# Enjoyable play: choice, challenge and competition

Research on enjoyable play, autonomy, competition and practical access. The evidence distinguishes wanted challenge from pressure and persistence from enjoyment, without establishing youth preferences or Game After Class effects.

Research by Education Angel Group.
Education Angel Group is developing Game After Class and has an interest in the proposed product. This review does not establish its effectiveness.

Current edition reviewed: 2026-10-12. Revision: public-v2.

## Earlier editions

- Game After Class: informed choice, voluntary play and a safe return

  Research edition reviewed: 2026-09-19. Revision: public-v1.

Prepared by Education Angel Group (EAG). Evidence review updated October 12, 2026. EAG is developing Game After Class and has an interest in its success.

A game can be worthwhile because someone enjoys playing it. Recreation does not need a claim about better grades, sharper thinking or improved health to justify its existence. The more useful questions are what makes a particular game enjoyable, who can take part, whether its challenge is wanted, and whether a player can stop without feeling that they have failed someone else.

Those questions concern the experience of play, not only access to a catalog. Clear instructions can remove a barrier without making the activity interesting. A competitive result can feel rewarding to one player and discouraging to another. A person can continue because they are curious, frustrated, waiting for something else or reluctant to disappoint an adult. The same count of minutes can conceal very different experiences.

This review examines motivation research, a controlled puzzle experiment, practical accessibility guidance and the limits of broader gaming-benefit claims. Most empirical evidence retained here comes from undergraduates or selected adult players, rather than students choosing brief games after school. The

closing section considers the planned Game After Class hub separately from that literature.

## 1. Enjoyment, understandable controls and wanted challenge

Enjoyment is an experience, not a property established by a game's label or popularity. A familiar movement pattern may feel effortless to one person and confusing to another. Someone can understand every control yet dislike what the game asks them to do. Conversely, an interesting challenge may be inaccessible through the available input method. These possibilities distinguish the appeal of an activity from the effort needed to enter it.

Ryan, Rigby and Przybylski's 2006 research helps separate those questions. In Study 2, 50 undergraduates received course credit for two 40-minute adventure-game sessions, two to seven days apart; 49 completed both. Game order was randomized. Experienced autonomy and competence were associated with enjoyment and preference. The two games differed in appeal but not in perceived control intuitiveness: understandable controls alone did not make the less-preferred game enjoyable. Vitality fell after both sessions, and average mood did not change. Collection dates were not reported. Assigned laboratory play, selected commercial titles and newly developed measures limit transfer to voluntary youth recreation. The session length is a study condition, not a recommended duration. Ryan, Rigby and Przybylski, N1

The useful distinction is between being able to act and wanting the activity those actions make possible. Making controls clearer addresses the first; it does not settle the second. Challenge is also more specific than difficulty. A player might welcome thinking through a puzzle while disliking a rapid-input task, or welcome a race but not a long explanation. A single ordering from easy to hard cannot represent all those preferences.

Variation should therefore concern meaningful ways to play, rather than a large number of near-identical choices. Planning, movement, exploration and competition can ask different things of a player. These are descriptions of possible activity demands, not a selected game inventory or evidence that each genre serves a fixed personality type. The same person may want a different kind of experience on another day.

A score or completed round gives useful information about the rules, but it is not a direct measure of enjoyment. Someone can win an activity they did not want, lose an activity they found interesting, or leave before a result because something else matters more. Treating only completion as success would miss those differences. Treating every early departure as a design failure would do the same.

## 2. Choice, voluntary stopping and the meaning of persistence

Choice has at least two layers: whether to play at all, and which actions to take while playing. Offering several strategies inside a game does not make entry voluntary. A student may still feel expected to accept a teacher's suggestion, join a friend's challenge or finish a round to avoid looking uncooperative. Those are possible social pressures, not measured prevalence estimates for this population.

The practical question is whether declining or stopping remains a normal option. An invitation that allows a different activity is different from a requirement presented as an invitation. A player who chooses solo play should not have to explain that preference publicly. The same applies to someone who would rather rest, talk, move around or play a familiar offline game. Recreation can have value without becoming another obligation.

Persistence also needs interpretation. Reeve and Deci's puzzle study distinguished exploration of new forms from repetition of previously attempted forms; the latter related to frustration rather than the same interest measure. Continued activity therefore cannot automatically stand for enjoyment.
Reeve and Deci, N4, pp.28 and 32 That distinction does not diagnose an individual player. It cautions against treating time spent, retries or return visits as self-explanatory evidence of a good experience.

Stopping has a practical as well as a social dimension. A person should be able to understand whether leaving ends a round, loses a temporary result or allows later continuation. A game can offer an enjoyable short visit without saving every action, provided expectations are clear. Conversely, a technically working save feature does not make repeated play wanted. There is no ideal break length established by the studies retained here.

An untimed game and an easy-to-stop game are not identical. A puzzle may have no countdown but still be difficult to interrupt because its state is unclear. A timed round may have a recognizable ending. Time to load, learn, play and return are also different. Calling something quick without specifying which of these is quick can misrepresent the experience, especially for a newcomer or a player using an alternative input method.

## 3. Competition: outcome, pressure and participation

Competition can offer a shared challenge or make another person's performance the standard against which a player is judged. Winning, losing, receiving useful feedback and being pressured to win are different experiences. The word friendly does not itself establish which of them a participant encounters.

Reeve and Deci's 1996 experiment involved 100 introductory-psychology undergraduates, 20 in each of five conditions, solving physical puzzles with a same-sex confederate. Feedback was arranged rather than a genuine peer result. Unpressured winners explored new puzzle forms more than pressured winners, and winners more than losers. Competition without outcome feedback did not significantly differ from the noncompetition condition on that behavioral measure; overall interest/enjoyment differences across conditions were also nonsignificant. Collection dates and exact ages were not reported. This brief, artificial university task does not establish effects of a youth game or leaderboard. Reeve and Deci, N4, pp.26-32

The study supports a narrower question than whether competition is good or bad: what kind of comparison, result and interpersonal pressure is present? A result that helps a player understand a task need not carry the same meaning as a result used to demand that they beat someone else. The experiment also makes a blanket anti-competition interpretation untenable, because several contrasts were null and unpressured winning differed from pressured winning.

For recreation, optional competition should be a real difference in participation, not simply a setting that hides a score while retaining pressure to compare. Solo play and declining a challenge can remain worthwhile experiences. This is an inclusion principle, not a tested guarantee that an optional switch improves enjoyment or removes social pressure. Actual players may disagree about what feels competitive or friendly.

Unequal familiarity further complicates comparison. A new player may be learning controls while an experienced player is already pursuing a high score. A visible result can combine familiarity, input access, task preference and skill. It should not be interpreted as a measure of effort, intelligence or school achievement. This review contains no direct comparison of youth solo, cooperative and competitive modes that establishes which would fit a particular student group.

## 4. Access is part of the activity, not merely the entrance

Access to a game requires more than being able to select its name. Its rules may depend on reading, sound, color distinctions, quick reactions, sustained input or precise movement. A person who can navigate a catalog may still be unable to make the meaningful decisions inside a game. Different input routes also matter only if they support the actual activity, rather than removing its central choices.

Microsoft's Xbox Accessibility Guideline 107 discusses input across menus and gameplay, including digital and analog navigation and demanding input sequences. Guideline 116 addresses non-core interface deadlines and ways to avoid or adjust them; it distinguishes those deadlines from timing essential to a game's rules. These are developer recommendations, not certifications of any game, proof of equivalent play or healthy-session prescriptions. Microsoft, S6, S7

The distinction is useful because a rule can be intrinsically timed while an unrelated menu countdown needlessly limits entry. Removing all timing would change some games, but allowing more time to understand an instruction need not do so. Similarly, sequential selection can be a useful alternative to dragging in some tasks, but it cannot be called equivalent without examining the decisions and feedback it preserves.

Practical access includes assistance. If a player needs someone else to perform an input, decode an unlabeled response or restore a lost state, listing a nominally available mode conceals that extra effort. Help can be welcome without being compulsory. A description that states the actual requirement is more useful than a general accessibility label whose meaning changes between games.

Suitability is another separate question. A device may support the controls while a school blocks the destination; an available game may ask for an account or have content unsuitable for a particular age. Guidance about input does not settle those issues. No school-device audit, individual game-rights review or local age-fit assessment was conducted for this report.

## 5. Existing recreation and the value of a separate hub

Students are not choosing between a proposed hub and no games in existence. Simon Tatham's official Portable Puzzle Collection documents short-break intent, browser/native options and MIT licensing, while noting the web version's lack of save-game functionality. PBS's parent guide describes browser games and a free games app for phones and tablets. These first-party descriptions establish alternatives, not comparative youth enjoyment, per-game accessibility or current offline behavior. Simon Tatham, S4, PBS, S5

A familiar approved game can avoid discovery work. A concise adult-maintained list can identify a few suitable options without creating another destination. Paper games, conversation and other non-screen recreation have different demands and may fit the moment better. Paper is not universally accessible either: printing, vision and physical manipulation can introduce barriers. The useful comparison is with an adequate alternative, not a deliberately confusing catalog.

There are two distinct questions about a hub. Does it make a suitable activity easier to find and understand? Is the activity itself enjoyable and wanted? A well-organized list can answer the first without answering the second. Conversely, a game might be worth playing even if a direct link is simpler than visiting a separate hub. Catalog usefulness and game quality should not be treated as interchangeable outcomes.

Variety also has a cost. Keeping availability, descriptions and input information accurate takes work, and more entries can add decisions rather than useful options. There is no evidence-based ideal number of games in this review. A smaller range of meaningfully different activities may be reasonable, but its value depends on the actual games and the people considering them.

## 6. Enjoyment is not a cognition or health claim

Gaming studies answer different questions. Johannes, Vuorre and Przybylski's 2021 study linked surveys and publisher play records for adults playing two commercial titles in 2020. It reported a small positive playtime-wellbeing association, but selection, low response, the two-title scope and pandemic setting limit interpretation. The conditional playtime association became nonsignificant. Association does not establish that extra play causes better health. Johannes and colleagues, S1

Vuorre and colleagues' 2022 study followed 38,935 active adults across seven commercial titles, with invitations from May to September 2021 and approximately two-week survey intervals across six-week behavior coverage. It found little or no average lagged playtime-wellbeing relationship. Confounding, selection, missingness and lag assumptions remain important; effects on other timescales can be missed. Its full original article is accessible, so the earlier edition's abstract-only limitation no longer applies.
Vuorre and colleagues, S3

Favorable evidence should not disappear either. Egami and colleagues' 2024 Japanese console-lottery study used five survey rounds from December 2020 to March 2022, with ages 10-69 and favorable findings under its natural-experiment and instrumental-variable assumptions. The broad dataset had 97,602 observations;

causal analyses used 8,192 lottery-participant observations, not that many independently assigned youth players. Self-report, selection and instrument assumptions constrain interpretation, and the consoles/subgroups differed. Console acquisition during the pandemic is not assignment to a brief school game. No numerical benefit or session-length recommendation is drawn here. Egami and colleagues, N3

Cognitive training is a separate question again. Sala, Tatlidil and Gobet's synthesis searched through December 31, 2016. Its training model included 63 studies, 3,286 participants and 359 effect sizes. The main Hedges g was 0.07, with a 95% confidence interval of 0.02 to 0.12; trim-and-fill produced -0.01, with an interval of -0.06 to 0.05. The adjustment is model-dependent, and effect sizes are not independent studies. These findings caution against general cognitive-transfer claims, not a claim that every game is useless. Sala and colleagues, S2

Getting better at a game, enjoying a session, reporting a mood change and doing better at school are not the same outcome. Favorable, adverse and null findings can coexist when studies ask different questions. None supplies an effectiveness estimate for Game After Class. That limit does not diminish recreation's purpose: a wanted, accessible game can be valuable as play without promising an additional educational or therapeutic result.

## 7. Applicability to Game After Class

Game After Class is EAG's planned recreational game hub: varied ways to play, understandable controls and optional competition. Its relevant need is not a demonstrated educational deficit. A student may simply want an enjoyable game that fits their time, device and preferred experience. The intended response is truthful discovery and explicit entry into separately scoped games, not a promise that a catalog improves cognition or health. EAG product direction, A0

Each module owns its actual rules, assets, state and result. A character-led discovery room and a set of two or three distinct games remain design targets, not a verified inventory or a working experience. Direct accessible selection is intended to reach the same modules, with clear help, pause, exit and return. Competition remains optional; no live peers or approved leaderboard are established. Gambling, cash play, unsafe multiplayer and automatic Runstr points are outside the hub's scope.

The research supports keeping game enjoyment, selection convenience, input access and stopping distinct. It does not select a game, guarantee equivalence, establish an ideal duration or predict participation. Module availability, age suitability and actual play/return behavior require their own evidence. A functioning entry path would establish that path, not that every student wants the activity or that its competitive branch is beneficial.

## Methods, limitations and revision history

This is a focused topic-led review, not a systematic review. It distinguishes laboratory task findings, observational gaming studies, cognitive-training synthesis, official guidance, provider descriptions and planned EAG applicability. No original participants, interviews, gameplay sessions, school-device tests or Game After Class outcomes were collected. Exact ages and collection dates are not supplied where an original does not report them.

The September 19 evidence record and original edition are retained. The October 11 source appraisal re-examined the original gaming papers, retrieved S3's full article and added motivation and mixed wellbeing context. On October 12, the complete Ryan/Rigby/Przybylski article was read again and Reeve/Deci's full scanned original was retrieved and read. Unchanged source findings rely on the attributed October 11 appraisal. Supplements, raw-data analyses and an exhaustive correction/retraction search were not independently reproduced. Egami's main article, not its supplements, supports the bounded description above.

The main gap is direct evidence about voluntary youth recreational play in the proposed setting. The reviewed undergraduate/adult samples cannot establish student preferences, accessibility, competition effects or local constraints. The educational and health limits concern transfer, not a requirement that recreation prove some other benefit. EAG's role as developer/publisher is disclosed; this review supplies no independent endorsement, product approval or legal/safety certification.

Revision history: September 19, 2026, initial choice-and-return review retained in history. October 12, 2026, substantial topic-led revision centers enjoyable challenge, voluntary play, competition and access; corrects S3 source access; separates current Game applicability from broader evidence. Corrections should identify the statement and supporting original source.

## References


- **A0.** Education Angel Group. Game After Class product direction, reviewed October 12, 2026. Defines planned scope and boundaries, not empirical evidence.
- **N1.** Richard M. Ryan, C. Scott Rigby and Andrew Przybylski. The Motivational Pull of Video Games: A Self-Determination Theory Approach. Motivation and Emotion 30, 344-360 (2006). DOI: 10.1007/s11031-006-9051-8. Full original, Study 2 and general limitations; read October 12.
- **N4.** Johnmarshall Reeve and Edward L. Deci. Elements of the Competitive Situation That Affect Intrinsic Motivation. Personality and Social Psychology Bulletin 22(1), 24-33 (January 1996). DOI: 10.1177/0146167296221003. Full scanned original, methods, Table 2 and discussion; read October 12.
- **S6.** Microsoft. Xbox Accessibility Guideline 107: Input. Official guidance appraised October 11, 2026.

- **S7.** Microsoft. Xbox Accessibility Guideline 116: Time limits. Displayed update March 4, 2026; official guidance appraised October 11.
- **S4.** Simon Tatham. Portable Puzzle Collection. Undated first-party documentation appraised October 11, 2026; introduction, license and web-save limitation.
- **S5.** PBS. Where to Watch PBS KIDS. First-party parent guide, Where to Play section, appraised October 11, 2026.
- **S1.** Niklas Johannes, Matti Vuorre and Andrew K. Przybylski.
  Video game play is positively correlated with well-being. Royal Society Open Science 8:202049 (2021). Original full PDF appraisal October 11; adult 2020 data.
- **S3.** Matti Vuorre and colleagues.
  Time spent playing video games is unlikely to impact well-being. Royal Society Open Science 9:220411 (July 27, 2022). Full original XML appraised October 11; 2021 panel.
- **N3.** Hiroyuki Egami and colleagues.
  Causal effect of video gaming on mental well-being in Japan 2020-2022. Nature Human Behaviour (August 19, 2024). Main article appraisal October 11; supplements not independently appraised.
- **S2.** Giovanni Sala, K. Semir Tatlidil and Fernand Gobet.
  Video Game Training Does Not Enhance Cognitive Ability: A Comprehensive Meta-Analytic Investigation
  . Psychological Bulletin 144(2), 111-139 (2018; advance publication 2017). Original full PDF appraisal October 11; search cutoff December 31, 2016.


## Corrections and entity context

Readers identifying an error can contact EAG with the section, disputed statement and supporting source. Game After Class provides the public entity context, not an external citation for EAG's product claims.