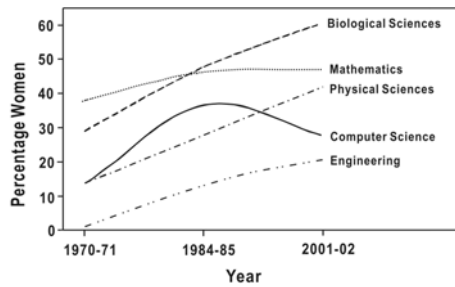


# Can We Prepare Women for Careers in ICT Using Video Games?

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## Context



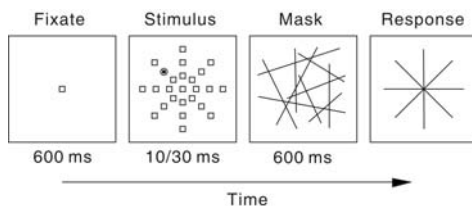
- The participation of women in ICT (Information and Communication Technology) is low (typically around 25%)
- While societal attitudes may play a role, gender differences in basic cognitive capacities could also be important
- Selective attention is a basic cognitive capacity that supports spatial cognition, which is useful for much work in ICT

## Questions

- Do gender differences exist in basic capacities (e.g. selective attention)?
- Can gender differences be reduced or eliminated by appropriate training?

## UFOV Task

- The Useful Field of View task assesses the spatial distribution of attention and the ability to pick out targets among distractors

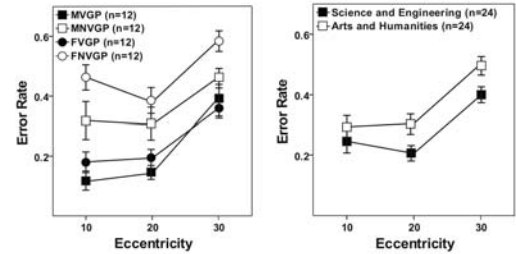


Participants responded by indicating the direction of the previously presented target

## Experiment 1

### Video-game players (VGP) vs. Non-video-game players (NVGP)

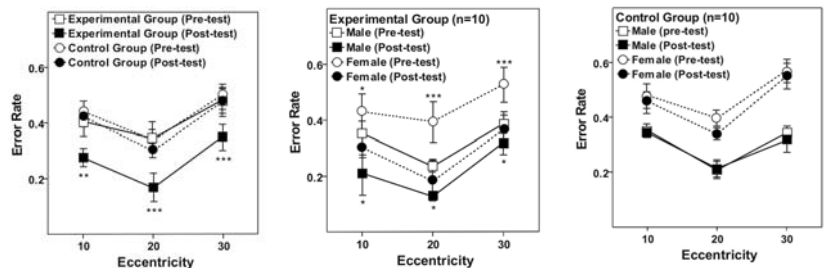
- 48 undergraduates
  - half male / half female
  - half VGP / half NVGP
  - half Science / half Arts
- UFOV task was used



## Experiment 2

### Cognitive training with action video games

- 20 non-gamers (14 females and 6 males)
- Assigned to two groups matched by gender and pre-test on the UFOV task
- Pre-test (UFOV) + 10 hours of training (gaming) + post-test (UFOV)
- Training material
  - action video game (the experimental group)
  - non-action video game (the control group)



## Conclusions

- There are gender differences in selective attention
- Playing action video games improves selective attentional capacity
- Women benefit more than men from appropriate training
- Appropriate training (e.g. action video gaming) may be a useful way to enhance certain cognitive capacities that are necessary for participation in ICT