Inter-individual variability in game play and player types
Panel 1: Differences in game dynamics linked to differences in learning outcome

However, individual differences in play style, personality, beliefs, attitudes, skills, etc will constrain the gaming experience and thus the changes to brain and behavior
What do you mean, Tali’s dead?

Tali is dead! Because she died in Mass Effect 2.

If Tali was dead, who did she talk to during that mission?

Who’s “she”?

Commander Fucking Shepard!

Your Shepard has some bird parts, right?

What choices are you making?

Commander Shepard is a man.
Panel 1: Differences in game dynamics linked to differences in learning outcome

However, individual differences in play style, personality, beliefs, attitudes, skills, etc will constrain the gaming experience and thus the changes to brain and behavior
Example: Arousal and Learning

Yerkes-Dodson Law
Video Games Can Be Arousing
Video Games Can Be Arousing

Arousal Differs by Personality

Example: Exploration and Learning

- Without taking an action with somewhat uncertain consequences (i.e. explore), there can be no learning
Video Games Emphasize Exploration
Video Games Emphasize Exploration
Video Games Emphasize Exploration
Individual Differences in Exploration
Individual Differences in Exploration

- All subjects immediately encounter +2 and +0.
- Is +2 the best that can be done?

- Half explore until they find the +10 (red line)
- Half cease exploration and stick with the +2 (blue line)