# Can a Video Game Cure Depression? SPARX and the Social Shaping of Digital Mental Health

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When SPARX was made freely available across New Zealand in 2014, the headlines wrote themselves: “Depressed? Play a video game!” A seven-module computerised cognitive behavioural therapy program, delivered as a fantasy game and funded by the Ministry of Health, looked like clean proof that software could treat adolescent depression. Read naively, that is what SPARX is. Read through the social shaping of technology, it is something else: an assemblage whose therapeutic effect is produced, or lost, by the CBT content, the guidance around it, the school or clinic that hosts it, and, decisively, the young person’s engagement. One claim runs through this analysis and holds it together: SPARX’s effects are not properties of the software; they are produced, or fail to be, in the social and organisational world it enters.

## The Lens

The social construction of technology rejects the idea that an artefact carries fixed, intrinsic effects (Pinch & Bijker, 1984; MacKenzie & Wajcman, 1999). What a technology becomes is shaped by the actors around it, and success is the thing to be explained rather than the explanation. Wyatt (2008) shows why technological determinism nonetheless persists: locating agency in the artefact is rhetorically convenient because it absolves people and institutions of responsibility. Berg (2001) makes the implementation corollary concrete—health technologies succeed only insofar as they are woven into the everyday practice of care. Lupton (2017) supplies the political edge: a self-guided app quietly recasts the depressed adolescent as a self-managing digital health citizen, widening access while individualising a problem with deeply social roots. Together these give the throughline its force: the value lives in the world SPARX enters, not in the code.

## The Deterministic Headlines

The 2012–2014 coverage cast the game as the agent that cures and the adolescent as a passive recipient. Two named patterns explain the error in a single gesture. Technological determinism relocates agency from the system to the device (Wyatt, 2008). Solutionism recasts a tangled social problem as a tidy technical fix (Morozov, 2013), and Morozov's rebuke, that we should ask what is worth doing before fixating on what the tool can do, indicts the coverage precisely. The hype also collapses the evidence's boundaries: the trial found SPARX non-inferior to face-to-face counselling for mild-to-moderate depression, delivered with support (Merry et al., 2012). "Non-inferior, with support, for some" becomes "cures depression," stripping out severity, guidance, and engagement, and offering a free download as the answer to a structural treatment gap (Lupton, 2017). That lay readers themselves asked whether the effect was SPARX or gaming in general confirms this as recognisable hype rather than insight.

## Co-Design

SPARX is, in fairness, an unusually strong co-design case: built with young people, CBT clinicians, and Māori youth and elders from the outset (Merry et al., 2012; Shepherd et al., 2015), and adapted with under-served groups, most notably Rainbow SPARX for sexual-minority youth, where 90.5% of participants completed at least four modules with favourable ratings (Lucassen et al., 2015). A credible co-design plan would place this on an experience-based footing (Bate & Robert, 2006): involving young people across the axes that shape fit—gender and sexuality, ethnicity, rurality, digital access, symptom severity—alongside whānau, clinicians, and school staff, and co-designing not just the artefact but the implementation: sign-up, the mobile reality, the clinical pathway, and the crisis safety-net. Yet the limits must be named. Arnstein's (1969) ladder warns that participation can look collaborative while remaining tokenistic, with power retained by funders and developers; representativeness skews toward the already-engaged and digitally included; and even

excellent co-design operates inside a responsibilising frame, perfecting an individual tool without touching the structural drivers of depression (Lupton, 2017). The decisive finding closes the section: SPARX had genuinely strong co-design and still saw sustained engagement collapse at national rollout (Fleming et al., 2025). Co-design is necessary but not sufficient, and believing it sufficient is its own kind of solutionism.

## NASSS Implementation Challenges

The NASSS framework was built to explain why technologies that work in trials still fail to be adopted, are abandoned, or never scale, across seven interacting domains (Greenhalgh et al., 2017), and SPARX maps onto it almost diagnostically. The rollout is the evidence: of those who started, 51% finished module one, 7.4% reached four modules, and 3.1% completed all seven, against the trial's 86% and 60% (Fleming et al., 2025; Merry et al., 2012); the effect for those who did engage matched the trial, and 46.7% arrived sicker than the tool was designed for. Three challenges follow. First, adoption and sustained engagement: a self-help game depends on engagement the software cannot secure and on the human support that unguided delivery removes—the completion figures are that problem made numerical. Second, organisational fit and safety: someone must recommend, monitor, and catch deterioration, work that has to fit clinical routines (Berg, 2001), while the ~47% beyond the tool's target severity raise the adverse-event question of an unguided intervention with no human in the loop. Third, sustainability and scale-up: mundane barriers (slow downloads, no early mobile version, an awkward sign-up) sit atop a structural tension—digital health demands continuous software-as-a-service updating, which collides with evidence-based medicine's demand for a fixed, high-fidelity intervention.

## The Single Claim It All Serves

A tool can be efficacious and well-co-designed and still fail, because adoption, fit, safety, and sustainability are sociotechnical achievements, not software features. Which is

why “can a video game cure depression?” is, properly understood, a question about systems, support, and time—everywhere except the artefact.

## References

Arnstein, S. R. (1969). A ladder of citizen participation. *Journal of the American Institute of Planners, 35*(4), 216–224.

Bate, P., & Robert, G. (2006). Experience-based design: From redesigning the system around the patient to co-designing services with the patient. *Quality and Safety in Health Care, 15*(5), 307–310.

Berg, M. (2001). Implementing information systems in health care organizations: Myths and challenges. *International Journal of Medical Informatics, 64*(2–3), 143–156.

Fleming, T., Lucassen, M., Frampton, C., Parag, V., Bullen, C., Merry, S., Shepherd, M., & Stasiak, K. (2025). Nationwide implementation of unguided CBT for adolescent depression: Observational study of SPARX. *Journal of Medical Internet Research, 27*, e66047. https://doi.org/10.2196/66047

Greenhalgh, T., Wherton, J., Papoutsi, C., Lynch, J., Hughes, G., A'Court, C., Hinder, S., Fahy, N., Procter, R., & Shaw, S. (2017). Beyond adoption: A new framework for theorizing and evaluating nonadoption, abandonment, and challenges to the scale-up, spread, and sustainability of health and care technologies. *Journal of Medical Internet Research, 19*(11), e367. https://doi.org/10.2196/jmir.8775

Lucassen, M. F. G., Merry, S. N., Hatcher, S., & Frampton, C. M. A. (2015). Rainbow SPARX: A novel approach to addressing depression in sexual minority youth. *Cognitive and Behavioral Practice, 22*(2), 203–216. https://doi.org/10.1016/j.cbpra.2013.12.008

Lupton, D. (2017). *Digital health: Critical and cross-disciplinary perspectives.* Routledge.

MacKenzie, D., & Wajcman, J. (Eds.). (1999). *The social shaping of technology* (2nd ed.). Open University Press.

Merry, S. N., Stasiak, K., Shepherd, M., Frampton, C., Fleming, T., & Lucassen, M. F. G. (2012). The effectiveness of SPARX, a computerised self-help intervention for adolescents seeking help for depression: Randomised controlled non-inferiority trial. *BMJ*, *344*, e2598.

Morozov, E. (2013). *To save everything, click here: The folly of technological solutionism.* PublicAffairs.

Pinch, T. J., & Bijker, W. E. (1984). The social construction of facts and artefacts. *Social Studies of Science, 14*(3), 399–441.

Shepherd, M., Fleming, T., Lucassen, M., Stasiak, K., Lambie, I., & Merry, S. N. (2015). The design and relevance of a computerised gamified depression therapy program for indigenous Māori adolescents. *JMIR Serious Games, 3*(1), e1. https://doi.org/10.2196/games.3804

Wyatt, S. (2008). Technological determinism is dead; long live technological determinism. In E. J. Hackett, O. Amsterdamska, M. Lynch, & J. Wajcman (Eds.), *The handbook of science and technology studies* (3rd ed., pp. 165–180). MIT Press.