

FOCUSED ASSESSMENT IN CRITICAL THINKING: HORMONES

The following learning activity is designed to give you guidance and practice in regard to critical thinking in an IB context.

You will be presented with an exam question and then asked to identify the two studies that would be used in support of your answer to that question.

Then, you must articulate, in full sentences, specific elements of critical thinking in regard to that combination of studies/question. **If you do not know the details of the study, look them up!**

Areas of critical thinking that are identified and recognized by the IB are:

- ★ *research design and methodologies*
- ★ *triangulation*
- ★ *assumptions*
- ★ *biases*
- ★ *contradictory evidence or alternative theories or explanations*
- ★ *areas of uncertainty*

Question #1: Discuss ONE hormone and its effect on behaviour:

Study 1 used (identify research method and include any procedural details that make your CT clear. These can be bullet point form): Bos et al.

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Study 2 used (identify research method and include any procedural details that make your CT clear. These can be bullet point form):

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Critical Thinking for Study 1 (in complete sentences):

I. Bos et al.

A. Strength: However there were many strengths, the finding provided insight into hormone regulation of sociability and provided very interesting insights into testosterone selectively downregulating interpersonal behaviour.

- B. Ecological validity was difficult to assess because the tests were done in a lab not the real world, however the tasks are indeed related to the real world.
- C. Weakness is that the participants were required to give a rating that spanned a very wide range – 200 points – such a wide range seems to reduce accuracy of ratings and increase variance among participants.
- D. *“Mean age of 20.2 is a weakness as the sample is not representative of a broader population and thus has reduced generalizability; though in regard to this PARTICULAR population, the results are compelling.”*

Critical Thinking for Study 2 (in complete sentences):

- I. Baumgartner
 - A. The oxy administered through a spray is artificial thus reducing ecological validity
 - B. Trust is a complex emotion so one should be careful about over ascribing causality to a single hormone.
- II. Thorne et al. 2002
 - A.
- III. Dabbs and Frady
 - A. For example, the correlation between high testosterone levels and violent crime is significant – stated specifics. Extremely significant. ...in essence this is extra good cause it's extra true.
 - B. Another limitation is not knowing the backgrounds of the inmates and other confounding variables related to violent crimes.
 - C. Because the conviction alone is not a fully reliable resource to determine aggression, the violent crime
 - 1. A singular conviction of violent crime is not an entirely reliable method of measuring the very large personality trait of “aggression”
 - D. Another limitation of this study was the peer review dependent variable as relying on criminals for their “honest” opinion maybe isn't the most reliable source.
 - E. Additionally the survey does not have high ecological validity
- IV. Zak and Kosfeld

- a. "A general unknown of the study is to what extent the oxytocin influenced the decision making"
 - i. A strength was the repeated measures design.