

A group of graduates in black gowns and red stoles are celebrating in a courtyard. Some are jumping, some are holding up red rolled-up diplomas. The background is a large, historic stone building with many arched windows.

# PLAYING GAMES AT UNIVERSITY

## THE ROLE OF VIDEO GAMES IN HIGHER EDUCATION AND BEYOND

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**JOHN SEELY BROWN**

**“I would rather hire a high-level World of Warcraft player than an MBA from Harvard.”**



# GRADUATE ATTRIBUTES

“...the academic abilities, personal qualities and transferable skills which all students will have the opportunity to develop” (University of Glasgow)



# GRADUATE ATTRIBUTES

Investigative

Independent and Critical  
Thinkers

**Resourceful** and Responsible

**Effective Communicators**

Confident

**Adaptable**

Experienced Collaborators

Ethically and Socially Aware

Reflective Learners

Subject Specialists

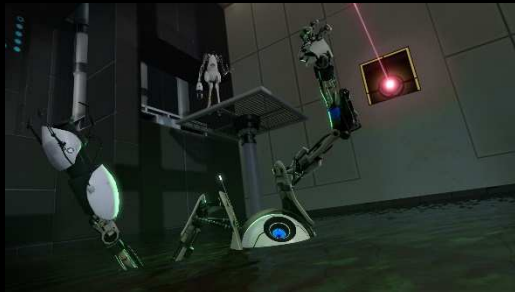




# RESEARCH

- Randomised controlled design experiment
- Measures for communication, resourcefulness and adaptability
  - Communicative Adaptability Scale (Duran, 1983)
  - Resourcefulness Scale (Zauszniewski et al., 2006)
  - I-ADAPT-M (Ployhart & Bliese, 2006)

# GAMES



# RESULTS (QUANTITATIVE)

	Control		Intervention		Difference in means		p-value
	Mean	SD	Mean	SD	Absolute	Normalized by SD (Cohen's d)	
Communication	-2.8	5.65	4.94	8.41	7.74	1.1	0.004
Adaptability	-8.25	15.99	11.31	18.07	19.56	1.15	0.002
Resourcefulness	0.25	9.71	9.69	11.42	9.44	0.9	0.013

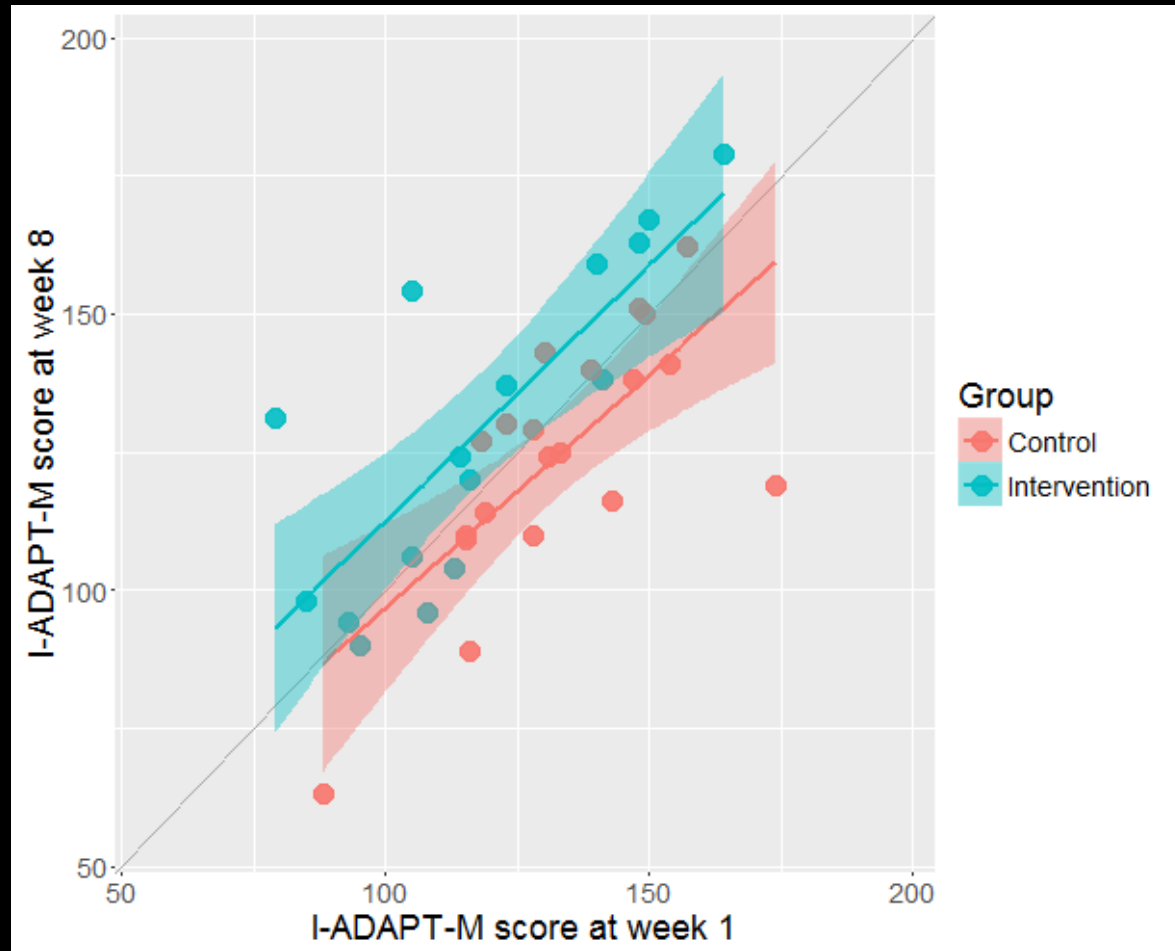
Barr, M. (2017). Video games can develop graduate skills in higher education students: A randomised trial. *Computers & Education*, 113, 86–97. <https://doi.org/10.1016/j.compedu.2017.05.016>

# RESULTS

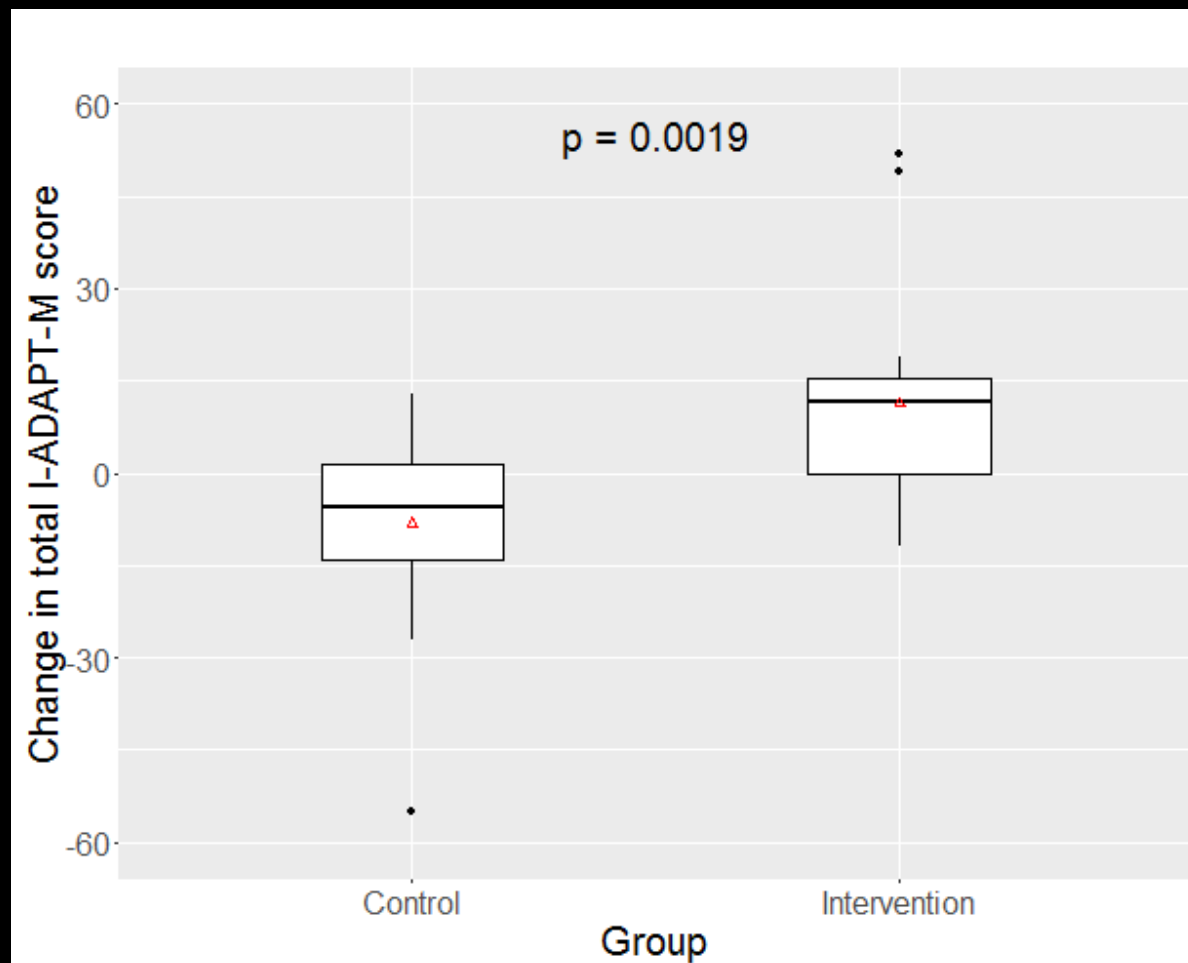
	Control		Intervention	
Score change	Positive	Negative	Positive	Negative
Communication	5	15	11	5
Adaptability	8	12	12	4
Resourcefulness	8	12	13	3



# RESULTS



# RESULTS



# RESULTS (QUALITATIVE)

- **On effective communication:**
  - I think definitely communication [...] And especially stuff like *Minecraft* and *Warcraft* and things like that where you did actually have to properly communicate with people and ask, like, "are you going to go and get this, or should I do it?" Like, that was really, really good. (Participant M, female, age 17)

# RESULTS

- **On effective communication:**
  - **Definitely, yeah, because they all have like a multiplayer aspect to them, and you're having to work with other people and talk to each other. So it'd definitely help with that. (Participant L, female, age 18)**

# RESULTS

- **On effective communication:**
  - A lot of the games, especially like *Portal*, *Team Fortress*, *Warcraft*, they had that element of needing to communicate with someone. So, when you have to communicate with someone, you'll learn how *best* to communicate with someone because you know when you *have* to do it... in those sort of team-based games where you have to be able to say "you do this and I'll do this". (Participant R, female, age 18)



# RESULTS

- **On effective communication:**
  - I don't know if I communicate very clearly or confidently. I communicated effectively because we got through it but, yeah, I don't know if I was very clear. (Participant A, male, age 32)
  - Not really, the communication was more about sharing feedback with each other ("Dammit! I thought I killed you!") than trying to communicate effectively in order to solve problems. (Participant Q, male, age 18)

# RESULTS

- **On adaptability:**
  - I mean, most of the games were kind of like, especially *Borderlands* again, were we were just kind of dropped into it, 'I don't know what this does' and, you know, you kind of figure it out relatively quickly. So, I think that kind of shows adaptability in a way that, you know, you have to learn how to navigate the game... (Participant J, female, age 29)

# RESULTS

- **On adaptability:**
  - **Yeah, I do think that the game sessions helped because we not only played a variety of different games like shooters or adventures but in the same game you can have lots of different tasks that require different skills. (Participant H, female, age 23)**

# RESULTS

- **On adaptability:**

- Well, I think it does with another person, because of how they are used to do things is not the same. Probably because they are from here, or England, or from other countries and I'm from Spain, it's very different from every culture. (Participant P, male, age 27)
- To be honest, it was probably more other people responding to my lack of experience with games but, yeah, I think just like working with other people with different abilities probably helps. (Participant D, female, age 18)

# RESULTS

- **On resourcefulness:**
  - ...a lot of them I had absolutely no clue what I was doing, so I would have to make things up as I went along. And just sort of work with the little knowledge of games I had and just try and patch something together with that. It worked most of the time. (Participant L, female, age 18)
  - Probably. Just because... you don't [get] much in the instructions, so if you haven't done it before, you kind of have to figure it out for yourself. (Participant D, female, age 18)



# RESULTS

- **On resourcefulness:**
  - *With **Borderlands 2**, we sat down and we were like, 'we've got two hours, let's try to make it to Sanctuary in this two hours'. And so we were totally in the zone, right, OK, let's properly work with each other, let's do this. What are you good at? What am I good at? OK, you go to the front and shoot this guy and I'll stay at the back and shoot this guy. Let's see what we can do. So that was like the epitome of communicating with each other and trying to be good. I say 'trying to be good', although we did make it to Sanctuary. (Participant T, male, age 19)*

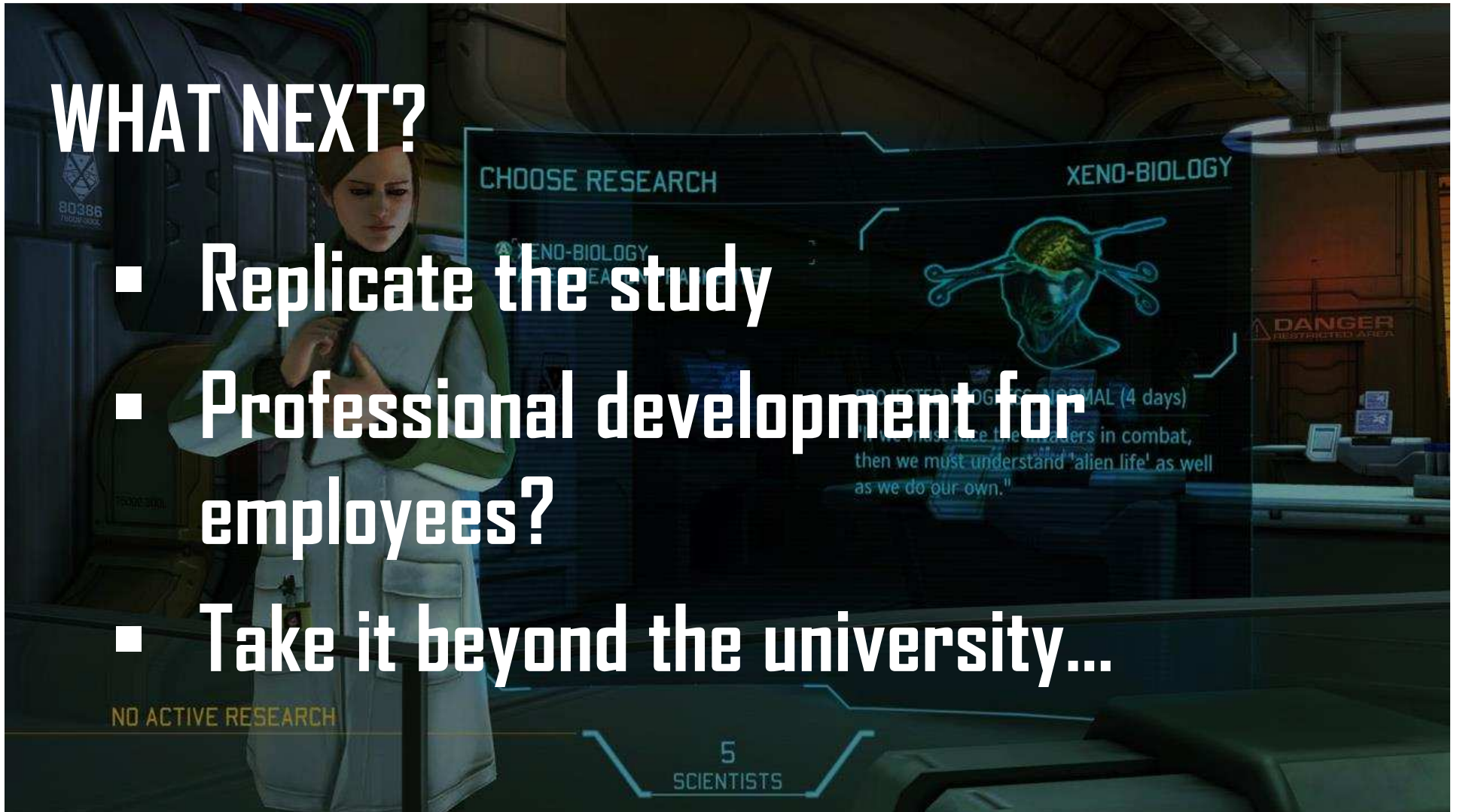


# CHALLENGES & LIMITATIONS

- Buying and installing games
- Multiplayer
- Hardware limitations
- Participant engagement
- Active control group?

# WHAT NEXT?

- Replicate the study
- Professional development for employees?
- Take it beyond the university...



# MAKE IT LESS WEIRD

- Western, Educated, Industrialized, Rich, and Democratic
- Undergraduate students are convenient, but not representative



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**THANKS!**

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