research & data collection plan
- Inferential statistics I
- *Due:* 1st draft Introduction section

Day 7: Human Mating Psychology

- Short-term and long-term mating strategies
- Sex differences and sex similarities in turn-ons and turn-offs

Homework: **Read:** “Fundamentals of human mating”

Data Analysis

- Inferential statistics II
- *Due:* Data Collection Report & 1st draft Methods section draft

Day 8: Kin Selection

- Psychological mechanisms for identifying kin, kin cooperation, & incest aversion

- How kin selection provides one evolutionary path to social behavior

Homework: **Read:** “Does morality have a biological basis? An empirical test of the factors governing moral sentiments relating to incest”

Academic Writing

- Academic & journal styles
- Best practices for academic writing
- *Due:* data analysis

Day 9: Social Evolution part 1

- The social dilemma and how we solved it
- Introduction to the grammar of social behavior

Interpreting Results

- Connecting results to literature
- Writing a discussion section
- Limitations & future directions
- *Due:* 1st draft Results section

Day 10: Presentations and Feedback

Each student will present their research to the class, followed by questions and discussions with the professor. The professor will provide each student with individualized guidance to expand, revise and edit their research papers

Formal Final Presentation

- Opportunity for reflection
- Research wrap up
- *Due:* final presentations

Example of Research Projects

In this section, we provide examples of research projects that have been undertaken by past students in this program. These examples illustrate the type of research projects that students have pursued, demonstrating how they have applied the principles of the course to address various real-world issues. Each sample is a reflection of the rigorous and innovative work that has been done in the program. Sample projects

Topic 1: Dating in the age of AI: Do Otome games act as a mating superstimulus?

- Background: AI chatbots are becoming more and more popular, with a particular type, Otome games, being particularly popular for young women. This research explores the idea that Otome games serve as a mismatch to our evolved mating psychology, acting as a superstimulus. It was predicted that time & money spent on Otome games would negatively correlate with desire for a human romantic partner.
- Research: Collect survey data from Otome game players asking about their game play behavior (e.g., what games they play, how often and for how long, etc.) and their mating preferences (e.g., whether and how much they use dating apps, their desire for or satisfaction with human romantic partners, etc.)

Topic 2: Evolutionary roots of domestic violence: comparing the mate guarding and WTR hypotheses

- Background: The problem of domestic violence is widespread across countries and throughout time. Why are we violent to our romantic partners if we want to keep them? This research project tested between two hypotheses: that domestic violence is driven by men's concerns about women's infidelity, or alternatively, that domestic violence is driven by perceptions of low valuation
- Research: Collect survey data from couples, including ratings of WTR from each partner & perceived WTR from each partner, actual domestic violence episodes, feelings toward domestic violence, etc.

Topic 3: Social Media and Social Anxiety: Is the anxiety epidemic due to an evolutionary mismatch?

- Background: Social anxiety has increased internationally and is widely seen as an epidemic. Prior research has linked social anxiety to increased social media use. Why? This research tests two theories about how this social anxiety may be a byproduct of adaptations for reputation management. Does social media make us anxious because it increases the number of people we compare ourselves to? Or does social media make us anxious because it increases the number of people forming impressions of us?

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- **Research:** Survey people on social media about their social anxiety using common social anxiety scales. Record their number of followers and the number of people they follow, and test the correlation between each of these factors with social anxiety.
- **Open to discussion**

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Sample 1: Evolutionary Psychology: An Analysis of the Multifaceted Factors Influencing Women's Mating Preferences

Objective: The research aims to explore the complex factors influencing women's mate selection, particularly in the context of contemporary Chinese society. It examines the interplay between biological, psychological, and socioeconomic factors that shape women's preferences when choosing a mate.

Research Background: In the evolving landscape of Chinese society, mate choice remains a crucial determinant of marriage quality and family structure. Historically rooted in traditional Chinese values, women's choices are now increasingly influenced by Western thought. The study draws from evolutionary psychology, sociology, and social learning theories to provide a comprehensive analysis of how modern societal changes, such as economic growth and shifting gender roles, impact women's mating preferences.

Research Question: What are the key factors, including biological traits, socioeconomic status, and cultural norms, that influence women's mating preferences in contemporary China?

Keywords: Mate Choice, Evolutionary Psychology, Women's Mating Preferences, Socioeconomic Status, Psychological Mechanisms

Methodology: The research employs a comprehensive literature review of both theoretical and empirical studies in evolutionary psychology and sociology to understand women's mate preferences. It also integrates evolutionary theories such as:

- **Parental Investment Theory:** Suggests that women are more selective in mate choice due to their greater biological investment in offspring.
- **Mate Choice Gradient:** Explains the phenomenon of women seeking partners who are superior in socioeconomic standing, while men tend to look for slightly less capable partners.
- **Parental Idol Theory:** A psychoanalytic view suggesting that individuals are influenced by their parents in their mate selection.

Expected Outcomes: The research seeks to deepen understanding of the factors influencing women's mating preferences from an evolutionary perspective. It aims to provide insights into how these preferences are shaped by both biological imperatives and sociocultural factors.

Potential Implications: The study could influence counseling and relationship coaching by helping individuals understand the underlying factors that drive their mate selection. It also has potential applications in shaping public policies that promote equality in mate selection and relationship-building in modern societies.

Additional Research Questions:

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1. How do changes in socioeconomic status influence women's mate selection preferences over time?
2. What role does education play in reshaping traditional gender roles and mating preferences?
3. How can these findings be applied to counseling and relationship-building practices?

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Sample 2: To what extent evolutionary and social factors influence the formation and style of Homophobia

Objective: To explore the extent to which evolutionary and social factors influence the formation and style of homophobia, focusing on how societal pressures, cultural norms, and biological imperatives shape attitudes toward homosexuality.

Research Background: Homophobia, the fear or hatred of homosexuality, persists as a significant social issue despite progress in human rights and equality. Evolutionary psychology suggests that homophobia may stem from reproductive adaptations favoring heterosexuality, while social factors, including peer pressure, gender roles, and cultural values, contribute to its development. Understanding these factors is essential to creating more inclusive societies.

Research Questions:

1. How do evolutionary and social factors contribute to the formation of homophobia, and what influences the different styles of homophobic behavior observed in various social contexts?

Keywords: Homophobia, Evolutionary Insights, Social Dynamics, Group Influences, Social Dominance Orientation (SDO)

Methodology:

The study utilized a literature review, questionnaires, and experimental methods to explore hypotheses about homophobia's formation. The research tested three primary hypotheses:

1. Homophobia is more severe when homosexual individuals are in groups.
2. Homophobic behavior may act as a protective mechanism due to group pressure.
3. Social dominance orientation influences the level of homophobia in different cultural contexts.

Data were collected from 182 participants in China through online surveys.

Expected Outcomes:

- The research aims to uncover the interplay between evolutionary adaptations and social factors that shape homophobia. Understanding these influences could inform strategies to reduce homophobia and promote equality.

Potential Implications:

- The findings may lead to better understanding of the social and cultural factors that perpetuate homophobia, contributing to more effective interventions in education, public policy, and advocacy for LGBTQ+ rights.

Additional Research Questions:

- How do different social and cultural environments influence expressions of homophobia?
- Why are lesbians generally more accepted than gay men in certain social contexts?
- How does social dominance orientation shape attitudes toward LGBTQ+ individuals across different societies?

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Sample 3: To What Extent Can Evolutionary Theories Explain Mental Illness?

Objective: To explore the extent to which evolutionary theories explain the development and persistence of mental illnesses, focusing on how natural selection and genetics contribute to the etiology of disorders such as depression, postpartum depression, agoraphobia, schizophrenia, and autism.

Research Background: Mental disorders can be explained through both nature (genetics) and nurture (environment). Evolutionary theories, particularly natural selection, suggest that genes related to mental disorders should be eliminated over time. However, the persistence of mental illnesses indicates a more complex balance, explained by concepts like mutation-selection balance and trade-offs between fitness and mental health risks.

Research Questions:

1. How do evolutionary mechanisms, such as natural selection and genetic adaptation, explain the persistence and formation of various mental disorders?

Keywords: Mental Illness, Natural Selection, Evolutionary Psychology, Genetics, Mutation-Selection Balance

Methodology: The study reviews evolutionary theories, such as the mutation-selection balance and adaptation models, to explain how mental disorders persist. It focuses on different disorders, such as depression, postpartum depression, agoraphobia, schizophrenia, and autism, using case studies, evolutionary theory, and genetic research, including HapMap analysis and genome-wide association studies (GWAS).

Expected Outcomes:

- The research aims to demonstrate that while natural selection tends to favor fitness, it does not completely eliminate the risk factors for mental disorders. Instead, genetic mutations and environmental changes create a balance that allows certain disorders to persist due to their evolutionary advantages or trade-offs.

Potential Implications:

- Understanding the evolutionary basis of mental disorders can lead to new insights in treatment approaches, prevention strategies, and a more comprehensive understanding of the genetic and environmental factors contributing to these conditions.

Related Research Questions:

- How does natural selection balance the trade-off between fitness and the risk of mental disorders?

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- How do genetic mutations influence the persistence of mental disorders like autism and schizophrenia?
- What role does the environment play in triggering mental disorders within an evolutionary context?

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