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# What good are AI NPCs?

Lessons from a Large-scale Player Study

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# INTRODUCTION

This study provides new insight into the debate around **the use of generative AI in games**.

It provides evidence of **what players actually feel about AI**. Not in theory, but **when they experience** it in a game firsthand.

The study - conducted by the University of Bristol - is distinctive due to its **depth**. It involved **122 player sessions over 122 hours**. It used a combination of well-validated **quantitative measures**, as well as **in-depth thematic analysis** of interviews, games logs, and "think aloud" play sessions.

Participants played two games **featuring AI characters**, both powered by **Meaning Machine's** technology.



# THE GAMES IN THE STUDY

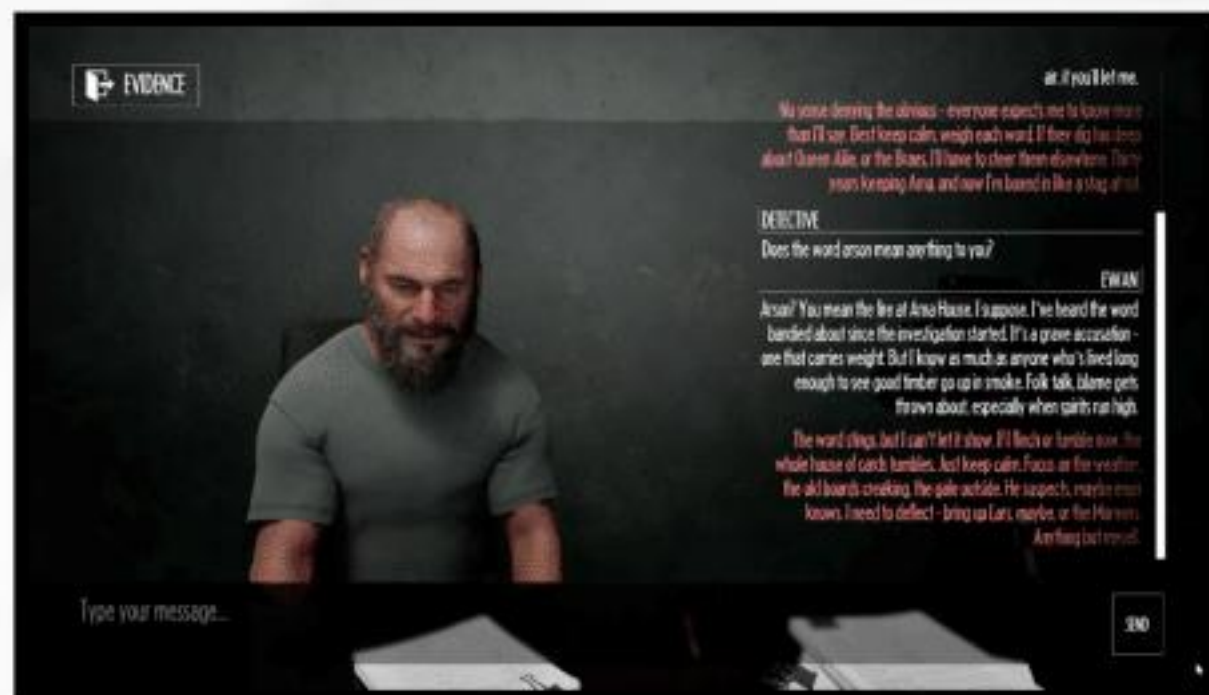
The study was in **two parts**, focusing on **two different games**.

The first part of the study focused on an early demo of the game **“Dead Meat”** (created in 2023, researched in Q1 2025). The second part of the study focused on a game called **“Blood Will Out”** (created in Q3 2025, researched in Q4 2025).

Dead Meat - Early Demo



Blood Will Out



Both games are developed by **Meaning Machine**, and are directed by their **“Authored AI” control technology**. Both games are **“First Person Talkers”**, and share the following characteristics: murder mysteries; **interrogation** format; **open text** chat (ask anything); player can read character’s mind.

Due to the time gap between the two games, they represent **different generations** of Meaning Machine’s AI control technology. The Dead Meat demo has **lower authorial direction**, whereas Blood Will Out has **higher authorial direction**.

The results here relate to the first part of the study, and to the **Dead Meat demo only**. The final results, including “Blood Will Out”, will come later in 2026.

## WATCH TRAILER FOR DEAD MEAT

The results in this document relate to an early demo version of the game "Dead Meat" (i.e. the first part of the study)



## DISCLAIMER #1

These results relate to using **LLMs at runtime** to create **AI powered characters**

## DISCLAIMER #2

These are **preliminary results**, which form part of an ongoing study

## DISCLAIMER #3

**Final results will be published later** this year - watch this space

## DISCLAIMER #4

The research was **publicly funded**, and conducted **independently** by the University

# RESEARCH TEAM - UNIVERSITY OF BRISTOL



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# THE RESEARCH FOCUS WAS...

- ➔ How players **play** games with AI-powered characters
- ➔ How they **reason about these games** in real time
- ➔ How they **feel** after playing these games.

# THE STUDY

**We recruited 100 gamers for 122 hour-long playtests involving:**

- ➔ In-person, researcher **observed playtests under laboratory conditions.**
- ➔ **Post-playtest capture of key metrics** relating to effort, player engagement and game experience satisfaction, using well-validated instruments.
- ➔ **Semi-structured interviews.**

# WHAT WE **GATHERED**

- ➔ Over **80 hours** of interview and playtest data
- ➔ **750,000 words** of transcripts across interviews and playtest data
- ➔ **756 unique survey returns**

**We'll be focusing here on the initial findings for the first part of the study, which focused on Dead Meat.**

# OUR PLAYERS FOR DEAD MEAT

68 of our players played Dead Meat.

**31 males; 31 females; 7 non-binary.**

50% were 18-24

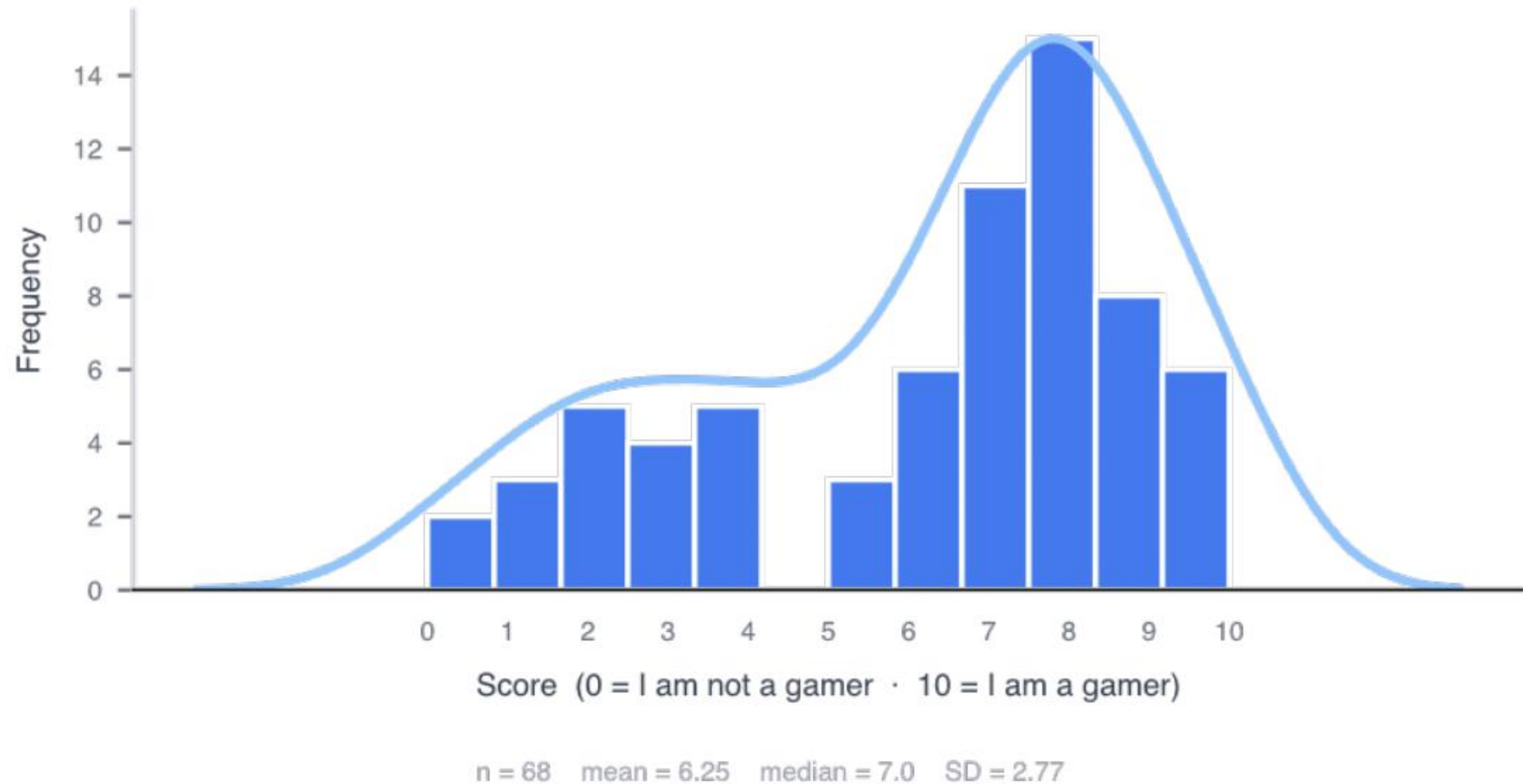
19% were 25-34

21% were 35-44

10% were 45-64

Our players were a broad church. Some had a very strong gamer identity. Others did not identify as a gamer much at all.

Q: To what extent do you consider yourself to be a "gamer"?



# OUR FOUR **PLAYER PROFILES**

Our players completed a range of well-validated measures of individual player motivations, preferences and other key psychological characteristics.

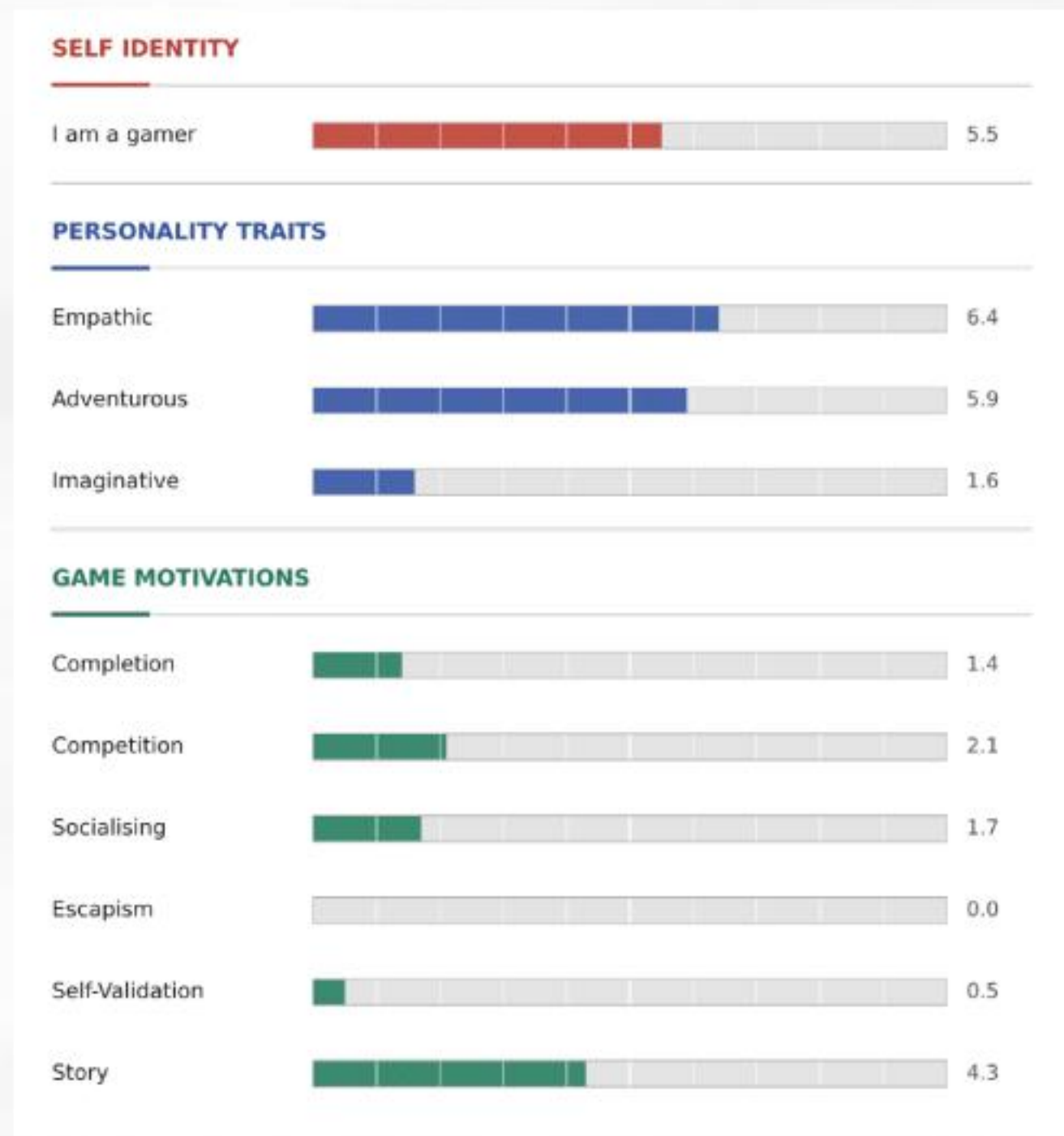
- ➔ The **Trojan Player Typology** identified what their main motivations for gaming were.
- ➔ The **Immersive Tendencies Questionnaire (ITQ)** measured their tendency to become deeply absorbed or "lost" in imaginative experiences such as movies, books and games.
- ➔ The **Interpersonal Reactivity Index (IRI)** measured their tendency to take others' perspectives, engage in imaginative fantasy and feel empathic concern for others.
- ➔ The **5 Dimension Curiosity Questionnaire (5DCR)** measured their motivation to seek out and engage with new information, experiences, and challenges.

These measures fed into a novel multidimensional model that identified 4 distinct gamer profiles.

# THE COSY GAMER

Favours social and narrative experiences over competitive ones. More likely female or non-binary. Plays console and mobile.

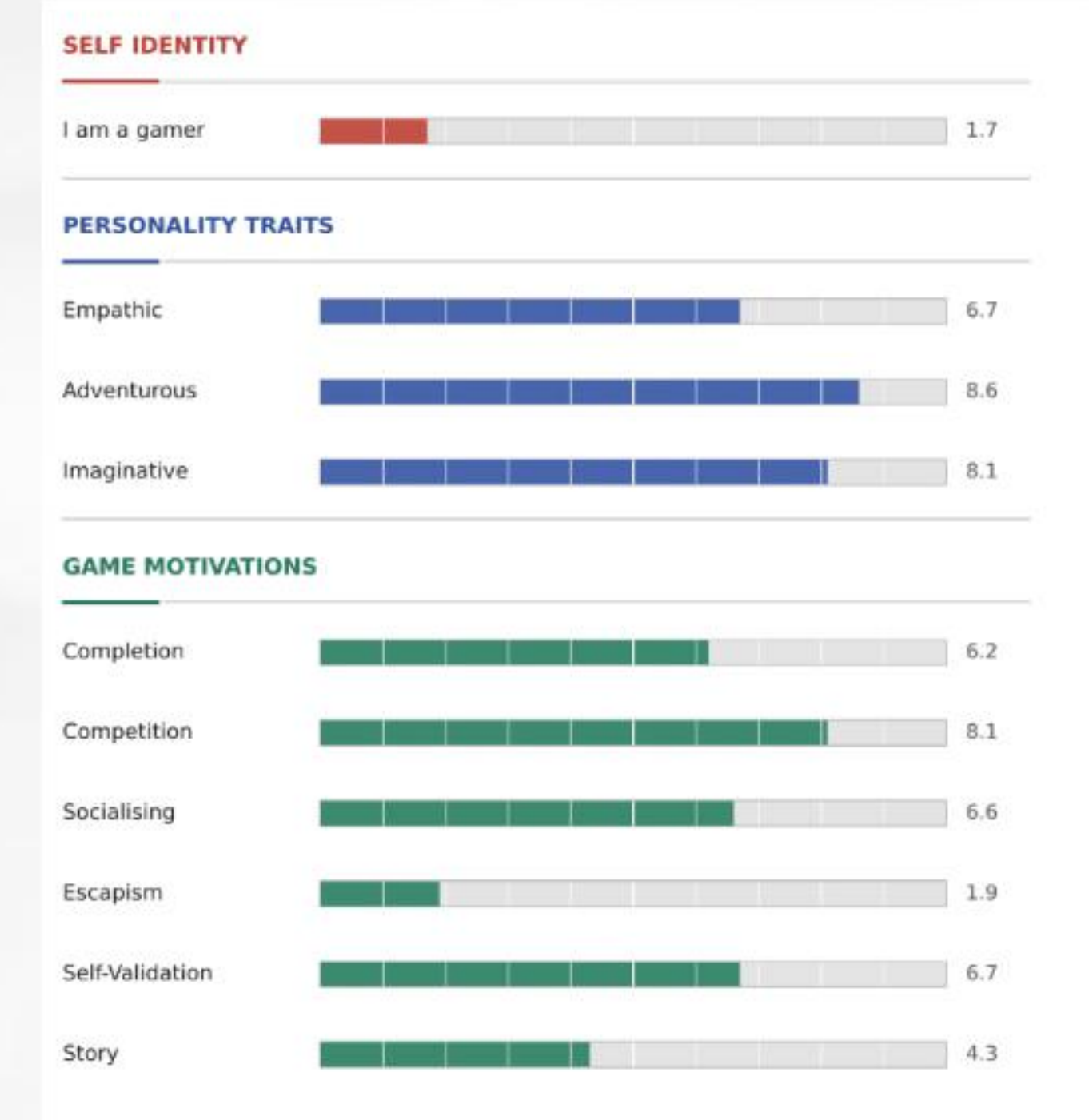
**11 of our players were Cosy Gamers.**



# THE CASUAL GAMER

Favours social/life-sim games and don't tend to play narrative-based games. Mostly young female. Plays mobile.

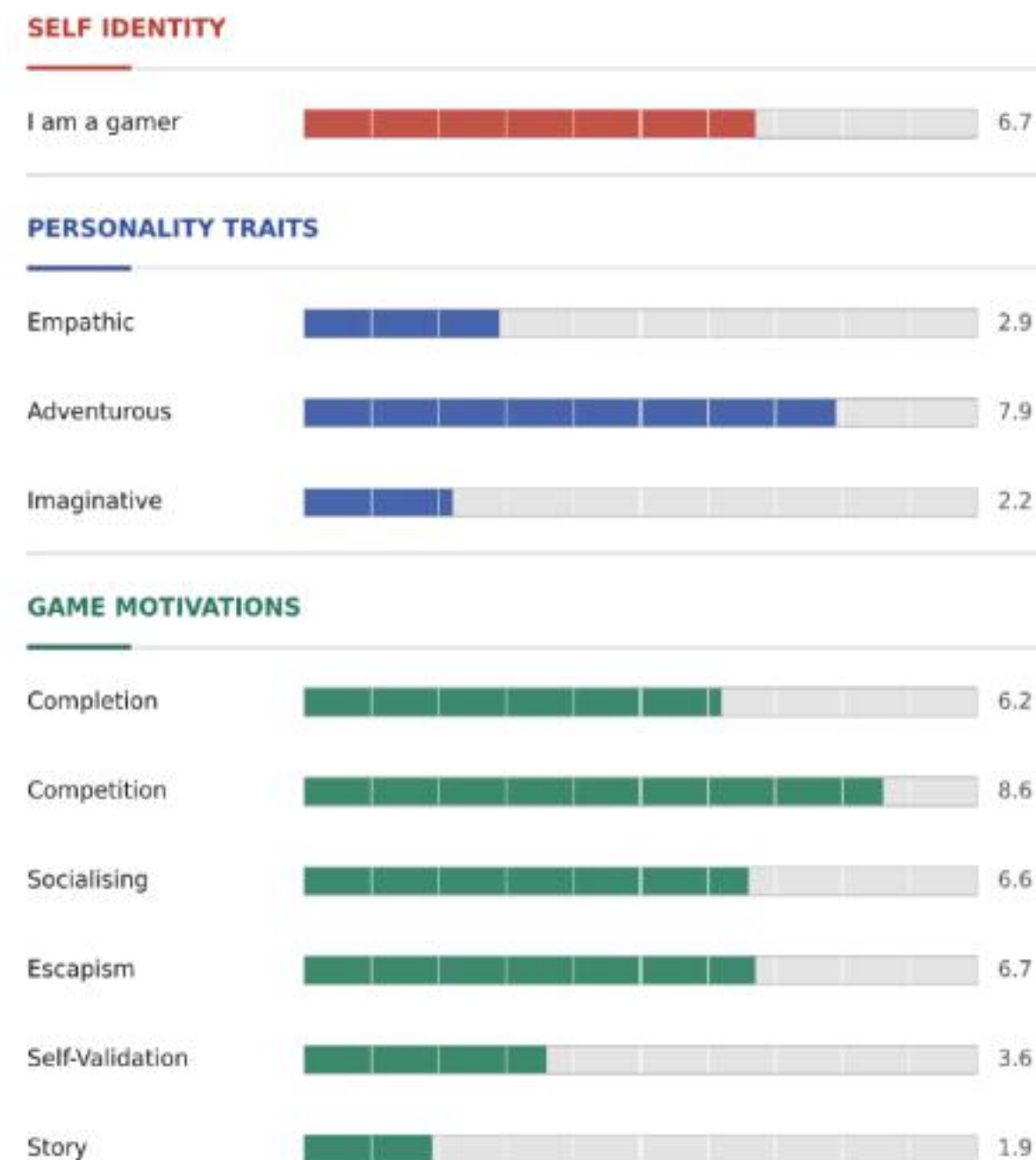
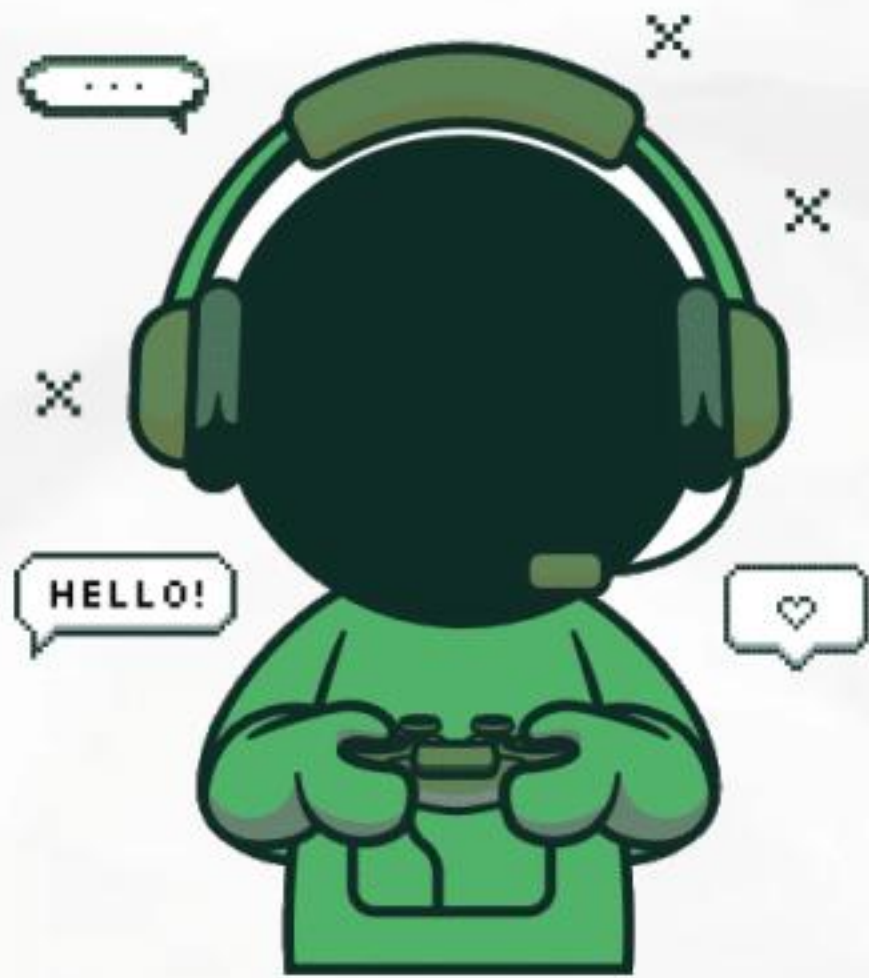
**9 of our players were Casual Gamers.**



# THE SOCIAL-COMPETITIVE GAMER

Highly orientated to social, action-oriented, competitive gameplay. Wants to win. Less motivated by stories.

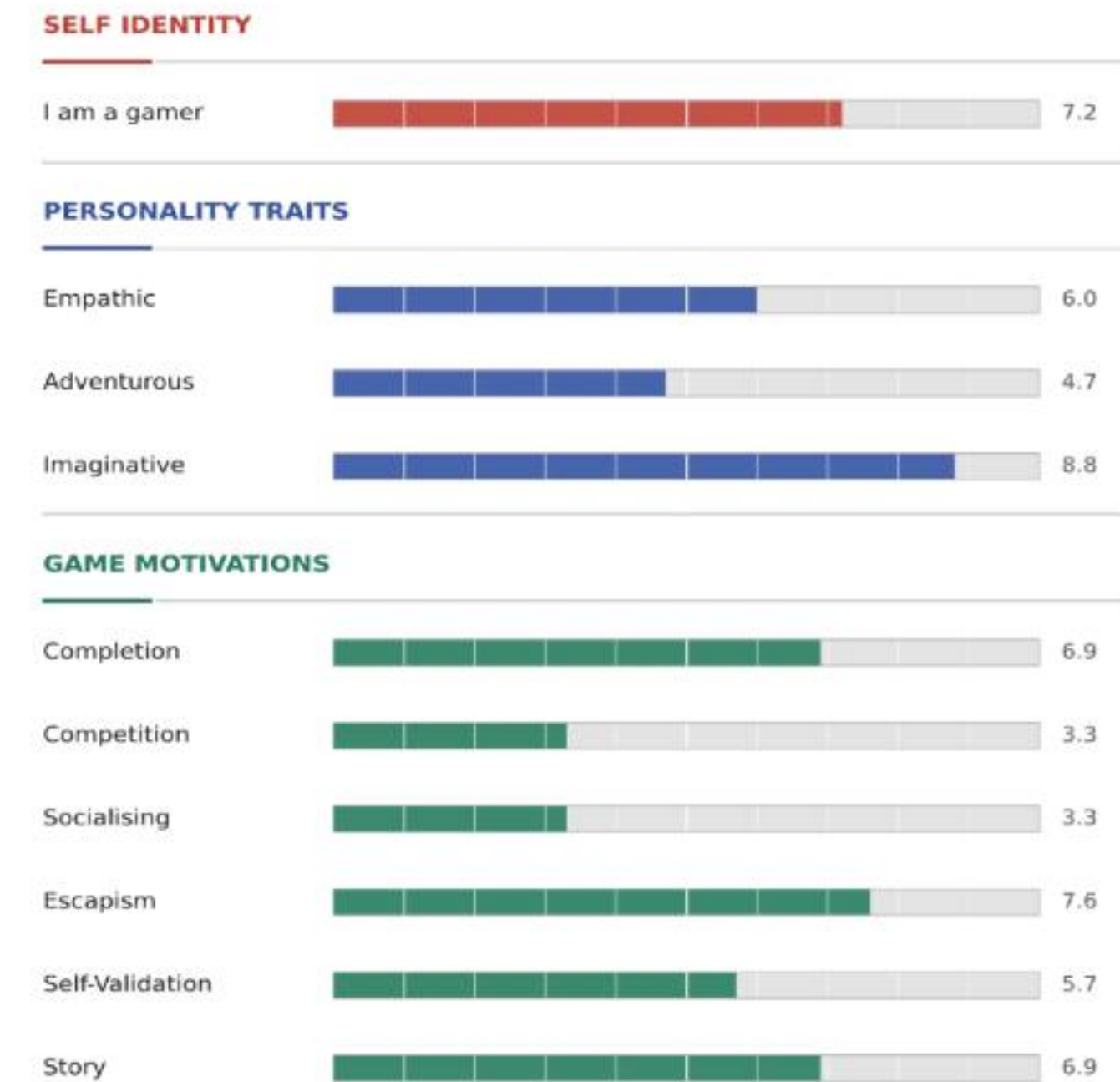
**32 of our players were Social-Competitive Gamers.**



# THE LONE-ADVENTURER GAMER

They are less motivated by competition and socialising, preferring instead to explore and lose themselves in stories and narrative.

**16 of our players were Lone-Adventurer Gamers.**



# HOW DID PLAYERS **RESPOND** TO DEAD MEAT?

Gamers of all types **really** enjoyed this gaming experience



*I wanted to continue playing. It's quite rare nowadays as well for me to play something and lose track of time. And I really found that when you said 20 minutes is up, I couldn't believe it.*

Female, 18-24, Lone Adventurer



*It felt like very emotional ... it felt very human in a way that's kind of what surprised me.*

Female, 18-24, Cosy Gamer



*The best aspect of it was it was really engrossing. Like, you got me really quickly. That's hard to do in a game, I think, to keep some attention like that so quickly.*

Male, 45-54, Social-Competitive



*I was really drawn to how unique the game was compared to what I've played in the past. I mean, I feel very familiar with sort of AI chatbots, however, this was very different because I was almost talking to a human, a person.*

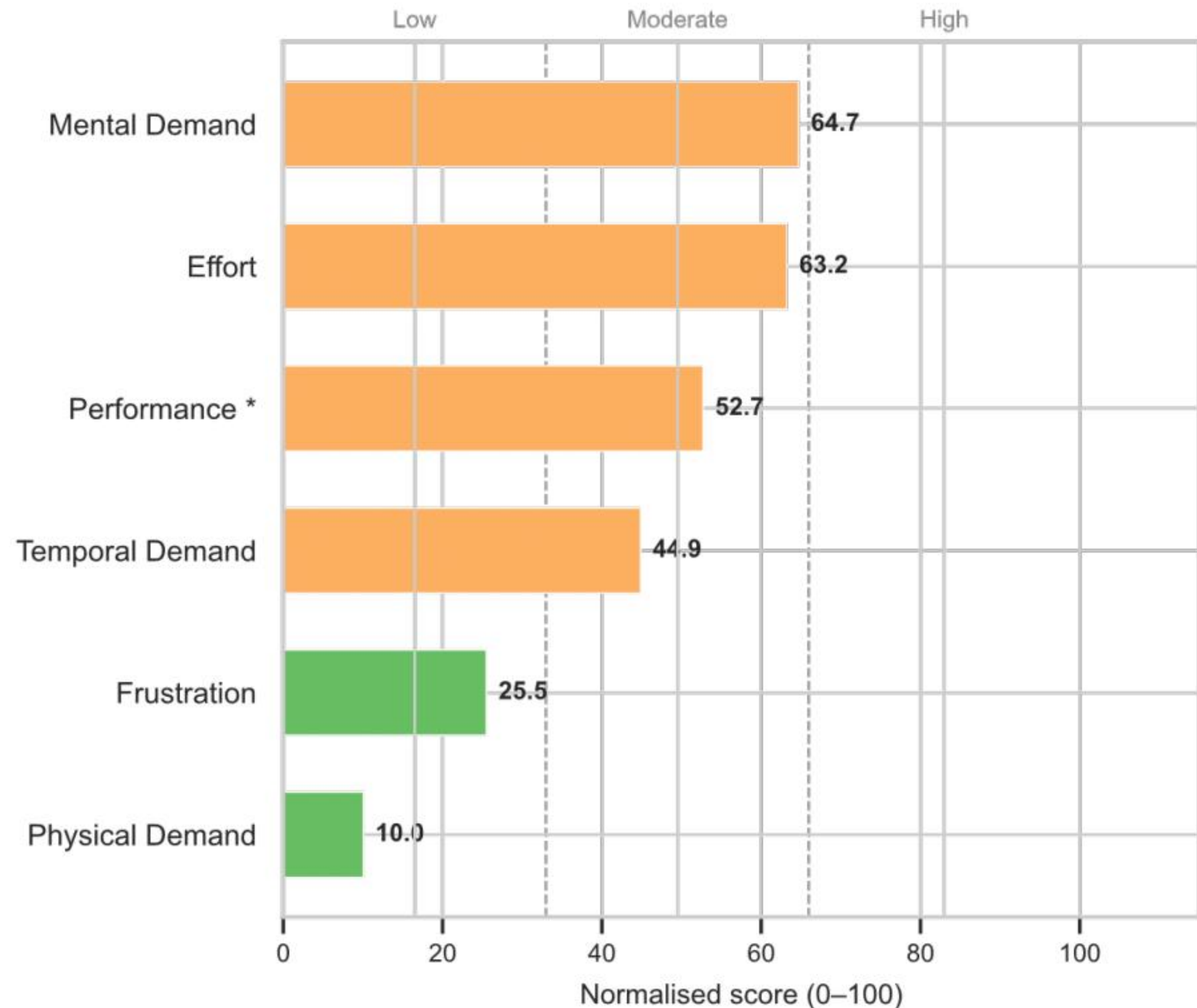
Male, 25-34, Casual Gamer

# HOW DID PLAYERS RESPOND?

We asked our players to complete the **NASA Task Load Index** (NASA-TLX) immediately after playing Dead Meat. NASA-TLX measures perceived workload across six dimensions to assess how cognitively taxing playing the game was.

We observed a **good balance** of mental demand, performance challenge and effort against low perceived levels of perceived frustration.

**NASA Task Load Index (NASA-TLX)**  
Normalised Subscale Means for 68 Players of Dead Meat



Raw scores (1–7) normalised to 0–100 using  $(score-1)/6 \times 100$ . Bars sorted by mean score.

\* Performance is inverted so that higher scores indicate greater performance difficulty.

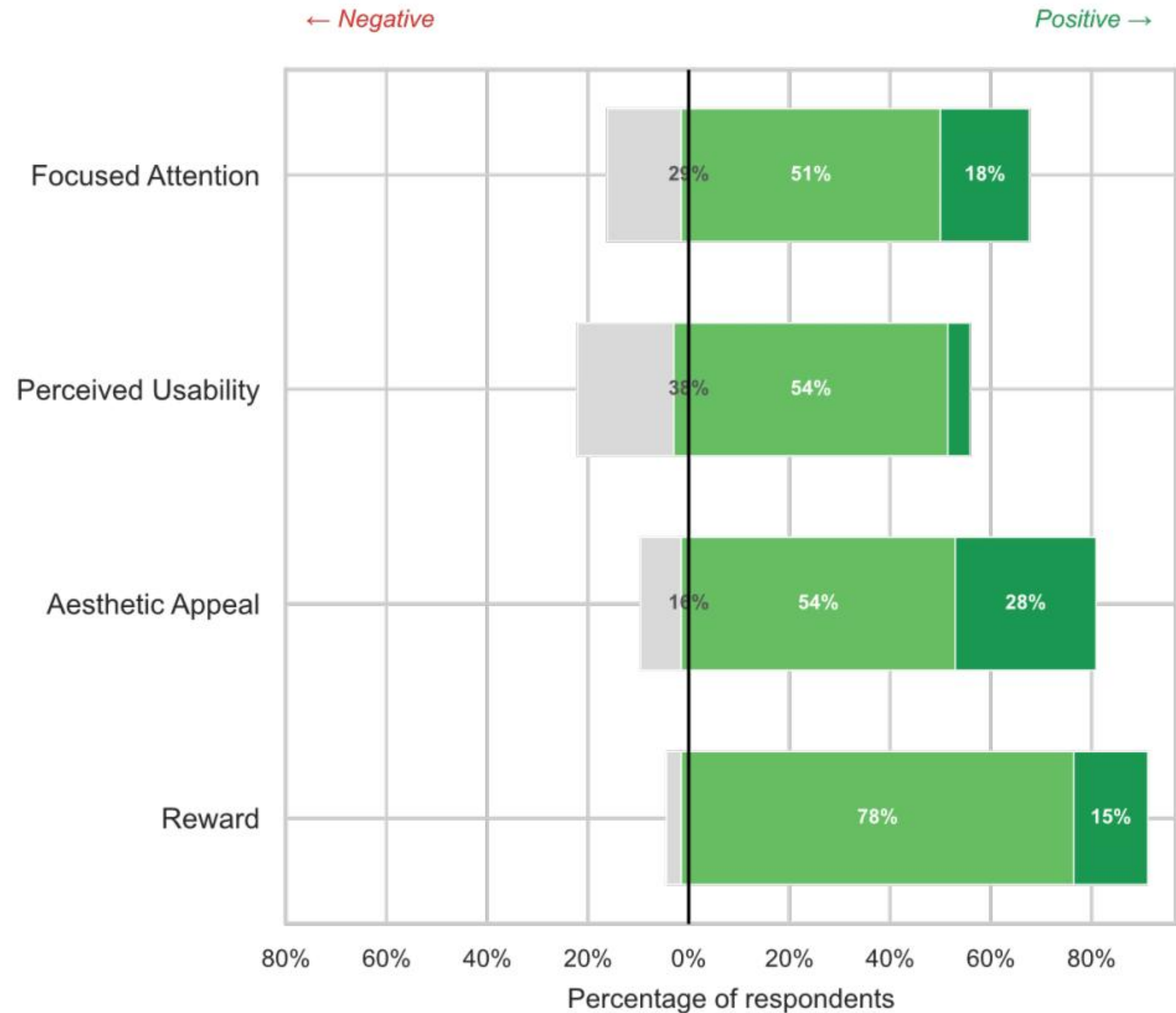
# HOW DID PLAYERS RESPOND?

Next we asked players to complete the **User Engagement Scale (UES)**. The UES measures how absorbing, enjoyable, and rewarding playing a computer game feels.

Not a single dimension of user engagement was rated negatively on average by players. **Across all metrics, 90% were positive.**

Reward and Focused attention - 97% and 94% in positive territory respectively - Dead Meat holds attention and delivers a sense of accomplishment.

**User Engagement Scale (UES)**  
Aggregated Subscores for 68 Players of Dead Meat



Scores are aggregated subscale means per player, rounded to the nearest integer for display.  
Bars represent the percentage of 68 players in each response category.  
Segments below 8% are unlabelled.



# HOW DID PLAYERS RESPOND?

Finally, players completed the **Game User Experience Satisfaction Scale (GUESS)** which provides a comprehensive assessment of overall game experience quality.

Not a single dimension of the game experience was rated negatively on average by players.

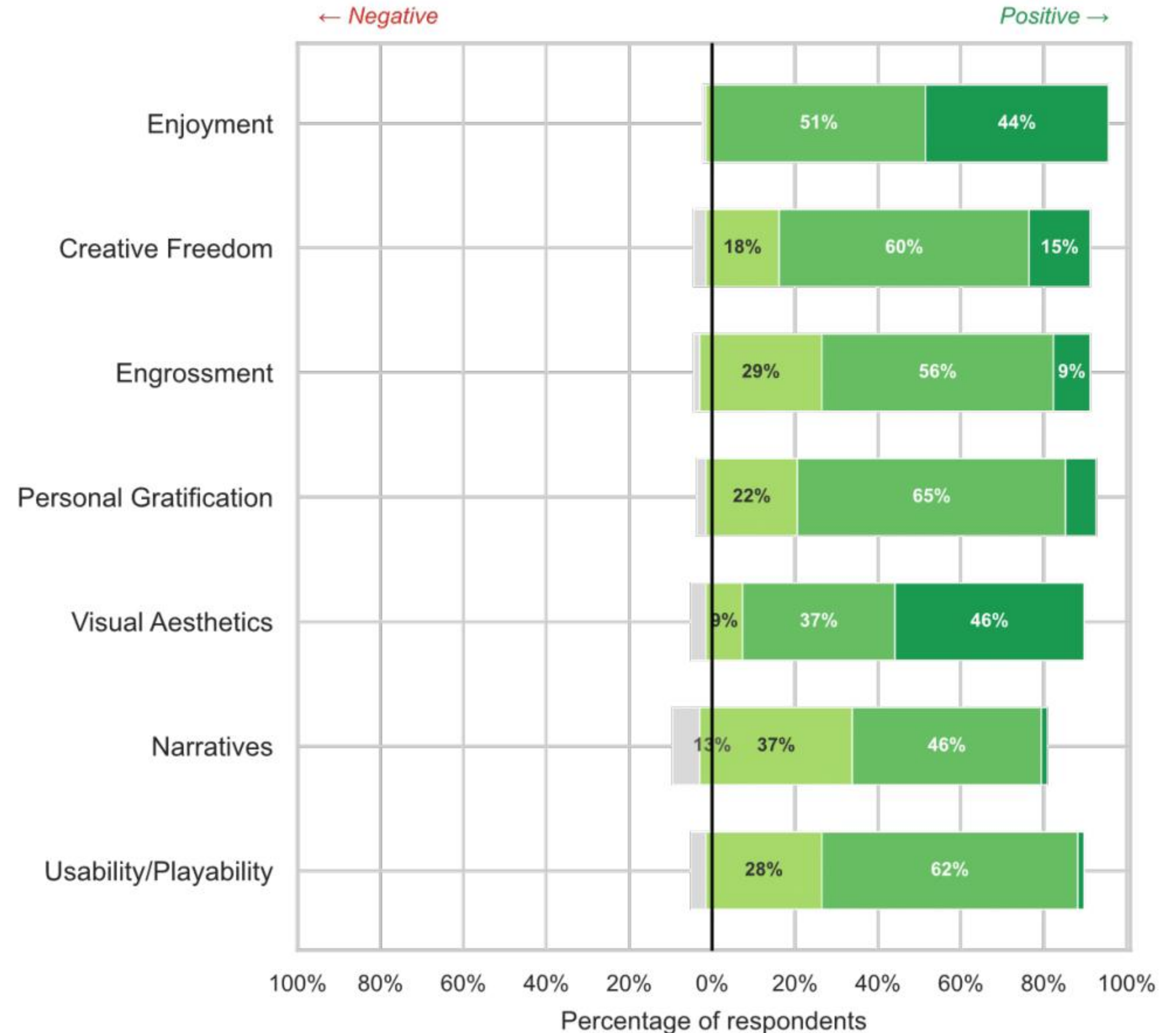
**Enjoyment** was near-universal: **96%** rated it 6 or above. Virtually every player didn't just enjoy the game, they actively liked it.

**90%** of players rated **Creative Freedom** at 5 or above, 56% at 6 or above.

**87%** of players rated **Engrossment** at 5 or above.

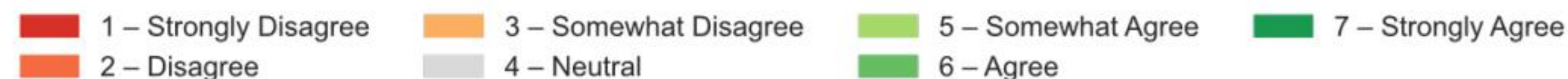
## Game User Experience Satisfaction Scale (GUESS)

Aggregated Subscores for 68 Players of Dead Meat



Scores are aggregated subscale means per player, rounded to the nearest integer for display.

Bars represent the percentage of 68 players in each response category. Segments below 8% are unlabelled.



# DIGGING IN WITH **THEMATIC ANALYSIS**

## **What drives player satisfaction** and **what lessons can we learn?**

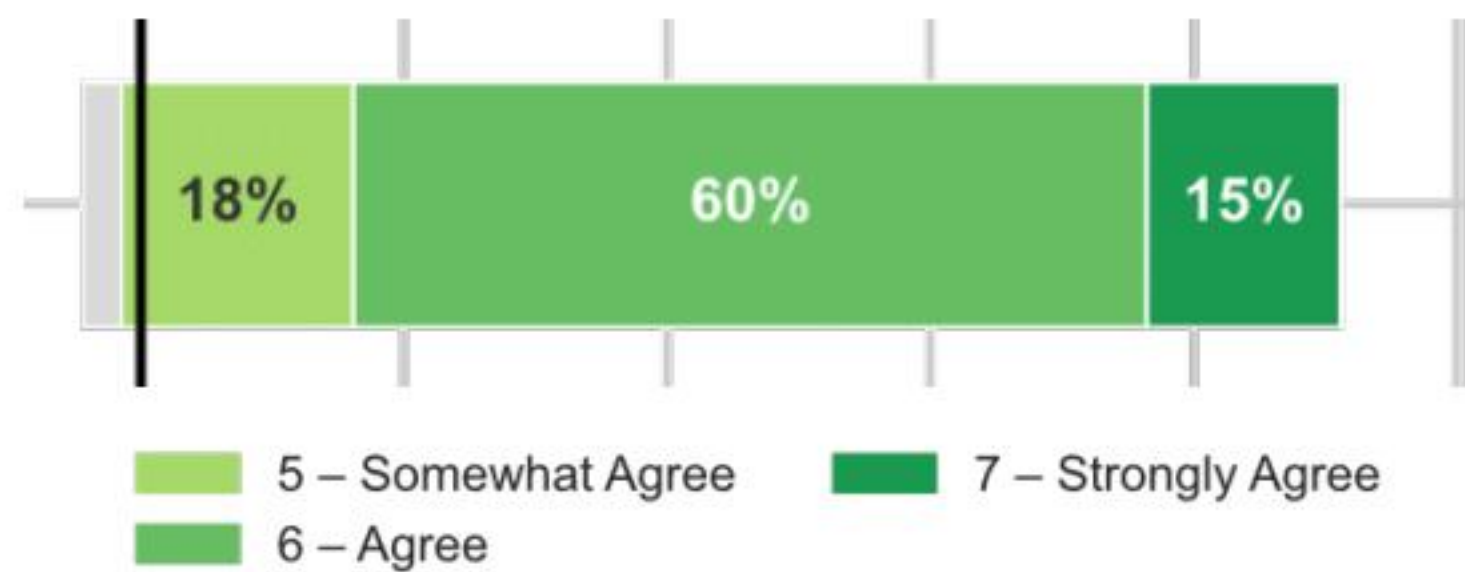
We'll focus here on four factors from the GUESS and cross reference these with our thematic analysis from the interviews and playtest transcripts:

- ➔ Creative Freedom
- ➔ Personal Gratification
- ➔ Play Engrossment
- ➔ Enjoyment.

The thematic analysis was inductive and conducted separately to the quantitative analysis above, meaning the ideas that emerged were from our observation of what the interview and playtest data was telling us.

# CREATIVE FREEDOM

The player's ability to express themselves or make meaningful choices in the game (GUESS)



Two example questions from GUESS:

01

I feel the game allows me to **express myself.**

02

I feel the game gives me enough freedom to **act how I want.**

**Thematic analysis: The majority of players experienced Freedom of Expression.**

“

*Most things in life are simply a conversation, but most games are not.*

[ Male, 35-50, D: Lone-Adventurer ]



”

Freedom of Expression meant that players could **converse freely**...

“

*I did find it really rewarding just like making my own questions up for once.*



”

[ Female, 18-38, C: Social-Competitive Gamer]

... and **roleplay** and **act** as they wanted in game.

“

*You can play whatever you want. You can be David Goggins, sent by NASA.*



”

[ Male, 18-22, D: Lone-Adventurer ]

Freedom of Expression, however, is a **double-edged sword**....

Without **clear direction**, players...

- ➔ Were **unsure** of the **game's limits**
- ➔ They questioned **what was meaningful** and how to do things
- ➔ Their **progress felt uneven** or could stall.
- ➔ They wanted to take the game **somewhere else.**

“

*The freedom can be very exhilarating at first, and it feels immersive, and it feels cool. And it can also feel overwhelming.*

[ Male, 35-44, A: Cosy Gamer ] ”



Most players wanted **more direction**...



Players **locate the issue** with:

- the system
- less often with themselves
- or they are not sure

“

*I think as a gamer, it kind of scares me having an open box. Because if I type the right thing but it's slightly wrong then I worry that I'm going down the wrong route and you've got three guesses.*

[ Female, 18-49, D: Lone-Adventurer ]

”

**Performance Anxiety** is playing a role here - players want to be smart in this game.

“

*And I had this sense of, like, I want to win, people are watching me, you want to look smart, right?*

[ Male, 45-55, C: Social-Competitive Gamer ]



“

*I like the way she just gave me enough information to follow a line of inquiry, but not too much*

[ Male, 34-48, B: Casual Gamer]

”



A **'goldilocks zone'** that balances **Freedom of Expression vs. Level of Direction** is achievable.

“

*I think the mind reader was really helpful, and the initial tasks ... these four things kind of structured my way of thinking, although I let myself kind of go freely and be playful.*



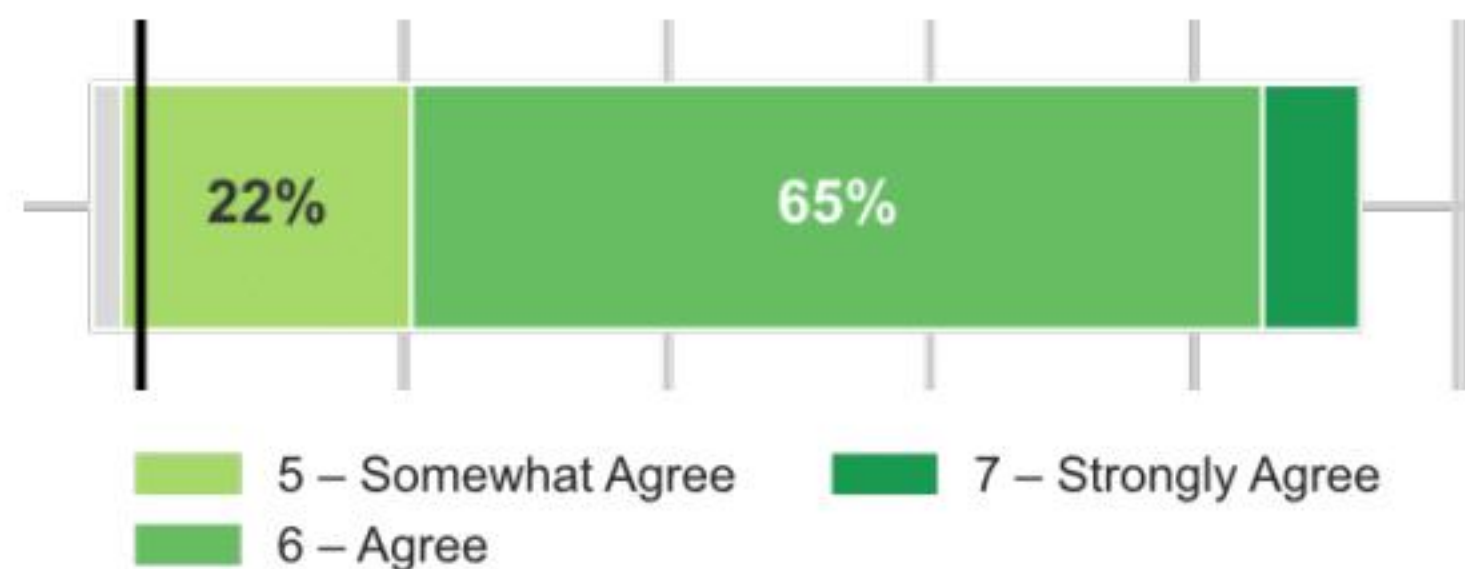
[ Female, 35-56, C: Social-Competitive Gamer ]

”

Striking the **balance** is going to be the design challenge of this genre.

# PERSONAL GRATIFICATION

The motivational aspects of the game (e.g., challenge) that promote the player's sense of accomplishment and the desire to succeed and continue playing the game (GUESS)



Two example questions from GUESS:

01

I feel **successful** when I overcome the obstacles in the game.

02

I feel the game **constantly motivates me** to proceed further to the next stage or level.

Thematic analysis: Players Liked **Rising to the Challenge** of the game.

“

*I could feel my energy levels were going up because I was so immersed in this. I was like, hmm, actually, I can solve the puzzle here.*



”

[ Female, 35-56, C: Social-Competitive Gamer ]

Players were **motivated to solve the challenge...**

“

*I could feel my energy levels were going up because I was so immersed in this. I was like, hmm, actually, I can solve the puzzle here.*

[ Female, 35-56, C: Social-Competitive Gamer ]

”

... through **creative thinking...**



... and **testing the boundaries** of the system...

“

*I kind of would be thinking, well, I think I can predict what this answer is going to be. So, I'm going to have to sort of think creatively to ... come in from the side.*

[ Male, 35-48, B: Casual Gamer ]

”



“

*I like sitting on a game and testing how clever it is, and seeing what questions you can get away with, and stuff like that. It's good fun.*

[ Female, 18-49, D: Lone-Adventurer ]



”

## Complete Case File

*I need to check off my list. How do I get my list done the quickest way possible?*

[ Male, 35-53, D: Lone-Adventurer ]



## Gotcha

*If I got the motive from her, like, a confession from her, I would dance out of here.*

[ Female, 18-41, C: Social-Competitive ]



## Journey

*I wasn't really concerned in, like, to win the game. I was just like, ooh, what will she do if I say this?*

[ Female, 18-36, A: Cosy Gamer ]



## Map the World

*More and more and more, because it's ... part of a larger picture.*

[ Female, 18-47, B: Casual Gamer ]



Players saw  
**success** as  
multifaceted

## Self-Improvement

*Even if I get the answer, I mean, I needed to play it again to find out shorter ways to solve it.*

[ Male, 35-41, D: Lone-Adventurer ]



## Unknown

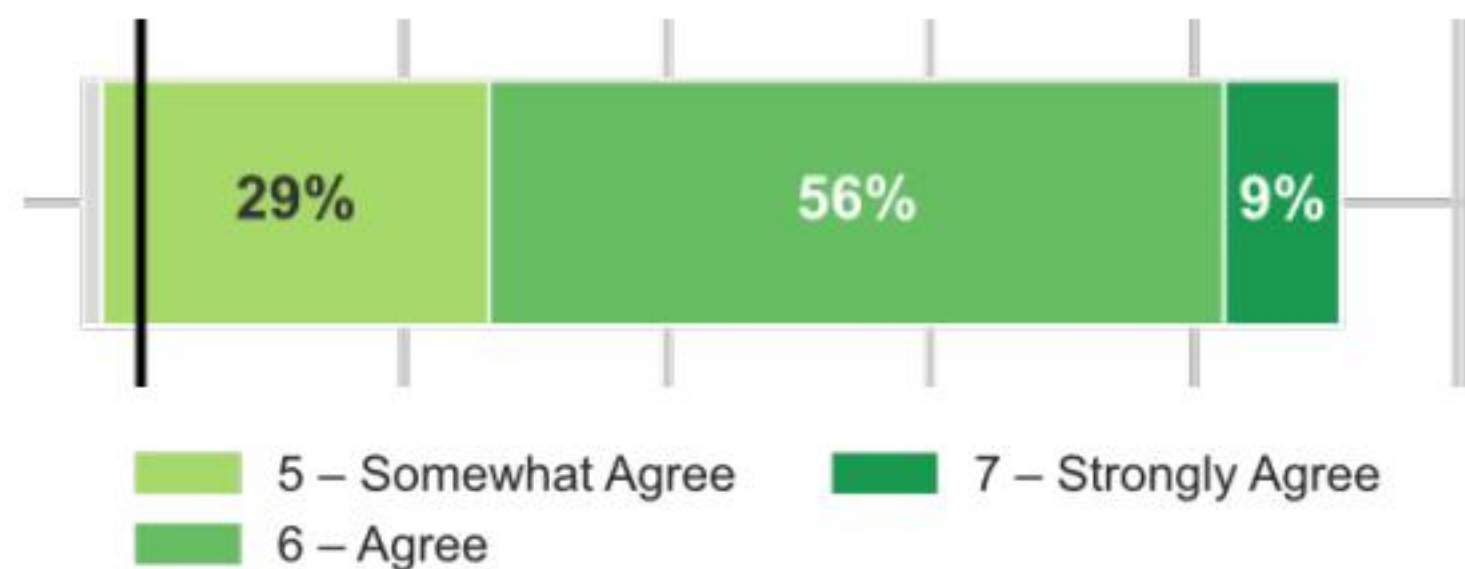
*Yeah, so I don't really know if there is any success in it.*

[ Non-binary, 25-45, C: Social-Competitive ]



# PLAY ENGROSSMENT

The degree to which the game can hold the player's attention and interest (GUESS)



Two example questions from GUESS:

01

Sometimes I **lose track of time** while playing the game.

02

I tend to **spend more time** playing the game than I have planned.

Thematic analysis: Players Wanted to **Take More Time**

More than half of our players consistently talked about the need for more time to properly engage with this game.

# Players lost themselves **very quickly**.....

[ Male, 45-55, C: Social-Competitive Gamer ]

*The best aspect of it was it was really engrossing. Like, you got me really quickly. That's hard to do in a game, I think, to keep some attention like that so quickly.*



*I really lost myself in the time that I spent just, like, talking to Lucia. ... I really lost myself so much in just doing, and just kind of interacting with it*

[ Male, 25-41, D: Lone-Adventurer ]



And once they were there, they **lost track of time.**

*I think it's quite immersive, but I still at the end of the day, like I didn't realize 20 minutes was up really quickly.*

[ Female, 18-38, C: Social-Competitive-Gamer ]



Players became **naturally absorbed** in the conversation and gameworld...

...And were able to **block out distractions**



“

*I'm getting too absorbed in just ... talking to this person.*

[ Male, 25-41, D: Lone-Adventurer ]

”



“

*I kind of lost the sense of different tasks I have to accomplish to kind of succeed in the game ... I was just really immersed in the narrative and I really enjoyed it.*

[ Female, 35-56, C: Social-Competitive Gamer ]

”

Players wanted to **take more time...**



... to explore **different strategies**, **savour the journey**, and **crack the case**.

[ Female, 35-57, D: Lone-Adventurer ]

*I could have played it for much longer. It is the sort of game that I can imagine wasting a lot of time on.*



“

*I know I would grind this game out a lot more if I had the time. Like, I would go until I was dancing.*

[ Female, 18-41, C: Social-Competitive Gamer ]



“

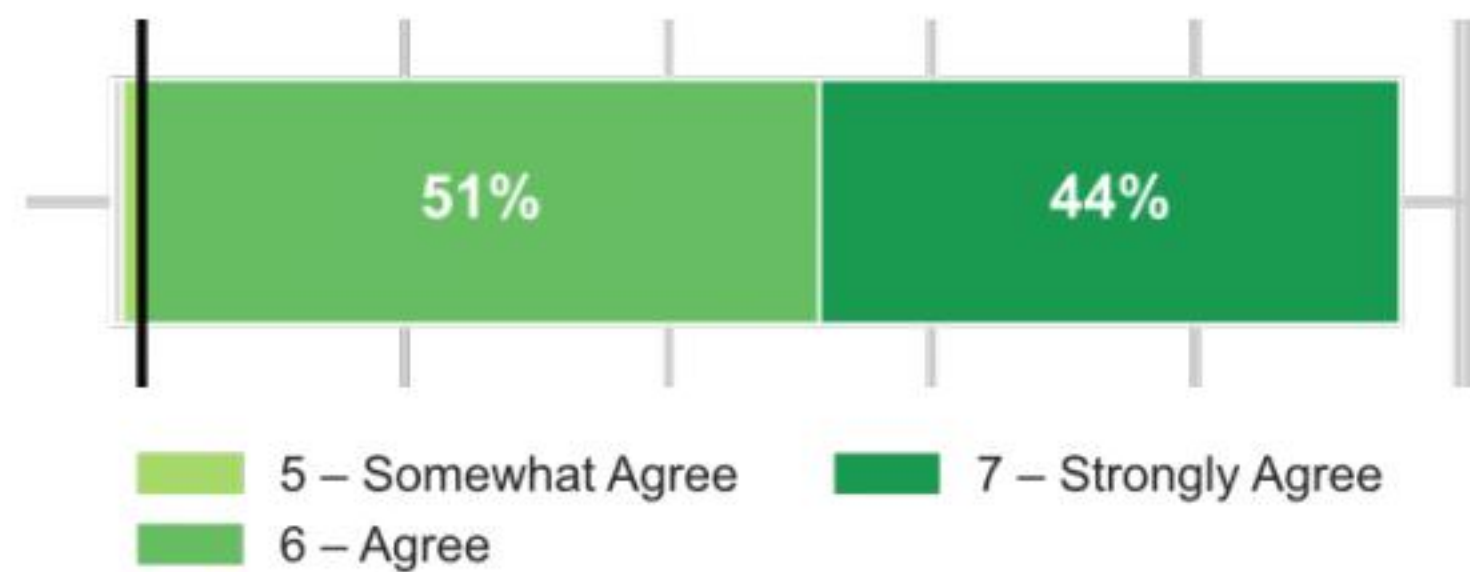
[ Female, 18-48, A: Cosy Gamer ]

*the idea that there will be a reveal of some description ... I thought was cool and appealing and made me want to keep playing.*



# ENJOYMENT

The amount of pleasure and delight that was perceived by the player as a result of playing the game (GUESS)



Two example questions from GUESS:

01

I **enjoy** playing the game.

02

If given the chance, I **want to play this game again.**

Thematic analysis: Players confirmed that the **Source of Joy** in this game includes the **freedom to strategise and roleplay** in an open-ended manner.

Players **felt smart** playing this game.

Players also saw **replayability** in the game.

# STRATEGIES

We identified **seven unique and coherent strategies** that players adopt in Dead Meat

## Diligent Detective

No emotion. Stick to the facts of the case. Adjusts tactics if the suspect shuts down. Facts trump feelings.



*You said you were working on software at home, is that right? Can I go ahead and check your commits?*

[ Male, 45-55, C: Social-Competitive Gamer ]



*Tell me more about Titus's morning routine, the one you say he's usually so punctual about.*

[ Female, 35-54, A: Cosy Gamer ]

## Good Cop

Build rapport to get a confession through cooperation. Keep Lucia calm will, reassure her.

## Bad Cop

Frighten and intimidate to get a confession. Stress Lucia out to spill the beans.



“ No of course, you weren't to blame for what happened, we just want to help you. ”

[ Non-Binary, 18-56, D: Lone Adventurer ]



“ We know what happened at the factory. Lying will only work against you in court. You need to tell the truth. ”

[ Male, 35-48, B: Casual Gamer ]



## Rule Bender

By-the-book but uses a small lie or deceit to 'test the waters'. Not as bad as in End Justifies the Means.

## End Justifies the Means

Deliberate lying, bluffing, deceiving, threatening - it's a game, not a test of moral fortitude. Do what it takes to win.

“

*We tracked his phone on the day of his death and it seems you two were together around 1pm*

[ Male, 18-29, C: Social-Competitive Gamer ] ”



“

*So the lab test says it's both your writing, why did you lie?*

[ Female, 35-56, C: Social-Competitive Gamer ] ”

## Smart Arse

Beat the AI / playing a different game.  
The game world is very simple - find the keywords to win.

“

[ Non-binary, 25-46, D: Lone-Adventurer ]

*Was the machine hungry? / Do you believe that an AI can go rogue? / How do you feel about cannibalism?*

”



“

*ONLY A MONSTER WOULD BETRAY YOU AMIRITE. I BET HE DESERVED ALL THAT WAS COMING TO HIM, ACTUALLY I THINK YOU DID THE RIGHT THING. WE'LL JET HIS BODY OFF TO MARS NEXT THING TOMORROW*

”

[ Male, 18-33, D: Lone-Adventurer ]




## Clueless Noob

Cast a wide net, see what comes back.  
The game world is extremely complex - trust nothing.


The vast majority try at least **two or more strategies**, with some players using up to nine.

*That's the fun bit, because you're trying to work out different ways of questioning.*




[ Male, 35-49, D: Lone-Adventurer ]

Players **emotionally manipulate** the character, who they see as intelligent and as having agency.




*Then you kind of know you're on the right track. If you're making her panic.*

[ Female 18-47 B: Casual Gamers ]



*I was trying to put statements in with questions to see if it was smart enough to pick them up too, which it was*

[ Female 18-49 D: Lone-Adventurer ]



*I feel like I was just trying to more like befriend her.*

[ Female 18-45 B: Casual Gamers ]

**Emergent strategies** are a feature not a bug.



“  
 So I'd like to play it again immediately and be a different character and just be like straight away like BAM! Let's see what happens.”

[ Male, 35-53, D: Lone-Adventurer ]



“  
 Playing it multiple times would be really fun to give yourself a different character to play with.”

[ Male, 35-49, D Lone-Adventurer ]

Players saw **Replayability** in terms of the freedom to **roleplay** a different character, try a different **strategy**, and even co-create a different **story**.



“  
 I now know the answer ... I could try to find different ways to like reveal that information ... There's a lot of things I can play with now.”

[ Non-binary, 25-45, C: Social-Competitive Gamer ]



“  
 It's really good because you could, like, make different stories. And you could just, like, keep going.”

[ Female, 18-36, A: Cosy Gamer ]

## OTHER LESSONS LEARNED

- ➔ We hypothesized that **Mode of Response** would be key...
- ➔ We thought players would respond more to a **voiced character as opposed to text output**.

This turned out **not to be the case** – players responded equally.

# LIMITATIONS

- ➔ Our results are limited by the **20-minute play session** and the **novelty effect** of a game like Dead Meat.
- ➔ We don't - yet - know **how players will respond to a longer play session**, although we do know from our sample that they want to do this.

## NEXT STEPS

- ➔ We concluded the **Blood Will Out** Study in December 2025 with 54 players, of which 22 had participated in the Dead Meat Study.
- ➔ We gathered the **same amount of data**.
- ➔ We are currently looking into how changes in **authorial direction** impact player response across player types ... findings to come!

