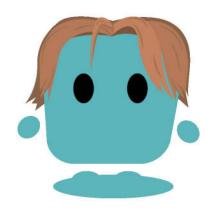




# Game changer: Exploring the role of board games in the lives of autistic people

Dr Liam Cross, Dr Gray Atherton

@CrossAtherton



https://socialembodiedcognition.wordpress.com





#### Autism, Board Games & Overlap

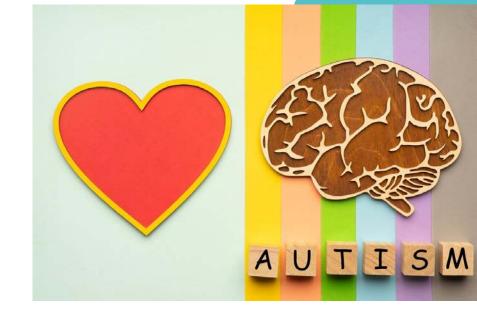
#### Our work so far

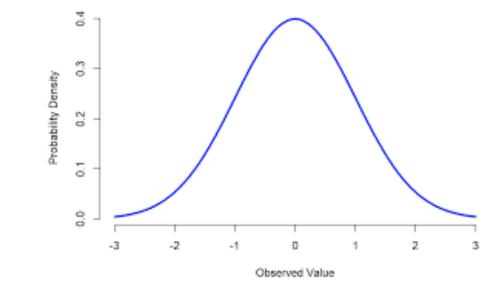
#### Conclusions, ongoing work, future directions

Q&A



- What is autism spectrum condition?
- Affects 1-3% of the population
- Social and communication challenges
- Theory of mind (taking perspective and reading minds)
- Propensity for systems, logic and rules
- Special Interests
- Exists on a spectrum (BAP)





# **Why Board Games**

*Traditional & Mass Market games –* Chess, Backgammon, Go, Dice, Cards , Monopoly, Cluedo.

#### Modern Games –

Deeper systems and mechanics, more player interaction, stronger narratives, intricate physical components





- Tools for education, communication, language and cognition
  - Intrinsically motivating (fun, engaging and social)
    - Independent and inclusive

## Why Board Games & Autism

Personal observations (Increased Prevalence)

Contradicts Autism Research/Myths

Social hobby that's theory of mind heavy

Very little research in this area

Atherton, G., & Cross, L. (2021). The Use of Analog and Digital Games for Autism Interventions. *Frontiers in psychology*, *12*, 669734.



# Study 1 Autistic board gamer demographics

RQ 1 how prevalent is autism in this population? RQ 2 how do non/autistic gamers differ?

# Study 1

• Online survey of > 1600 board gamers

Recruited via board game groups, forums, distributor mailing lists, everyone given a free game

- Assessed demographics and gaming preferences and motivations
- Rates of mental health and developmental conditions
  - Most in line with global average
  - Only 2 Elevated condition autism (7% vs 1%) and anxiety (12% vs 7%)
    - These conditions often co-occur
    - Autistic traits (AQ) were significantly elevated (30% in clinical range)

#### **Comparisons between non/autistic board gamers**

Motivations for gaming
Neurotypicals = Social interaction / Autistic = Strategizing

Autistic players preferred playing alone

- Ranked certain game themes higher (sci-fi, fantasy, transport, and animal)
- Rated the more mechanical aspects of games as more important



• Autistic players were more likely to be "hardcore' gamers than neurotypicals

Autistic and NT players seem to be getting different things from the hobby

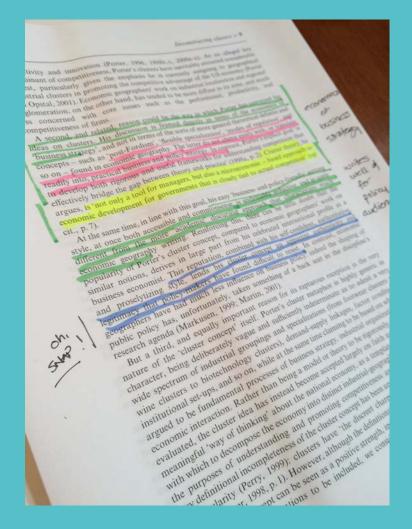
Study 2 Interviews with autistic board gamers

R3: What do autistic board gamers get out of the hobby?

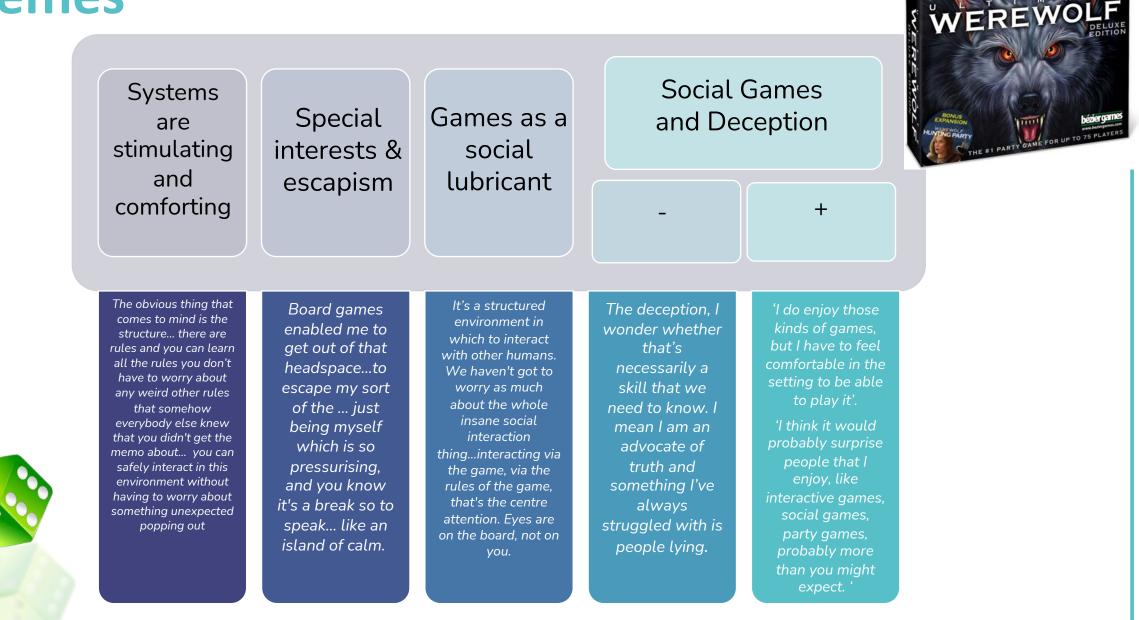
## 13 Interviews with autistic gamers (10M 3 F) IPA analysis - Emergent (user led) analysis, 2 coders.

Themes	Frequency in Interviews	Frequency of themes
Systems are Stimulating & Comforting	9	38
Special Interests & Escapism	9	34
Games as a Social Lubricant	11	50
Social Games & Deception	9	10

Table 1. Frequency count of subthemes within interview data.



## Themes



# Study 3

Focus groups with autism clubs

R4: What do autistic board gaming 'newbies' think about the hobby after being introduced?

Participants: 30 autistic adults, across UK. (groups of 5/10)

Procedure Played games for 2 hours

Dixit, Werewolf, Deception in Hong Kong, Codenames

Then took part in focus groups about experiences



# Board games can forge social relationships

# Board games can build skills

The board games are interesting. And we were all interested. I mean, there was no one who felt left out or didn't participate. Because when you're on the spectrum, we find just making conversation, small talk, rather difficult. Couple that with 'we've got a common interest together,' rather than you're trying to construct chit chat about the weather, and now you're also interacting with other people.

New games were a challenge, when I played them I was challenged more. So with these games, like with my autism, I've been encouraged to tolerate change more.



# Study 4/5

Year long game groups with school/community groups

R5: Can games afford benefits long term

Atherton, G., Dawson, E., & Cross, L. (in press). We've all come together, A board gaming approach for working with autistic people. American Journal of Play

Participants: SEN school and adult community centre Liverpool and Manchester (over 1 year)

11 children with ASC14 adults with autism and otherneurodevelopmental disabilities

#### Procedure:

Weekly 1 hour sessions playing board games including: Dixit, Werewolf, Spyfall, Codenames,

Interviewed participants and staff



Interviews with SEN school and Community group for adults with autism and ID (following 1 year)

#### Analysed using IPA

I think it's made them come together a bit more. Even though they've had their arguments they have probably the most conversations. They're sat round the table together, and that's huge for them. We are with them all the time, and sometimes we forget that they are actually capable of doing stuff on their own. So we always sort of take over and say like 'well I'll do this', but with this game they've had to do it themselves and its been a bit of a learning curve for us to know that they are actually capable of doing it.

Independence

I changed. Learning and adapting to this new game that I haven't played before in my life, and just to see what's going on in that game. Learning and adapting

Friendship

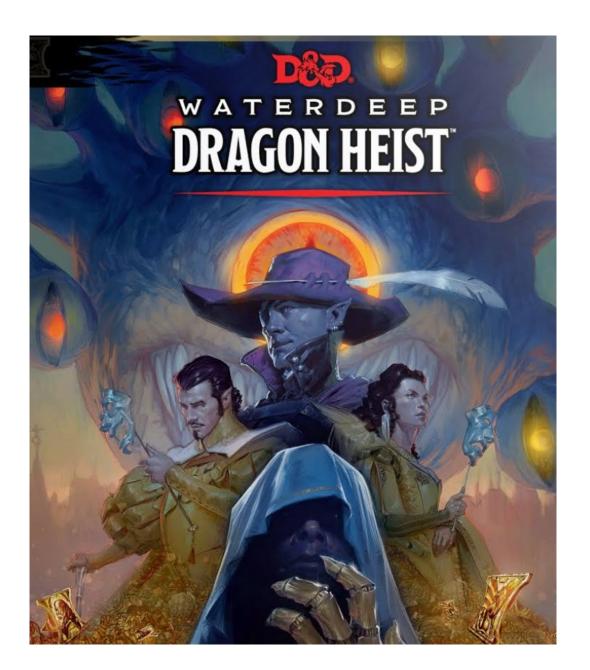
Skill building

2 groups of 5 autistic adults , 8 weekly 3 hours sessions

interviewed about experiences at the end

3 themes

- 1 Struggles of social life
- 2 Different interaction in TTRPG's
- 3 Bleed & emotional investment



## Conclusions



Board games provide skill building in areas related to social cognition, though these also represent challenges (ie skills like bluffing).

Strategizing and gaming systems are compatible with ASC



Board games are a social lubricant for autistic people.

They reduce social anxiety and uncertainty. People can talk about the game and this leads to discussions outside of the game.



Board games may present an important intervention for autistic adults and children.

It helps build friendships and allows practice of social skills in naturally engaging settings.



# **Big picture –** Overlap between autism and gaming

#### Cognitive differences in ASC

- Social skills/Communication
- Structure/'systems'
- Theory of mind/Perspective taking
- Special interests

#### Commonalities in boardgames

- Cooperating/Hinting/Sportsmanship / Turn taking
- Rules/Logic/Strategy
- Bluffing/Simulating
- Popular board game themes



- Highly motivating -> can lead to expertise
- Enjoyable and engaging



#### Therapeutic application of Dixit



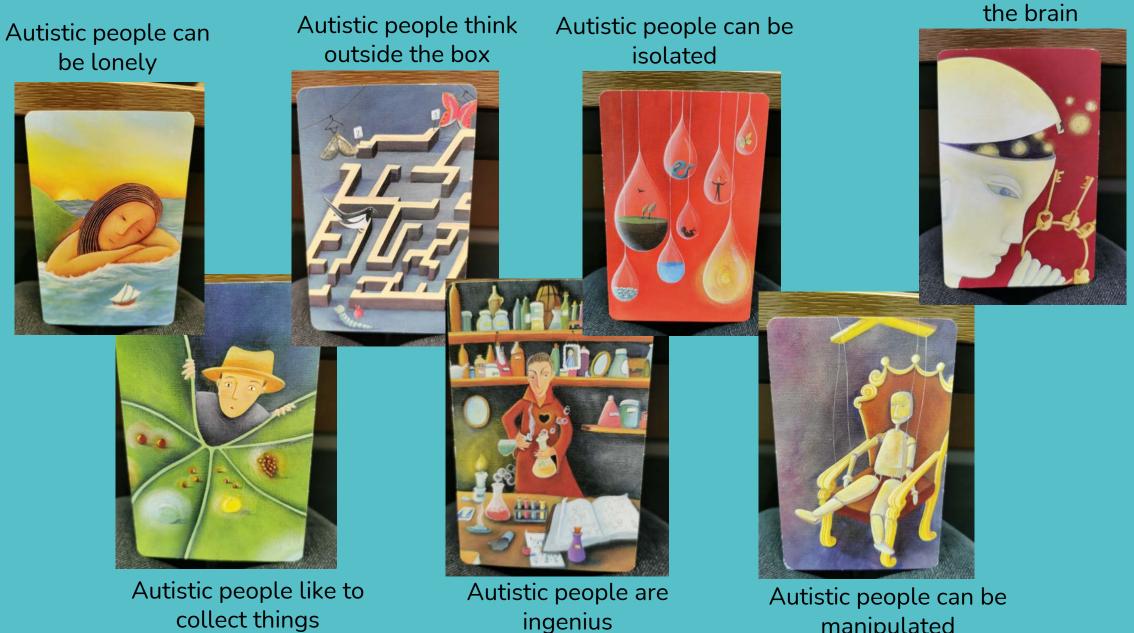
Pick a card for the word 'autism'

Why did you pick this card?

#### Future Directions



# The word is 'autism'



manipulated

Autism is unlocked in

# Future Projects using Dixit

Uses:

Therapeutic intervention to understand how people view a condition

Comparison between how different people conceptualise topics (i.e. autistics/NTs)

'Gamifying' therapy, ie therapeutic play i.e. discussing 'hard to talk about' topics

Qualitative analysis using photo-elicitation and thematic anylasis



NHS Foundation Trust



Cheshire and Wirral Partnership NHS Foundation Trust





#### **Rhys Hathaway**



Francesca Belshaw

#### **Dr Michael Sousa**





#### **Emily Dawson**

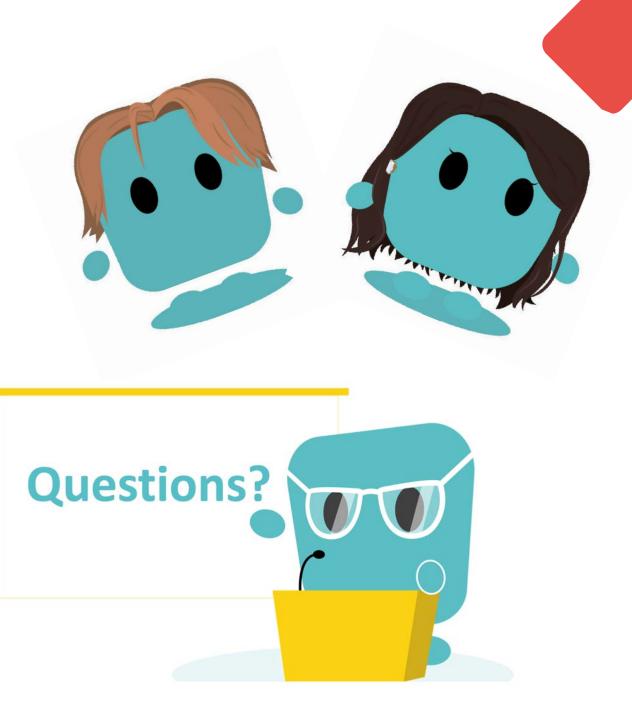


**Dr Andrea Piovesan** 



**Dr Peter Wright** 

# Thank VOU !



# We are doing a new project!

An interview based project (online) with parents who have played board games with their autistic child

\*If you are interested email: gray.s.atherton@vanderbilt.edu

