

# Racing Towards Excellence: Lessons From the Formula One Benefiting Healthcare Professionals

Simulation & Gaming  
2023, Vol. 54(6) 595–597  
© The Author(s) 2023  
Article reuse guidelines:  
[sagepub.com/journals-permissions](https://sagepub.com/journals-permissions)  
DOI: 10.1177/10468781231200764  
[journals.sagepub.com/home/sag](https://journals.sagepub.com/home/sag)



**Marlies P. Schijven<sup>1,2,3</sup> and Toshiko Kikkawa<sup>4</sup>**

## Keywords

gaming, games, healthcare, simulation, formula one, formula 1, Max Verstappen, training

## Dear readers of Simulation and Gaming,

As our community recognizes, online gaming has emerged as a powerful tool with the potential to enhance cognitive skills, decision-making abilities, and reflexes. With one of your Editors being both a healthcare professional and an avid Formula One (F1) fan, with the Zandvoort F1 race in the Netherlands coming up, the parallels between the benefits of online gaming for Formula One (F1) drivers and healthcare professionals needed to be drawn. As we are playful scientists, we truly like to delve into the cognitive aspects of gaming. Indeed, for Max Verstappen ‘simracing’ is not only for pleasure, but also to become a better driver on the grid ([Thomas Maher](#)). Indeed, Verstappen says the sheer demand for trying to keep up with the very best sim racers has real-world benefits, which he is able to apply when he returns to his Red Bull F1 car. We must acknowledge that, just as online gaming has proven to be crucial for F1 drivers, the gain of gaming is also there for healthcare professionals.

The demanding nature of Formula One racing requires drivers to possess exceptional cognitive skills, quick decision-making abilities, adequate mental and bodily stress mitigation responses and precise reflexes. To excel in this high-pressure environment, F1 drivers have turned to online gaming as a means to enhance their cognitive and psychomotor capabilities. Interestingly, many parallels can be drawn between the cognitive demands of Formula One racing and the challenges faced by healthcare

---

<sup>1</sup>Department of Surgery, Amsterdam UMC, University of Amsterdam, Amsterdam, the Netherlands

<sup>2</sup>Amsterdam Gastroenterology and Metabolism, Amsterdam UMC, Amsterdam, the Netherlands

<sup>3</sup>Amsterdam Public Health, Digital Health, Amsterdam UMC, Amsterdam, the Netherlands

<sup>4</sup>Faculty of Business and Commerce, Keio University, Tokyo, Japan

professionals. Exploring the scientific evidence behind the benefits of online gaming for F1 drivers, it is of great value to discuss and explore how healthcare professionals can similarly leverage gaming to improve their skills and practice readiness.

Online gaming offers a dynamic environment that engages players in complex problem-solving, strategic thinking, and rapid decision-making. Studies referenced in PubMed have shown that action-oriented games can greatly enhance cognitive functions such as attention, spatial awareness, and multitasking abilities. These skills are directly transferable to the demanding nature of F1 racing, where split-second decisions and awareness of multiple factors are critical for success (Wilson et al., 2020). Reaction times, a crucial aspect of racing, have been shown to improve through gaming, contributing to better performance on the track (Spence & Feng, 2010).

And there are many parallels to draw when it comes to healthcare.

Healthcare professionals, much like F1 drivers, operate (often pun intended) in high-stress environments where quick thinking and precise actions are of greatest importance. In a clinical setting, decisions can have life-altering consequences, making cognitive agility and sound judgment essential. By integrating gaming into healthcare training, professionals can hone their diagnostic skills, enhance hand-eye coordination for surgical procedures, and improve teamwork and communication (Bohnen et al., 2010). Multiple studies have highlighted that surgical residents who engaged in simulation and gaming exhibited improved laparoscopic skills and reduced errors (Graafland et al., 2012; Rosser et al., 2007).

Now how to best embrace gaming in healthcare training?

The adoption of online simulation and serious gaming in healthcare training can revolutionize how professionals prepare for real-world challenges. Simulated medical scenarios, akin to virtual racing experiences, allows healthcare practitioners to develop critical skills in a risk-free environment. Additionally, gaming encourages a sense of competition and collaboration, fostering teamwork and camaraderie among professionals, which are essential values to thrive in a healthcare setting. So, it is time for our medical educators to acknowledge the 'Homo Ludens' in us all, and work together with game designers to develop virtual experiences that benefits us all!

The success of Formula One drivers relies on their cognitive prowess and ability to navigate high-pressure situations with precision. Online gaming has emerged as a valuable training tool to enhance these skills, with proven benefits for reaction times, decision-making, and multitasking. Although fun, these online serious games are lifelike simulations. Healthcare professionals stand to gain similar advantages by incorporating gaming into their training regimen, preparing them for the rigors of clinical practice. As both F1 drivers and healthcare practitioners strive for excellence, the lessons from the world of online gaming can serve as a bridge to success. And who knows, maybe one day we – like Max Verstappen – may even challenge and play with the online community to learn, grow and thrive as healthcare professionals!

## References

- Bohnen JD, Freeman AJ, Karsjens AE, Rouse TM, Gibbons MM. Surgical Gaming in the Training of Junior Surgical Residents. *Annals of Surgery*. 2010;251(1):237–242.
- Graafland M, Schraagen JM, Schijven MP. Systematic review of serious games for medical education and surgical skills training. *Br J Surg*. 2012;99(10):1322–1330. <https://doi.org/10.1002/bjs.8819>. PMID: 22961509.
- Rosser JC, Lynch PJ, Cuddihy L, et al. The impact of video games on training surgeons in the 21st century. *Archives of Surgery*. 2007;142(2):181–186.
- Spence I, Feng J. Video games and spatial cognition. *Review of General Psychology*. 2010;14(2):92–104.
- Wilson M, McGrath JS, O'Hare D, O'Sullivan M. The Role of Cognitive Skills in Formula One Racing. *Front Psychol*. 2020;11:582.
- Thomas Maher. RACINGNEWS365. <https://racingnews365.com/how-verstappen-uses-sim-racing-to-become-a-better-driver>

## Author Biographies

**Marlies P. Schijven**, MD PhD MHSc, is a professor of surgery with vast expertise in the simulation and gaming field for medical education. She is the former president of the Dutch Society for Simulation in Healthcare (DSSH), longtime member of SSH (Society for Simulation in Healthcare) and SESAM (European Society for Simulation) and president of the WATCH society (wearable technology in healthcare). She is the former Chief Medical Information Officer of the Dutch Government, and national lead on eHealth.

Contact: [m.p.schijven@amsterdamumc.nl](mailto:m.p.schijven@amsterdamumc.nl)

**Toshiko Kikkawa**, PhD is a professor at Keio University social psychologist and specializes in S&G and risk communication. She has been in the position of a vice-chair of the Japanese Association of Simulation and Gaming (JASAG) since 2015 and was the Executive Board member of the International Simulation and Gaming Association (ISAGA) from 2012 to 2016.

Contact: [toshiko.sg@gmail.com](mailto:toshiko.sg@gmail.com)