Psychological Needs and Motivations of Older Adults in Video Games

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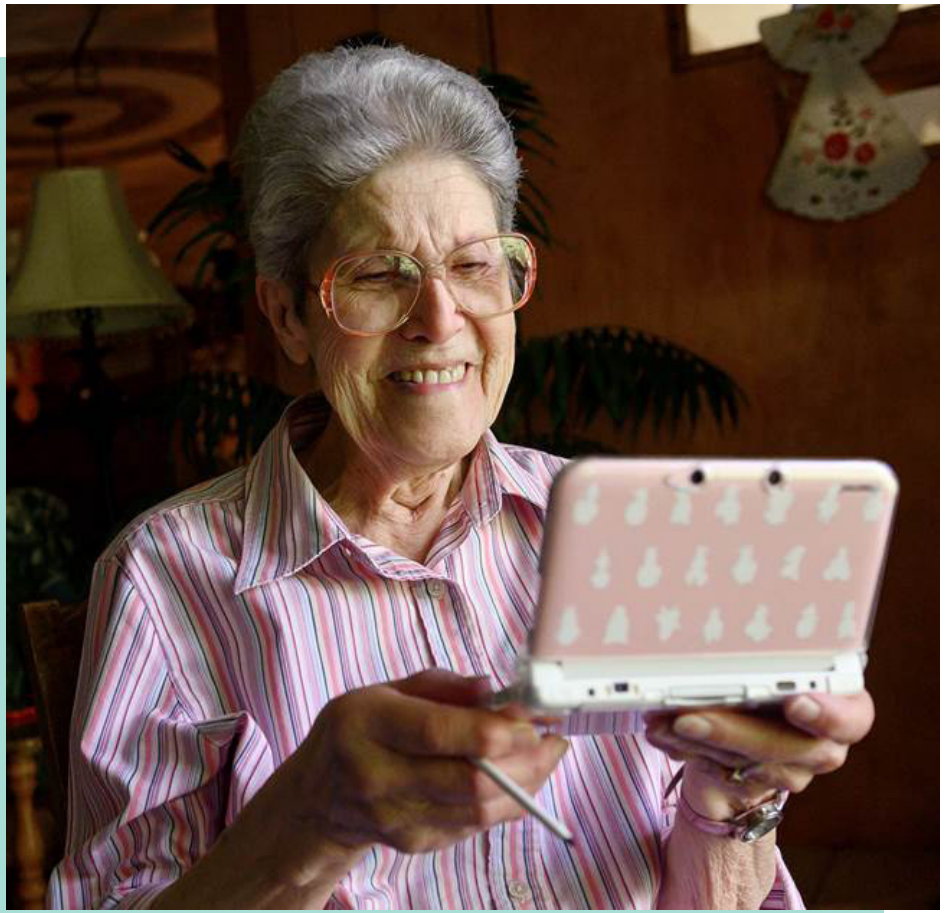


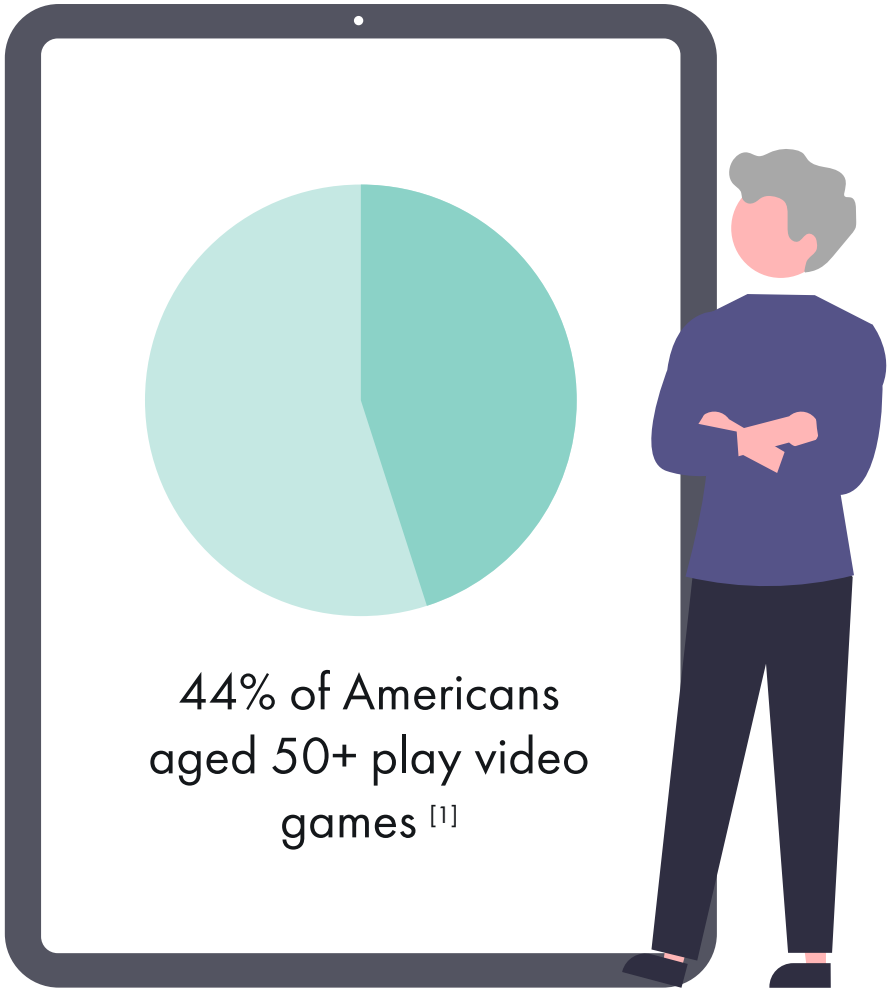
Hamako Mori, 90

Lack of user research

Prevents the targeting of this demographic

Prevents the creation of video games which promote healthy engagement and wellbeing

Older adults close the doors on an interactive form of entertainment



[1] https://doi.org/10.26419/res.00328.001

Study aims

Define the tastes of older adults
Find whether they differ from those of younger players

Identify older adults' opinion on video games

Produce insights and suggestions for video games designers

Video games which promote healthy engagement and wellbeing

Encourage older adults to embrace a new form of entertainment

BACKGROUND

A review of the current literature

Engagement and Motivation

Player's Experience of Need Satisfaction [2]

Self-Determination Theory

Satisfaction of the basic psychological needs in video games is tied to motivation, preference and wellbeing

First to focus on a motivation system applicable to all players

No participants over the age of 44

[2] https://doi.org/10.1007/s11031-006-9051-8

Benefits of Video Games

Physical health

- Potential as a rehabilitation technology

Age-declining abilities

- Positive effects on cognition and spatial skills

Mental health

- Positive effects on wellbeing
- Virtual social interactions can translate to real life social interactions

Video Games and Older Adults

Research investigating specific motivations and tastes of older adults is scarce

Meaningful Play in Elderly Life [3]

- Investigates preferences of the elderly through participatory design sessions
- Small, conciously chosen sample
- Cannot be generalised to the general population

[3]https://www.researchgate.net/publication/242691512_Meaningful_Play_in_Elderly_Life

The Gap

Older adults' video game preferences and motivations

Older adults' opinions and ideas about video games and what prevents them from playing

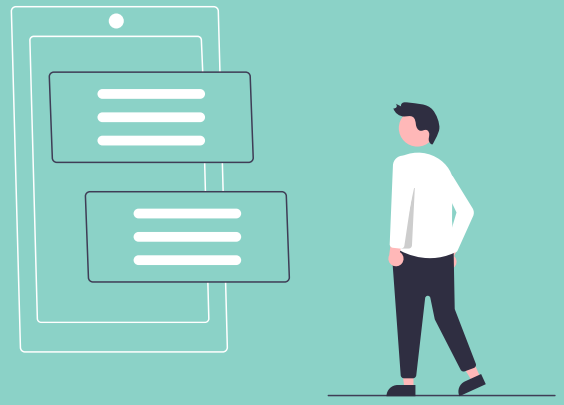
HYPOTHESES

I. Older adults sometimes have a negative perception of video games which prevents them from playing

II. Older adults have different game content preferences and would prefer nonviolent over violent content

STUDY I

A survey-based approach to Hypothesis I

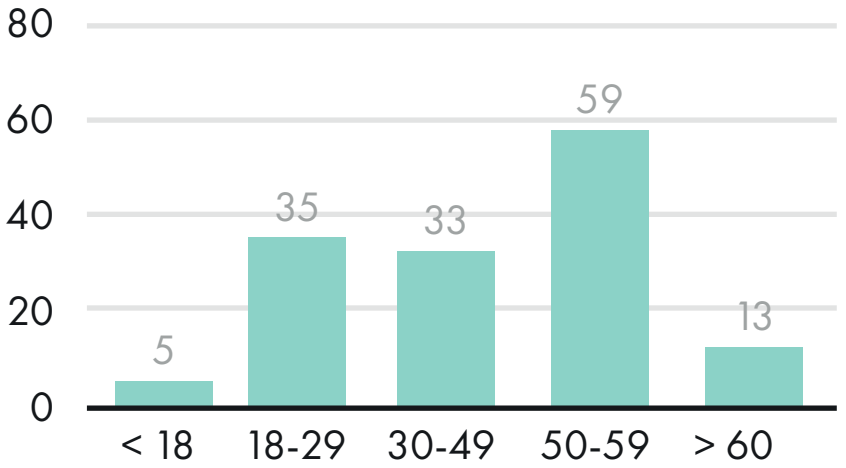


The Participants

Distributed through personal contacts and video game related online communities

Sample of 145 participants

- 106 complete responses
- 39 partial responses, considered valid data



Distribution of participants' ages

The Method

Anonymous survey

Questions explore

- Reasons for adoption
- Reasons for rejection
- Perceived competence
- Negative/positive perception
- Effects of age, gender, and frequency of play

Survey flow (question blocks)

The Measures

Autonomy and Competence in Technology Adoption

- Identify video games as the technology in question
- Include reasons for rejection
- Adoption (12 items), Rejection (8 items)
- Perceived Competence (2 items)

Preconceived Ideas

- Mix of common preconceived ideas and proven facts
- 10 items

Preliminary Results

Effects of age and gender in adoption rates

Age had a major effect in frequency of play ($p < 0.01$)
People aged 50 and over play video games less often, if at all

Gender had a major effect in frequency of play ($p < 0.01$)
Females generally reported lower adoption rates

Primary Results

Perceived Competence

Age had a significant effect on people who play regularly ($p < 0.10$)
Feelings of competence decreased as age increased

Perceived competence scores of non-players were lower

Perceived competence scores

Age	Players	Non-players
Average	3.57	2.58
Under 50	3.93	3.08
Over 50	2.49	1.93

Primary Results

Perception of Video Games

Age had an effect on the statement "Video games are too violent" ($p < 0.10$)

Agreement increased with age

Frequency of play had an effect on three statements: "Video games are too violent" ($p < 0.01$), "Video games are popular" ($p < 0.01$), and "Video games are isolating" ($p < 0.01$)

Regular players perceived video games as less violent, less isolating, and more popular than non-players

Primary Results

Perception of Video Games

Holding a negative or positive perception is more tightly related to frequency of play, rather than age

Relations between preconceived ideas, age, and play frequency

Statement	Age	Frequency
"Video games are too violent"	$p < 0.10$	$p < 0.01$
"Video games are popular"	$p = 0.40$	$p < 0.01$
"Video games are isolating"	$p = 0.36$	$p < 0.01$

Primary Results

Reasons for Adoption / Rejection

No statistically significant findings

Most people play video games because they are fun

Adults aged 30 to 69 were more likely believe that there are no options for them
A majority of people found this statement at least ‘somewhat true’

STUDY II

An experimental approach to Hypothesis II

The Participants

Recruited through personal contacts and video game related online communities

Sample of 10 participants

- 5 young adults aged 18-29
- 5 older adults aged 50-69
- Selected to have varying levels of familiarity

The Method

Crossover study

Individual video call sessions

Structure

- Participants split in 2 groups
- Each group randomly assigned the first game
- 10-minute play sessions
- Post-game questionnaire based on PENS and TENS-Interface scales

Crossover study structure

The Games

Violent option (Hell Sucker, by CheeseBaron2)

Top-down 2D shooter

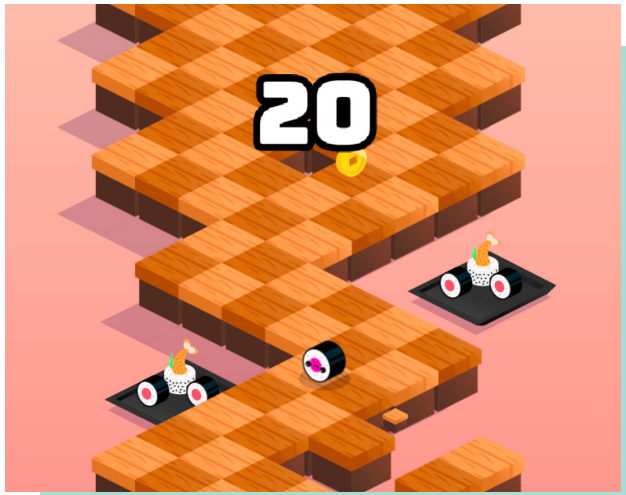
Nonviolent option (Sushi Roll, by Famobi)

Clicker game

Criteria

Free to play, no download or installation, similar control scheme

Hell Sucker



Sushi Roll

The Measures

Technology-based Experience of Need Satisfaction

- Interface subscale
- Autonomy (5 items), Competence (5 items)

Enjoyment

- Adapted from Intrinsic Motivation Inventory
- 3 items

Preference

- 3 items

Primary Results

Competence

No statistically significant findings due to limited sample size

Feelings of competence decreased with Hell Sucker

Participants generally expressed frustration towards the game's interface and controls during the sessions

Controls had a bigger impact on difficulty than anticipated

Primary Results

Autonomy

No statistically significant findings due to limited sample size

Feelings of autonomy decreased with Hell Sucker

Participants reported Hell Sucker being more intrusive,
and feeling more pressured by it

Primary Results

Preference

No statistically significant findings due to limited sample size

For participants under 50, the preference score stayed the same for both games

Participants over 50 years old preferred Sushi Roll, expressing higher preference for future play and enjoyment

Primary Results

Crosstab summary

Sushi Roll scores

Age	Competence	Autonomy	Preference
Average	3.62	3.10	3.19
Under 50	4.10	3.36	3.24
Over 50	2.94*	2.68	3.60

Hell Sucker scores

Age	Competence	Autonomy	Preference
Average	2.88	2.38	2.13
Under 50	3.70	2.80	3.24
Over 50	3.06*	2.13	3.15

* The responses of one adult older than 50 greatly impacted the competence results due to the small sample size, however the trend was that feelings of competence decreased when playing Hell Sucker.

DEVELOPERS,

we have some suggestions for you

Study II findings highlighted the influence of the interface and controls in competence scores and game preference

Complicated controls can be a high barrier of entry

Age-declining abilities, little to no experience with video games

ACCESSIBILITY SETTINGS

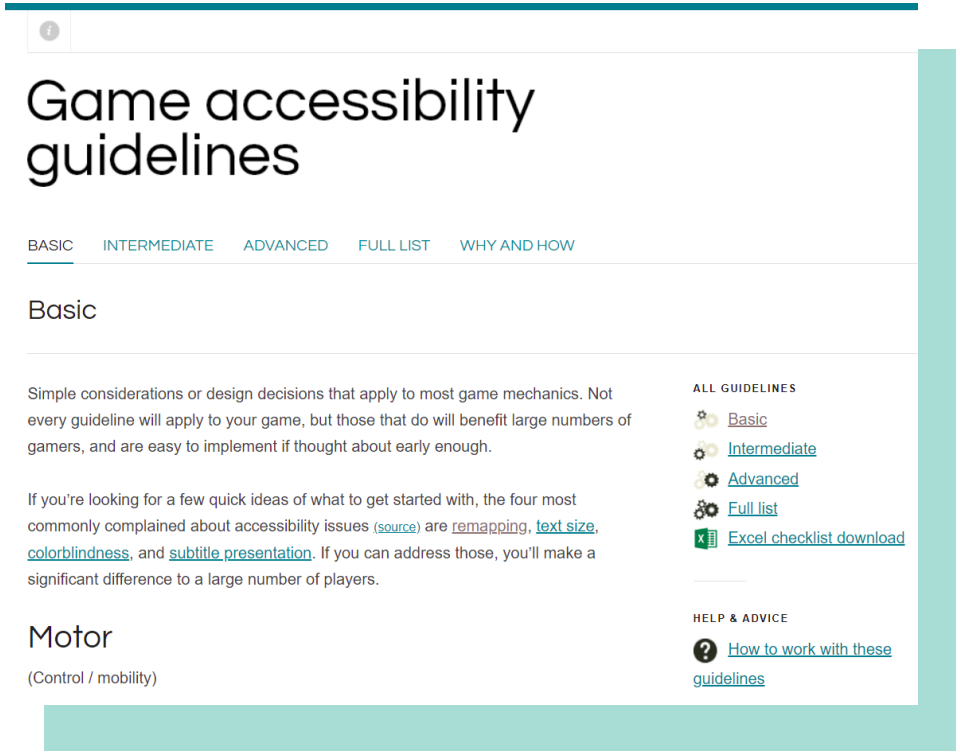
Accounting for the high barrier of entry

Why and how

Increases feelings of competence and autonomy among players, therefore increasing adoption rates

Game Accessibility Guidelines [4]

- Collection of accessibility settings
- Grouped by ease of implementation
- Best practice examples and tools



Game Accessibility Guidelines website

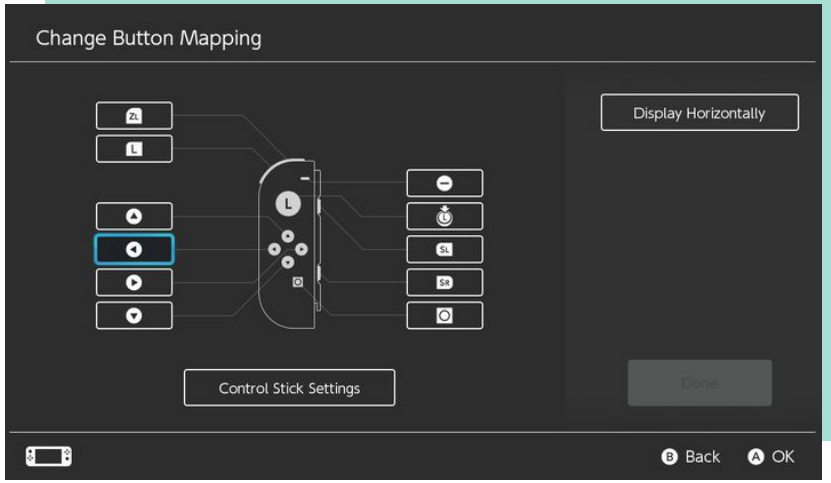
[4] http://gameaccessibilityguidelines.com

Settings Suggestions

Allowing controls to be remapped

Providing simple alternatives to complicated or tiring gameplay mechanics

Including interactive tutorials, always accessible from the menu



Images: Control remapping in Nintendo Switch settings. Pokémon Ultra Sun and Moon interactive catching tutorial (in-game).

Study I showed perceived competence decreased with age

Sushi Roll was not enough of a challenge for experienced players

Hell Sucker was too difficult for inexperienced players

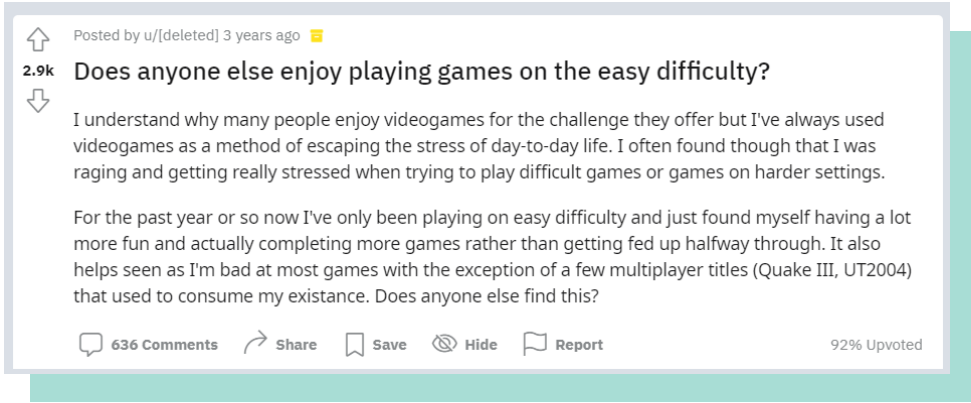
DIFFICULTY LEVELS

Accounting for player differences

Why and how

Satisfies both experienced and inexperienced players, increasing feelings of competence and adoption rates

Many developers have adopted this format



A Reddit user's post on the topic

Implementation

Topic of discussion within the gaming community [5]

Instead of offering ‘Easy’ and ‘Hard’ modes...

Subtle implementations

- Different wording
- Difficulty ‘levels up’ at certain milestones and can be reverted one level if necessary

[5] https://www.gamebyte.com/in-defense-of-easy-mode-gaming-for-everyone

Images: Fire Emblem Three Houses difficulty selection screen (in-game). Genshin Impact ‘world level’ decrease screen (in-game).

OPPORTUNITIES

"There are no video games out there that I would enjoy."
But there are so many video games out there!

Origin of older adults believing that video games are too violent.
Sign of a cultural shift or unawareness of different options?

LIMITATIONS

A critical reflection

Limited sample size due to COVID-19
Hypothesis II cannot be proven or refuted
Quality chosen over quantity

Choice of video games
Did not allow for the analysis of preference
strictly due to varying levels of violent content

On an ending note...

Our recommendations will boost adoption rates among the general public

There is still room for improvement in the area of accessibility and inclusivity

We hope for a future in which everyone can enjoy this form of media

THANK YOU

Any questions?

All illustrations by Katerina Limpitsouni (unDraw)