



SYLLABUS

INDIVIDUAL DIFFERENCES

Instructor: Yulia Kovas

Contact Hours: 40

Class times: Wednesday 2-5pm

LONDON, UK

COURSE DESCRIPTION

This course provides an overview of psychology as it strives to explain how and why people differ, and what implications these differences have. We will examine how individual differences in cognition, personality, and motivation are linked to important life outcomes, such as health, academic and occupational success, and wellbeing. The course will introduce the latest scientific findings on the origins of individual differences, focusing on interactive systems of genetic, epigenetic, societal and circumstantial factors, and related psychological processes. An important component of the course will be the study of causative mechanisms. A major focus of the course is critical evaluation of the existing research, and clarifying distinctions between individual vs average differences.

COURSE OBJECTIVES

The main objective of the course is to introduce the latest scientific knowledge on individual differences in psychological processes and their links to important life outcomes.

The course is designed to consolidate and expand existing knowledge in psychology, and to develop deeper understanding of the causes of individual differences; research approaches in this field; and practical implications of the research.

Intended Learning Outcomes

Students should be able to:

1. Critically evaluate the current state of the research in individual differences
2. Critically evaluate methods and procedures used in the individual differences research
3. Demonstrate understanding of the complexity of determining causative mechanisms involved in individual variation.
4. Define what is meant by etiology of individual differences at biological, cognitive, and psychological levels.
5. Understand and apply the concept of Effect size to the analysis of individual and group differences.
6. Analyze ethical issues and controversies associated with research in individual differences.
7. Communicate knowledge and understanding of the main issues orally and in written form.

INSTRUCTIONAL METHODOLOGY

The sessions combine introductory lectures, student presentations, discussions, workshops and group work. Students are expected to actively prepare for all classes. The classes are highly participative and interactive. In addition, sessions will include 2 museum visits and participation of guest lecturers.

COURSE READING

Course Textbook (provided): The Wiley-Blackwell handbook of individual differences. Book by Tomas Chamorro-Premuzic; Sophie Von Stumm; Adrian Furnham (2011).

RECOMMENDED TEXTS

- Kovas, Y. & Selita, F., (2021). Oedipus Rex in the Genomic Era. Human behaviour, law and society. Palgrave Macmillan. ISBN 978-1-349-96048-4
- Personality and individual differences. Book by Tomas Chamorro-Premuzic; British Psychological Society (2011 OR Other editions).
- Journal Articles
- Encyclopedia on Early Childhood Development: <http://www.child-encyclopedia.com/>

METHOD OF EVALUATION (GRADING)

The course will be evaluated on the following 4 assessments:

1. **Concepts Test (20% of the grade)**. You will be asked to provide short explanations for 10 concepts covered in the 2 introductory sessions. The 10 concepts will be chosen from a list of 30 concepts that you will be required to revise. The test will take place in Week 5 and will last for 1 hour.
2. **Oral Presentation (20% of the grade)**. You will prepare and submit a 10-minute podcast/recorded presentation/interview/video OR deliver a 10-minute presentation in class - linked to one of the course topics (**see list of suggested topics at the end of the syllabus). The presentation material should go beyond suggested reading for that session to include sources from your own literature search and analysis. Presentations will be given in weeks 5-8. Recorded presentations in any format must be submitted by Session 8.
3. **Group Project (20% of the grade)**. You will work in small groups to review and critically evaluate existing research on a particular topic (e.g. individual differences in creativity). You must review at least 6 different sources, including any recent meta-analysis or a review article on the topic. Prepare a summary of your analysis – in a form of a brief presentation (10 minutes), which will be delivered by the group. Different students from each group will comment on research questions, methodology, results, effect sizes, limitations of the research, as well as general conclusions from the reviewed body of research. An example of a topic to research is: Does intelligence predict important life outcomes? **The group presentation will be held in Week 10.**
4. **Class Participation (40% of the grade)**. Students will be assessed on four types of activity in class: asking questions following presentations (10%); engaging in discussions based on preparation/recommended reading (10%); film reflections (10%); taking an active role during the group activities, including the Mock Trial workshop and Welcome Collection Workshop (10%).

COURSE SCHEDULE

Week 1: April 1

Topic: Introducing individual differences. How we measure and study individual differences. The extent of individual differences in human traits.

Textbook Reading:

- William Revelle, Joshua Wilt, David M. Condon (2011). Individual Differences and Differential Psychology. Chapter 1 (pages 1-38) in The Wiley-Blackwell handbook of individual differences. Eds. Tomas Chamorro-Premuzic; Sophie Von Stumm; Adrian Furnham (2011).

Supplementary Reading:

- William Revelle, David M. Condon, Joshua Wilt (2011). Methodological Advances in Differential Psychology (Chapter 2, Pages: 39-73) in The Wiley-Blackwell handbook of individual differences. Eds. Tomas Chamorro-Premuzic; Sophie Von Stumm; Adrian Furnham (2011).

Due:

- Prepare for the Session by reading the recommended reading.

Week 2: April 8

Topic: Etiology: biological, sociological, cultural and other sources of individual differences.

Textbook Reading:

- Plomin, R., DeFries J.C., Knopik V.S., Neiderhiser, J.M. (2016). Top 10 Replicated Findings From Behavioral Genetics. *Perspect Psychol Sci.*, 11(1):3-23. doi: 10.1177/1745691615617439.

Supplementary Reading:

- <http://www.child-encyclopedia.com/behaviour>
- <http://www.child-encyclopedia.com/epigenetics> (explore the topic, including articles by the experts)
- <http://www.child-encyclopedia.com/brain> (explore the topic, including articles by the experts)
- <http://match.ctglab.nl/#/home> (explore this interactive site; how heritable are individual differences in different traits)?

Due:

- Prepare for the Session by reading the recommended reading.

Week 3: April 15

Topic: Individual differences in Cognitive abilities

Topic: Controversies

In this session you will also choose the topic and date for your presentation.

Textbook Reading:

- Charlie L. Reeve, Silvia Bonaccio (2011). The Nature and Structure of “Intelligence” (Chapter 7, pages 187-216) in The Wiley-Blackwell handbook of individual

differences. Eds. Tomas Chamorro-Premuzic; Sophie Von Stumm; Adrian Furnham (2011).

Supplementary Reading:

- Plomin, R. & Deary, I. (2014). Genetics and Intelligence Differences: five special findings. *Molecular Psychiatry*, 20, 98-108.
- Selita, F. & Kovas, Y. (2018). Genes and Gini: What inequality means for heritability. *Journal of Biosocial Science*, 1 - 30, doi:10.1017/S0021932017000645
- Toivainen, T., Pannini, G., Papageorgiou, K.A., Malanchini, M., Rimfeld, K., Shakeshaft, N., & Kovas, Y. (2018). Prenatal testosterone does not explain sex differences in spatial ability. *Scientific Reports*, 12:8(1):13653. doi: 10.1038/s41598-018-31704-y.
- Gijbert Stoet & David C. Geary (2018). The gender equality paradox in STEM education. *Psychological Science*, 29 (4): 581–593, doi:10.1177/0956797617741719 https://en.wikipedia.org/wiki/Gender-equality_paradox

Talks and on-line resources:

- **Talk by Professor Seth Grant:** <https://www.youtube.com/watch?v=W3yCQyD5Dvg>
- Talk by Professor Douglas Detterman: <https://www.youtube.com/watch?v=UF72oeDwbQU>
- Cognitive Epidemiology: https://en.wikipedia.org/wiki/Cognitive_epidemiology
- Tom Clynes (2016). How to raise a genius: lessons from a 45-year study of super-smart children. And further reading on Study of Mathematically Precocious Youth (SMPY).
- Talk by Anil Seth: Your brain hallucinates your conscious reality https://www.ted.com/talks/anil_seth_your_brain_hallucinates_your_conscious_reality?language=en

Due:

- Prepare for the Session by reading the recommended reading.

Week 4: April 22

Topic: Individual differences in Motivation

Due:

- Prepare for the Session by reading the recommended reading.

Textbook Reading:

- Gary P. Latham, Deshani B. Ganegoda, Edwin A. Locke (2011). Goal-Setting: A State Theory, but Related to Traits (Chapter 21, pages: 577-587) in *The Wiley-Blackwell handbook of individual differences*. Eds. Tomas Chamorro-Premuzic; Sophie Von Stumm; Adrian Furnham (2011).
- Adrian Furnham (2011). Personality and Approaches to Learning (Chapter 22, pages: 588-607). in *The Wiley-Blackwell handbook of individual differences*. Eds. Tomas Chamorro-Premuzic; Sophie Von Stumm; Adrian Furnham (2011).
- Patrick Ian Armstrong, Rong Su, James Rounds (2011). Vocational Interests: The Road Less Traveled (Chapter 23, pages: 608-631).

Supplementary Reading:

- Garon et al., (2016). Intrinsic Motivation and Achievement in Mathematics in Elementary School: A Longitudinal Investigation of Their Association. *Child Development*, Volume 87, Number 1, Pages 165–175.
- Malanchini, M., Wang, Z., Voronin, I., Schenker, V. J., Plomin, R., Petrill, S.A., & Kovas, Y. (2017). Reading Self-Perceived Ability, Enjoyment and Achievement: A Genetically Informative Study of Their Reciprocal Links over Time. *Developmental Psychology*, 53(4), 698-712.

Week 5: April 29

Concepts Test

Class presentations

Due:

- Presentations
- Concepts Test in class

Week 6: May 6

Topic: Individual differences in Creativity

Guest lecturer: Dr Teemu Toivainen

Textbook Reading:

- James C. Kaufman (2011). Individual Differences in Creativity (Chapter 26, pages 679-697) in *The Wiley-Blackwell handbook of individual differences*. Eds. Tomas Chamorro-Premuzic; Sophie Von Stumm; Adrian Furnham (2011).

Supplementary Reading:

- Gajda, Karwowski, & Beghetto (2016). Creativity and academic achievement: A meta-analysis. *Journal of Educational Psychology*, Vol 109(2), 269-299.

Week 6*: Co-Curricular Workshop, Tour and Museum Session, May 8, Friday, 10.00-16.00

Interdisciplinary Workshop ‘Individual differences and Justice’

The workshop consists of the following elements:

1. **Presentation by Dr Fatos Selita** - New York State Attorney, Barrister of England and Wales, co-founder of The Accessible Genetics Consortium
2. **Mock Trial:** students will act in different roles (judges, lawyers, expert witnesses, jury etc.) putting into action the material from the entire course.
3. **Walking excursion** (Royal courts of Justice, Inns of Court).
4. **Wellcome Collection Exhibition and ‘Socratic Dialogue’ Session over drinks and pastries.**

Material for the Workshop will be allocated from the following source:

[Kovas, Y. & Selita, F., \(2021\). *Oedipus Rex in the Genomic Era. Human behaviour, law and society*. Palgrave Macmillan. ISBN 978-1-349-96048-4](#)

Week 7: May 13

Topic: Individual differences in Mental health and Wellbeing.

Presentations

Textbook Reading:

- Vincent Egan (2011). Individual Differences and Antisocial Behavior (Chapter 19, pages, 512-537) in The Wiley-Blackwell handbook of individual differences. Eds. Tomas Chamorro-Premuzic; Sophie Von Stumm; Adrian Furnham (2011).

Supplementary Reading:

- <http://www.child-encyclopedia.com/anxiety-and-depression> (explore the topic, including articles by the experts)
- <http://www.child-encyclopedia.com/mental-health> (explore the topic, including articles by the experts)

Due:

- Prepare for the Session by reading the recommended reading.
- Oral Presentations/Podcasts

Week 8: May 20

Topic: Individual Differences in Personality

Presentations

Documentary and Reflections

Textbook Reading:

- Jaap J. A. Denissen, Marcel A. G. van Aken, Brent W. Roberts (2011). Personality Development across the Life Span (Chapter 3, Pages: 75-100) in The Wiley-Blackwell handbook of individual differences. Eds. Tomas Chamorro-Premuzic; Sophie Von Stumm; Adrian Furnham (2011).

Supplementary Reading:

- Harold, G. T., Elam, K. K., Lewis, G., Rice, F., & Thapar, A. (2012). Interparental Conflict, Parent Psychopathology, Hostile Parenting, and Child Antisocial Behavior: Examining the Role of Maternal Versus Paternal Influences Using a Novel Genetically Sensitive Research Design. *Development and Psychopathology*, 24(4), 1283 - 1295.

Due:

- Prepare for the Session by reading the recommended reading.
- Oral Presentations/Podcasts
- Final date for Podcast submission

Week 9*: May 27

There is no class session.

Visit the Science Museum on this date or any time during the week. Complete the assignment based on *Who am I* exhibition and at least one other section (e.g. Medicine).

Textbook Reading:

- Margaret L. Kern, Howard S. Friedman (2011). Personality and Differences in Health and Longevity (Chapter 17, pages 461-489). in *The Wiley-Blackwell handbook of individual differences*. Eds. Tomas Chamorro-Premuzic; Sophie Von Stumm; Adrian Furnham (2011).

Supplementary Reading: journal articles

Due:

- Prepare for the Session by reading the recommended reading.
- Prepare for the final group presentations in Week 10.

Week 10: June 3

Topic: Synthesis

Topic: Systems: interrelations across cognition, personality and other human traits.

Group Presentations

Mind map

Textbook Reading:

- revising recommended material

Supplementary Reading:

- course slides and notes

Due:

- Revising material from the whole course in preparation for class discussion and exercises.
- Group Tasks; Discussion; Mind map exercise – final class participation assessment.

ATTENDANCE

All classes, whether on or off-site, are obligatory. See Attendance Policy for details.

ACADEMIC MISCONDUCT

Students are prohibited from committing or attempting to commit any act that constitutes academic misconduct. By way of example, students should not give or receive (or attempt to give or receive) unauthorised help on assignments or examinations without express permission from the instructor. Students should properly acknowledge and document all sources of information (e.g. quotations, paraphrases, ideas) and use only the sources and resources authorized by the instructor. If there is any question about whether an act constitutes academic misconduct, it is the students' obligation to clarify the question with the instructor before committing or attempting to commit the act.

GENERATIVE AI

Students may use GenAI tools in this class to help with course work and assignments. Helpful uses include literature searches, outlines, editing, and so forth. However, if you include in your assignment submissions any content that is generated by GenAI, such as text, images, graphics, etc., you must cite the GenAI tool that is your source, in the same way that you must cite any content you use from other sources, such as books, articles, videos, the internet, etc. Although open use of GenAI is allowed in this class, be advised that GenAI suggestions or content can be inaccurate, incomplete or otherwise problematic; using GenAI can impact negatively the quality of your work and your grades. **Therefore, it is your responsibility to verify all factual information and provide reliable sources for any factual statements. The sources include published peer-reviewed journal articles, books, reputable websites, experts with documented track record in the field. The sources should be clearly acknowledged on slides and in any written submissions.**

****Topics for Presentation**

- Topic 1: Can Robots be creative?
- Topic 2: Can everyone be creative?
- Topic 3: Can we develop creativity in children?
- Topic 4: Does culture affect our behaviour?
- Topic 5: Why is childhood intelligence related to adult achievement and health?
- Topic 6: Are there sex differences in cognitive abilities?
- Topic 7: What jobs can be replaced by AI?
- Topic 8: Is motivation a good predictor of academic and occupational success?
- Topic 9: What is effect size in the study of individual and group differences? (use comparing effect sizes tool: https://www.psychometrica.de/effect_size.html)
- Topic 10: Mental Health in children.
- Topic 11: Individual differences and diagnoses.
- Topic 12: Epigenetics and Individual Differences.
- Topic 13: Links between cognitive abilities and health, academic success and longevity.
- Topic 14: How early do individual differences emerge in temperament/personality?
- Topic 15: How does personality develop across the life span?
- Topic 16: What are the sources of individual differences in personality?
- Topic 17: What is gender equality paradox?
- Topic 18: What are the links between personality and cognition?
- Topic 19: What are 'dark personality traits'?
- Topic 20: What is Self?
- Topic 21: Individual differences and microbiome.
- Topic 22: Propose your own topic (confirm with the Professor)