LAST NAME: _____ FIRST NAME: _____

ID NUMBER: _____

Psyco 302: Evolutionary Psychology
Spring 2010
Midterm: 2 June 2010

INSTRUCTIONS

Answer **five (5**) of the following seven (7) questions.

Write your answers in the space provided (i.e., write your answer to a question in the blank space below the question; this is the room you have for completing an answer).

If you should write answers for more than five questions I will start grading with the first question and continue until I have graded five questions. Therefore, if you answer a question that you do not want me to grade, cross it out, or in some manner indicate which questions you wish to have graded.

You may use point form, as long as it is understandable (i.e., if I can't understand what you're talking about your grade will reflect this).

"Shotgun" answers, whereby all manner of information is provided, much of which is irrelevant to the question will result in grade deductions; be focused and on-topic with your answers.

Do not look at another student's work, or allow another student to look at your exam. Doing so constitutes cheating and will seriously compromise your future differential reproductive success.

Each question is worth 10 points. Note: this <u>does not</u> mean there are 10 separate elements required for each question. Where possible/appropriate, I've provided a specific points breakdown for question components.

You have 80 minutes to complete the exam. Plan your time accordingly.

1. Let's just pretend that male homosexuality is controlled by a single gene, that this imaginary male "gay-gene" is recessive, and is not an imprinted gene (incidentally, there is **no** evidence for this at all; we're doing a hypothetical thought experiment here). Let's also take a preposterously extreme position and say that in our little thought experiment a gay man *will not* have any children of his own. Now, some people would argue that, given this, natural selection should operate to eliminate all male homosexuals from the population pretty quickly (i.e., the recessive "gay-gene" should be massively selected against), and the fact that there are still male homosexuals shows that evolution is false. Using the postulates of our thought experiment, briefly discuss three distinctly different mechanisms by which our hypothetical recessive male "gay-gene" could be maintained in the population (i.e., save the day for evolutionary psychology). (5 points for one valid mechanism, 8 points for two, 10 points for three)

2. Humans are rather unusual in that they display (or don't display, really!) concealed ovulation. That is, it is not externally obvious when human females are ovulating; in most other species of primates there are distinct stimuli that inform males that the female is sexually receptive. Explain any two of the four evolutionary psychology interpretations for why humans developed concealed ovulation, and critically evaluate each interpretation's likelihood of being correct.

3. Simon Baron-Cohen suggests that autism might be an extreme version of the male brain. What are some evolutionary psychology interpretations for males being better at systemizing and worse at empathizing than females? (6pt) Does this suggest that autism is an adaptation? (2pt) Why or why not? (2pt)

4. Explain why, when investigating human behaviour, it is imperative to be clear about the level of explanation (i.e., proximate, ontogenetic, phylogenetic, or ultimate) at which the research is focused? (2 pts) Pick a specific behaviour of your own (i.e., not one from the text or the lecture) and briefly indicate how it might be considered at each of the four levels. (8 pts)

5. Female American jacanas (a species of wading bird) are larger and more aggressive than their male counterparts. This is known as an example of “sex role reversal” in the animal kingdom. Based on this very brief information, what predictions would you make about the reproductive behaviour of both males and females of this species?

6. Cosimides and Tooby suggest that natural selection has produced a face recognition module in humans because being able to identify and remember specific people would be very adaptive for an individual's survival. As it turns out, pigeons can also recognize individual humans very successfully, although the actual features that are used by pigeons when identifying human faces are rather different from those used by people. Nevertheless, should evolutionary psychologists argue that pigeons, like people, have a domain specific human face recognition module? Discuss and support your position.

7. Generally speaking, humans are rather poor at problem solving tasks requiring abstract logic. Keeping your answer within an evolutionary psychology framework, explain why this is to be expected, and explain what sorts of problem solving tasks humans are better at and why.