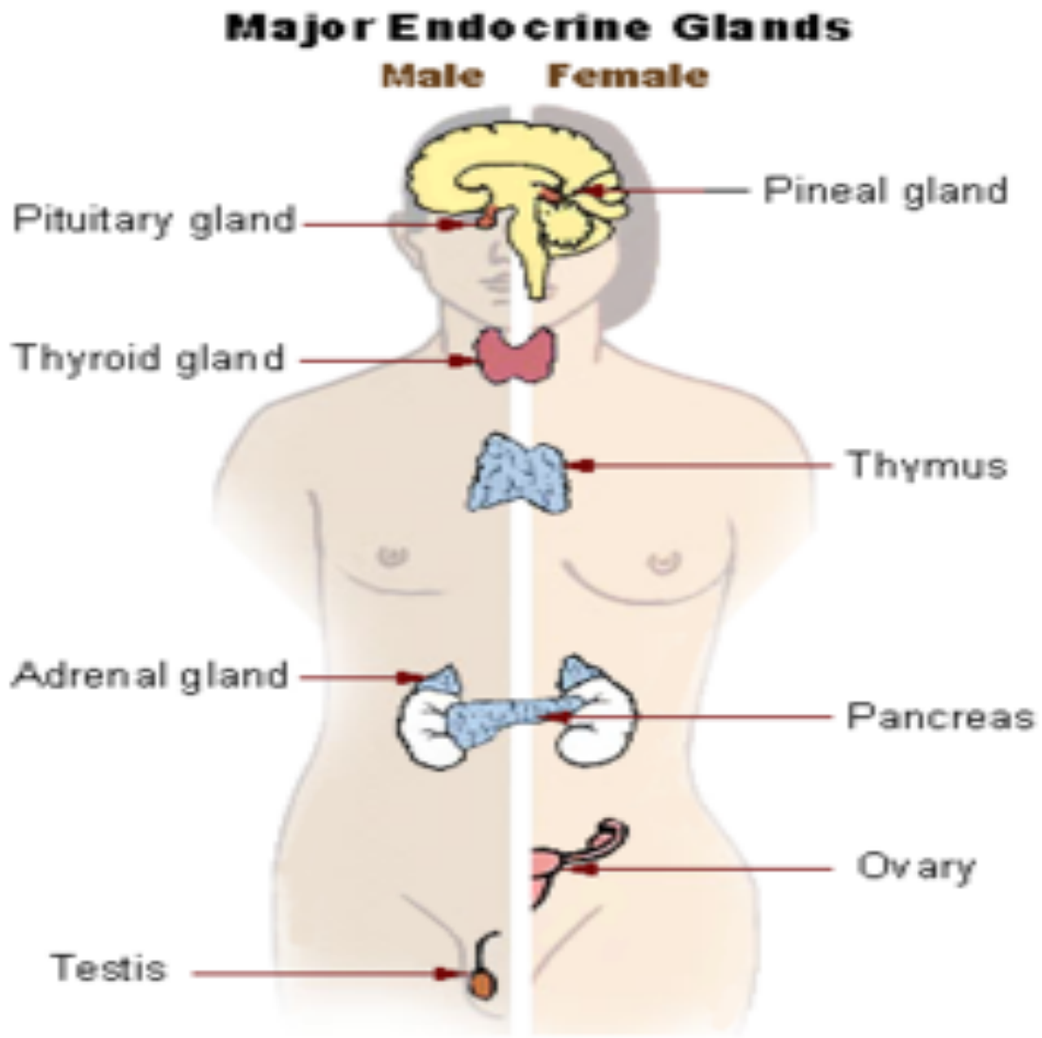
Hormones

- Chemical substances, secreted by organs called glands, that affect the functioning of other organs.



Hormones vs. Neurotransmitters

- Neurotransmitters are released in the brain
- Hormones are released by glands in the body
  - When hormones are active in the brain, they serve as neurotransmitters
- Assume cortisol and oxytocin are hormones

Oxytocin

- Released by the pituitary gland.
- Only exists in mammals.
- Acts primarily as a neurotransmitter.
- Involved in building bonds, trust, generosity, and social memories
- The coolest hormone ever!

Scheele et al. (2013)

- **Aim:** To determine the role of oxytocin on heterosexual males' perception of their romantic partners
- **Method:**
  - Repeated Measures Design
    - **Treatment Group:** Oxytocin Spray
      Control Group: Placebo
  - Showed pictures of romantic partners and measured participants' perceptions of their partners. They also measured brain activity upon seeing the picture using a fMRI.

Scheele et al. (2013)

- **Findings:**
  - Oxytocin activated the reward center (VTA) in the brain to a greater extent than the control
  - Men on oxytocin generally perceived their partner more attractive than other women
  - Oxytocin did not activate the reward system with acquaintances, only romantic partners
- **Conclusions:** Oxytocin plays a key role in shaping monogamy and building bonds between lovers
- **Critical Thinking?**
  - Connections to major debates in Psychology?
  - Connections to other studies?

Scheele et al (2012)

- **Aim:** To investigate the role that oxytocin plays in shaping the behavior of men in relationships

- **Method:** Had participants either sprayed oxytocin or a placebo in their noses. They then were interviewed by an attractive researcher who attempted to move close to them.

Scheele et al (2012)

- **Findings:** Use of oxytocin inhaler led men in a monogamous relationship - *but not single men* - to keep a much further distance between themselves and an attractive woman in a first encounter (Males in a relationship remained 4-6 inches further away, on average, than single males)
- **Conclusions:** Oxytocin promotes monogamy by preventing men in a relationship from signaling "romantic interest" to other women
- **Critical Thinking?**

Feldman et al. (2012)

- **Hormone:** Oxytocin
- **Aim:** To investigate the role of oxytocin in early relationships in young adults
- **Method:**
  - Measured the oxytocin levels of 120 young adults (60 couples of 3 months) and 43 singles
  - Measured oxytocin levels of the same participants six months later

Feldman et al. (2012)

- **Findings:**
  - Oxytocin levels were higher for new couples than for single individuals
  - High oxytocin levels at the first test correlated with couples staying together after 6 months
    - High oxytocin predicted more affectionate touch, reciprocity, positive emotions, and worries about the partner and relationship
- **Conclusion:** Oxytocin plays a key role in the formation of new romantic relationships among young adults
- **Critical Thinking?**

Ditzen (2013)

- **Hormone:** Oxytocin
- **Aim:** To determine the impact of oxytocin on couples' communication
- **Method:** Had couples either spray oxytocin or a placebo up their nose and engage in a high stress conversation

Ditzen (2013)

- **Findings:**
  - Oxytocin improved communication and lowered levels of cortisol
  - Women: showed less social stress
  - Men: showed more social stress and were more engaged in the conversation (eye contact, smiling, etc.)
- **Conclusions:** Oxytocin affects the ways that couples communicate
- **Critical Thinking?**

Nakajima et al. (2014)

- **Aim:** To determine the role of oxytocin in female rats' interest levels in male rats
- **Method:** Gave a group of female rats a chemical that blocked the receptor sites of oxytocin in the frontal lobe
- **Finding:** The females showed almost no interest in males and even showed equal attention to a LEGO block
- **Conclusion:** Oxytocin is responsible for sexual interest in female rats
- **Critical Thinking?**

HOMEWORK

- **Select ONE** of the links under the Oxytocin section of the TuHS Psych site, and fill in the notes for **one study** (from those links)