OZP

Article

The Potential for Survival Games as a Research Medium in Political Science: Investigating the Hobbesian and Lockean State of Nature in *Rust*

Jan Byczkowski[1*], Ömer Furkan Alp[2**]

1 Independent Researcher
2 Istanbul Medipol University School of Communication
* jan.byczkowski90@gmail.com
** ofalp@medipol.edu.tr

Abstract
Political science has long suffered from the limited ability to conduct experiments and observations in a controlled environment due to its subject matter – groups of people and societies. In this article, the authors explore the potential of survival games as a research tool and setting in political science, weighing their advantages and disadvantages. In the following parts of the article, they conduct an observation of violent and non-violent behaviour of players in the game *Rust*. This was done to not only prove the utility of games as research medium, but also to obtain new data and insight into the state of nature, a fundamental question of political science posed by Hobbes and Locke. The results show that in a totally anarchic environment of the game, which in certain aspects encourages violence by lowering the stakes, players nonetheless favour non-violent behaviour and defensive violence, rather than offensive violence.

Keywords
survival games, political science experiments, state of nature, John Locke, Thomas Hobbes

Das Potenzial von Survival-Spielen als Forschungsmedium in der Politikwissenschaft: Untersuchung des Naturzustands nach Hobbes und Locke in *Rust*

Zusammenfassung
Die Politikwissenschaft leidet seit Langem unter der begrenzten Möglichkeit, Experimente oder zumindest Beobachtungen in kontrollierten Umgebungen durchzuführen, da ihr Gegenstand – Gruppen von Menschen und Gesellschaften – schwer experimentell zu erfassen ist. In diesem Artikel untersuchen die Autoren das Potenzial von Survival-Spielen als experimentelles Werkzeug und Forschungsumfeld in der Politikwissenschaft und wägen deren Vor- und Nachteile ab. In den folgenden Abschnitten wird das gewalttätige und nicht-gewalttätige Verhalten von Spielern im Spiel *Rust* beobachtet. Dies geschieht nicht nur, um das Konzept zu untermauern, sondern auch, um neue Daten und Erkenntnisse über den Naturzustand zu gewinnen – eine grundlegende Fragestellung der Politikwissenschaft, wie sie von Hobbes und Locke formuliert wurde. Die Ergebnisse zeigen, dass die Spieler selbst in der völlig anarchischen Umgebung des Spiels, die in bestimmten Aspekten Gewalt begünstigt, indem sie deren Konsequenzen abmildert, dennoch nicht-gewalttätiges Verhalten und defensive Gewalt gegenüber offensiver Gewalt bevorzugen.

Schlüsselwörter
Survival-Spiele, Experimente in der Politikwissenschaft, Naturzustand, John Locke, Thomas Hobbes

The authors have declared that no competing interests exist.

innsbruck university press I Supported by the University of Innsbruck
OZP – Austrian Journal of Political Science I ISSN 2313-5433 I http://oezp.at/
2025, vol. 54, Issue 2
DOI 10.15203/4231.vol54.2025

1. Introduction

This article investigates the potential of survival video games, specifically *Rust,* as experimental environments for political science research. By observing player behaviour in open-ended, unstructured digital spaces, it aims to test long-standing assumptions about the "state of nature" in political theory, particularly the contrast between Hobbesian and Lockean perspectives of human interaction absent state authority. Specifically, we ask: *Do players act more in line with Hobbes' vision of natural violence and self-interest, or with Locke's emphasis on cooperation and mutual preservation?* Using an observational approach, we analyse publicly available Twitch footage of players' first 30 minutes of gameplay and code their actions as either cooperative or violent. Our findings suggest a modest preference for Lockean behaviour, highlighting the potential for prosocial conduct even in anarchic digital settings. In doing so, the article contributes to both methodological innovation in political science and the emerging literature on digital games as sites of political simulation, beyond their typical educational or narrative uses.

Political science, like many social sciences, has long struggled with the difficulty of conducting controlled experiments due to its subject matter: the behaviour of groups, institutions, and societies. Experimental studies are not only costly and time-limited but often raise ethical concerns, particularly when they simulate power dynamics or violent conflict. Notorious examples such as the Stanford Prison Experiment have highlighted both the psychological risks to participants and the challenges of maintaining methodological neutrality (Le Texier 2019). Consequently, political scientists have traditionally relied on observational methods and historical case studies to develop theory.

Among these alternatives, the analysis of past events such as coups, revolutions, or transitions of power has served as a key empirical strategy. However, the rarity and contextual specificity of such events often limit their usefulness. While hundreds of coups have been catalogued globally, particularly in datasets such as that of the Cline Center (Peyton et al. 2023), further categorisation by actor type, regional context, or political regime quickly reduces the sample size to a handful of relevant cases. These constraints complicate generalisation and often lead to selective inclusion or definitional debates, as seen in critiques of democratic peace theory (Dafoe 2011) or discussions around authoritarian "federalism" (Lane/Ersson 2005).

This article therefore proposes an alternative experimental lens by turning to digital game environments—especially those that simulate scarcity, cooperation, and conflict in an unstructured way. Before outlining this approach in depth, it is necessary to review how experimentation has developed across the social sciences and the role that educational and entertainment-focused games have played in this trajectory.

2. Literature

A number of alternatives to real-life political experimentation have been tried, including simulations, educational games, and, more recently, entertainment-focused video games. However, before turning to these, it is necessary to briefly consider the broader evolution of experimental methods across the social sciences, including psychology, economics, and political science.

In psychology, experimentation has a long and well-established tradition. Landmark studies have explored topics such as obedience, conformity, memory distortion, and role internalisation, most famously through Milgram's obedience experiments, Zimbardo's Stanford Prison Experiment, and Loftus' work on false memories (Milgram 1963; Le Texier 2019; Loftus 1975). These studies have shaped our understanding of individual and group behaviour, and have raised enduring ethical concerns that would influence later methodological design. In the 2000s, pioneering studies in the field of psychology used video games as an experimental environment. Johnson et al. (2006) tested the hypotheses that individuals have excessive confidence in proportion to their expectations of success and that excessive confidence triggers unprovoked aggression in relation to participants' gender and testosterone levels in a gaming environment.

Economics, for its part, began incorporating experimentation more systematically in the mid-twentieth century. Vernon Smith's early laboratory market experiments demonstrated that competitive equilibrium could emerge even among actors with limited information and bounded rationality, thereby laying the empirical foundation for experimental economics (Smith 1962). Shortly thereafter, Güth and colleagues developed the ultimatum game, revealing that individuals often reject unfair offers despite the cost to themselves—challenging classical utility theory and highlighting the importance of fairness and reciprocity (Güth et al. 1982). Around the same time, Kahneman and Tversky introduced prospect theory, showing through a series of experiments that individuals evaluate gains and losses asymmetrically and rely on cognitive heuristics rather than consistent rational choice (Kahneman/Tversky 1979). These breakthroughs reshaped economic thinking and helped establish behavioural economics as a core field of inquiry, although they also raised questions about the generalisability of laboratory findings to complex real-world environments (Falk/Heckman 2009).

Political science, by contrast, was slower in adopting experimental methods. For much of the 20th century, the discipline relied heavily on observational and historical analysis, viewing experimentation as either impractical or incompatible with its subject matter. This began to change in the 1980s and 1990s, with a growing interest in applying insights from psychology and economics to political behaviour. Studies such as those by Iyengar and Kinder on media effects, Sniderman and colleagues on political heuristics, Mutz on deliberation and tolerance, and Lupia and McCubbins on citizen competence laid the groundwork for an experimental turn within the discipline (Iyengar/Kinder 1987; Sniderman et al. 1991; Mutz 1998; Lupia/McCubbins 1998). Subsequent methodological reviews and manifestos, particularly by McDermott and Bol, reflected a growing recognition of experiments as legitimate tools in political science. However, they also highlighted persistent challenges around internal and external validity, subject bias, and replicability (McDermott 2002; McDermott 2013; Bol 2019). Despite these concerns, experiments have gradually carved out a central place in political research, particularly in the study of voter mobilisation, framing effects, and elite communication.

A distinct strand of political experimentation, often emerging in response to the logistical and ethical challenges of laboratory studies, involves structured games and short-term simulations. These tools are typically designed by scholars to reproduce specific aspects of political interaction within controlled or semi-controlled settings, but without relying on real-world institutions or long-term field access. This tradition overlaps with the broader concept of serious games, a term first introduced by Clark C. Abt in 1970 to describe games used primarily for education, training, or policymaking rather than entertainment. Serious games include both analogue simulations, such as *Model United Nations*, and digital platforms like *Democracy 3*, *Peacemaker*, and *Stop Disasters!*, each offering structured environments for players to experiment with governance, diplomacy, or crisis management.

While potentially intricate, such games face limitations. Their rules often constrain participants' freedom of action, preventing the full variety of behaviours observed in real political contexts and recreating only the dimension of reality under investigation instead (Laponce/Smoker 1972). Furthermore, they may amplify the studied phenomenon artificially, resulting in misleading or improbable findings. These games are also necessarily short-lasting, as participants cannot be expected to role-play for extended periods. Attempts to prolong engagement through repeated sessions or campaigns risk introducing outside influences. Crucially, a defining feature of serious games is that players typically assume the role of a state actor, such as a head of government, an institution, or a policymaking body. As such, the player's agency reflects that of an abstract authority rather than an individual human being, and the number of players is often limited to simulate inter-institutional rather than interpersonal dynamics. While serious games are valuable pedagogical tools and widely used in education, their purpose-driven design and institutional framing tend to constrain behaviour and reinforce specific normative or instructional goals.

Some studies attempt to use these simulations as experimental settings rather than teaching tools (Hofmann, Kyriacou and Schmidt 2022). Bloomfield and Padelford (1959) drew attention to the potential value of political games for political planning and academic research through the *Endicott House* game, which addressed an international crisis with the participation of American academics, and also highlighted the educational opportunities that political games offer for education through two separate experiments focusing on political science students and the Berlin crisis. In a study conducted by Cuhadar and Kampf (2014) in which students played the game *Peacemaker*, it was found that simulation games contribute to students' acquisition of knowledge and perspectives and can be used as an effective pedagogical tool.

Finally, there is the possibility to use the existing games created purely for entertainment. Looking at the literature regarding both tabletop and video games, we can observe two major trends in research. The first, similarly to games created by scholars, is to utilise commercial games to teach students and simulate real-life political phenomena for them (Darr/Cohen 2016; Hanson 1983). The second is to analyse the content of games and how they reflect the political or economic systems we live in, racial stereotypes, or historical narratives (Henthorne 2003; Huntemann/Payne 2009; Lima 2017; Malkowski/Russworm 2017; Murray 2017; Winnerling 2014; Zamaróczy 2017).

However, one niche seems to be largely unexploited: using games designed for entertainment or at least outwardly serving this purpose for observation and experimentation regarding political philosophy and political theories where each player would play an individual rather than an institution. Academia in this respect lags behind other institutions. For example, the US army appreciated early (in 1999) the potential of First Person Shooter (FPS) games as propaganda tools and developed its own game franchise, *America's Army* to inform and recruit people (U.S Department of Defense 2023). Even internet content creators saw the potential of games in this respect. In one such recent experiment, 1000 people were left to fend for themselves and organise polities, while the organiser (YouTuber Ish) of this project observed and then compiled the results (Ish 2023). Meanwhile, there seems to be almost no academic

research utilising this medium to test political theories. A notable exception is the study of securitisation in the *World of Warcraft* setting (Castro 2022).

We could speculate on why this is the case. One reason could be the resources required – even independent titles require significant funds or at least workhours by a dedicated team of software developers (Guru 2022). Another reason may be the necessity to work across fields, unless there was a political scientist also skilled in coding (in which case, the authors expect, said games and game-based research would have emerged). Finally, there is the matter of perception – science community, especially in social science, seems rather conservative when it comes to observational/experimental designs. As such, computer games may be simply perceived as unsuitable for this purpose, especially if one is aware only of mainstream titles and unaware of intrinsically political games such as *Papers, Please*, not only recreating the atmosphere of Cold War-era Soviet bloc, but also dealing with universal moral themes (Xu 2020).

3. The Case for Survival Games as Research Setting

Among the diverse genres of digital games, survival games stand out as a largely untapped medium for political research—especially for studying how individuals behave in the absence of formal authority or legal norms. While serious games typically assign players the role of decision-makers within institutions—presidents, ministers, or ambassadors—survival games such as *Rust* place players in the position of anonymous individuals, devoid of office, prerogative, or mandate. This distinction carries significant methodological implications for how political scientists might observe or experiment with social behaviour.

The structure of serious games is typically designed to simulate institutional logics and decision-making processes. Whether digital (e.g., *Democracy 3*, *Peacemaker*) or analogue (e.g., *Model United Nations*), such games frame the player's agency through the lens of an abstract authority: one that already has a political role, a set of defined powers, and a recognised constituency. These games can be useful for teaching policy trade-offs, simulating diplomacy, or visualising institutional constraints—but they inherently restrict the range of behaviours to those compatible with the institutional role assigned. Furthermore, the number of players is usually limited, and interpersonal dynamics are subordinated to inter-institutional or systemic considerations.

As the name suggests, the main objective in survival games is to survive while struggling against other players, the elements, animal life, and NPCs (non-player characters). To fulfil this goal, players need to obtain food and water, hunt, fight, craft, and build shelters and other structures. Main representatives of this genre are *Rust, DayZ, Minecraft, Ark: Survival Evolved, No Man's Sky*, and others (Raynor 2023). What sets these games apart is the lack of an objective other than the survival itself – there are no missions, non-player characters offer us no quests, and there is no storyline other than a suggested overarching origin story. As such, we could single out several qualities which could allow to use these games in political science or, generally, social science experiments:

a) *Multiplayer* – many survival games are geared towards online entertainment and often lack single player mode. Thus, they allow for observing natural interactions between players.

b) *Physical needs* – as *survival* games, they intend to simulate the real-life experience of being affected by the elements and bodily needs – heat and cold do damage, as do lack of food, water, proper clothing, and various illnesses. Thus, players are pushed to constantly make sure they harvest, craft, or obtain in other ways goods necessary to meet these needs and emergencies.

c) *Immersion* – while the degree and depth of immersion offered by video games and even the basic underlying concepts remain a matter of debate (Cheng/Cairns 2005; Jennett et al. 2008), the fact that video game players become to some degree immersed while playing (assuming the game is designed right) remains undisputed. People get involved in the stories and worlds presented to them or created by them, to a degree where they experience positive or negative emotions when they win or lose, form in-game friendships, or dedicate their time to exploring the lore or expanding it. This quality of video games in general makes them potentially viable experimental settings, as immersed players will often decide based on their own beliefs or as a character created for the game rather than remaining constantly aware that "it is just a game".

d) *No built-in distinction between good and bad* – many other types of games either impose certain benefits and punishments on morally good and bad behaviour (as do plenty of Role Playing Game titles) (Zoss 2010) or simply force us to be on the "good" side of the conflict (in FPS games we represent one side and killing our own leads to failure or we get kicked out of the server in online matches). To the contrary, survival games do not enforce any sense of good or evil. Our behaviour towards others may be at best curtailed by them, rather than by game mechanics, just as it happens in the real world through citizen initiative or law enforcement.

e) *Long-term* – survival game servers usually work in longer cycles, for example weekly, bi-weekly, or

monthly. Thus, player interactions may be prolonged and divided into series of encounters whenever they are online.

f) *Willing participation* – people play out of their own volition – they are not persuaded in any way to do so, but do it for their own entertainment. If they were to participate in a pure experiment, many may have objections regarding time dedicated to it – the less hours and episodes, the better. Here, players dedicate hours at a time over multiple days, weeks, months or years of their lives, which may even lead to their social lives, careers or education suffering (Sublette/Mullan 2012; Kowert et al. 2014).

g) *Not designed for research* – while the ethics of consensual research remain key, many games designed for experimental purposes are short and focused on a singular task, allowing the participants to predict what is the research about. In the case of survival games, their primary purpose is entertainment and they involve multiple tasks and possible types of interaction over long time span, thus keeping the minds of even consensually participating research groups off the true purpose of the study. Therefore, there is lesser probability that they will act "as expected to act", a phenomenon known as participant bias or subject bias (American Psychological Association, n.d.).

While all these characteristics speak for survival games' potential as observational settings for political science or social science in general, they are not perfect, particularly in their commercial versions. The current study focuses primarily on observation—recording behaviours in pre-existing environments without researcher intervention. However, survival games also open the door for true experimentation, whereby elements of the environment are deliberately manipulated to test hypotheses. This could involve, for example, the researcher joining the game to provoke certain reactions, modifying resource scarcity, altering environmental difficulty, or adjusting the number of players or spatial constraints to assess behavioural outcomes. A dedicated server with customised parameters—for instance, increased realism in terms of environmental damage, wound recovery, and resource collection—could serve as a controlled yet immersive testing ground. This would allow for intentional experimental designs rather than passive observation of a ready-made product. The difference between these modes of research is not merely technical: it affects the role of the researcher, the ethical framework, and the type of conclusions that can be drawn (Morton/Williams 2010). Among the disadvantages or obstacles that could be addressed through such experimental setups are the following:

a) *Multiple lives and short-term wounds* – one of the greatest obstacles on the way of researching social or political behaviours related to violence would be the fact that in most games players reincarnate after death. While games often attempt to make death an undesirable event of certain weight (losing items, respawn after some time, respawn in a remote location, participation in the next round), this weight is nowhere near the experience of real death without resurrection. Similarly, being wounded in such games is usually a short-term inconvenience, as health can be restored by potions, eating or a few hours of rest.

b) *Ease of obtaining resources* – in order to facilitate quick development, survival games make it relatively easy to gather enough resources to create necessary items or build properties. This makes them unrealistic regarding the economic aspect of real life, where obtaining resources is often time-consuming, which pushes some actors to extort or steal resources from others. Moreover, scarcity of raw materials is also a non-issue, as trees, rocks, and water resources are quickly replenished. This also makes many economic conflicts observed in the real world obsolete in survival games, although the same cannot be said about higher level, crafted items.

c) *Immersion limits* – while all video games involve a certain degree of immersion, it, nonetheless, has limits. Experiments even in tailored game settings will not directly translate to real-life outcomes. Hence, there is a need to ascertain the degree to which such experimental results can be trusted to tell us something about the political reality.

d) *Character of the game and playing style* – many games are characterised by a certain "playing style", a tradition of gaming in a certain way developed by its community. As such, it may be expected from players to play in a certain way – more or less violent, developing or avoiding interactions with other players and so on. As such, even if game mechanics remain neutral to a certain kind of behaviour, it may be induced by the community exogenously – as a form of peer pressure – or through endogenous attempts to fit in.

e) *Costs of operation* –if we need to adjust the game settings to reflect the real world more closely (e.g., one life rule, heavier wounds, and difficulty of obtaining resources), in-game experiments would require dedicated private servers. In the case of survival games, which are usually characterised by good graphics and large map sizes (or even gigantic as it is in Minecraft), this would require renting dedicated server space which will increase with the number of participants and the size of the world, as well as the computer with suitable processing power.

f) *Player limits* – the incremental costs of adding new players also will potentially limit the size of the experiment. However, 1,000-player-strong or even 10,000-player-strong private servers and quasi-political scenarios are possible, as attested by YouTubers who already have run such scenarios (Ish, 2023; Roiien, 2022).

Of all these, the first flaw, players possessing multiple lives and sustaining short-term, easy-to-heal wounds, would be the most pressing issue for scientists who want to make observations on issues related to violence or risk taking. This, however, can be mitigated in private servers with custom settings. In them, players could be granted one life per game (so-called "permadeath") and the wounds could be made to heal for much longer periods. Similarly, the resource harvest and resource renewal rates could be tweaked to more closely reflect the natural resource scarcity. Other obstacles seem to be manageable with the proper research design.

4. Research Example – Lockean and Hobbesian State of Nature

For the purpose of this article, the authors conducted an observation of player behaviour in relation to the "state of nature" concept prevalent in political science. This was done firstly to generate new data and provide new insights into the topic and secondly, to show the usefulness of survival games for political science experimentation. While both purposes are valid, the former was the driving force behind this research, while the latter is born out of necessity due to the lack of research in this topic, as mentioned previously.

By the state of nature, we understand the pre-state human condition, the natural state of human-to-human interactions. While it is pretty much a concept rather than a historical reality, we could differentiate between the two main schools with regard to it. Rooted in different understandings of the human nature and the natural law, they subsequently depict a radically different state of nature. The two could be termed as Hobbesian and Lockean after Thomas Hobbes and John Locke, respectively.

Thomas Hobbes adopts an extremely negative understanding of state of nature. Inspired by the events of civil war in England and a general political climate in Europe, he has a quite pessimistic view of human nature: '(…) in the nature of man, we find three principal causes of quarrel. First, competition; secondly, diffidence; thirdly, glory' (Hobbes 1651, 77). People are born equal but the equality leads to constant struggle between them (Hobbes 1987, 45-46; Hobbes 1651, 76). It is not a surprise then that the resulting state of nature is a violent one, becoming the state of war:

> Hereby it is manifest that during the time men live without a common power to keep them all in awe, they are in that condition which is called war; and such a war as is of every man against every man. For war consisteth not in battle only, or the act of fighting, but in a tract of time, wherein the will to contend by battle is sufficiently known: and therefore the notion of time is to be considered in the nature of war, as it is in the nature of weather (Hobbes 1651, 77).

It is not only a state of violence, but also of increased vigilance and projecting upcoming attacks. Therefore, people dedicate time, abilities, and resources which could otherwise be used in producing wealth or development on offensive and defensive actions. The state of nature in this form, as John Rawls was keen to observe, is the state where people are rational but not reasonable – they think of their personal interests rather than communal interest (Rawls 2007, 54-62). Though Hobbes was often accused of being atheist for his theory is 'secular' in Rawls' understanding, at the same time the pessimistic picture of human's primal condition is sometimes thought to be rooted in the Christian vision of the fall. This claim was even entrenched by Hobbes himself – he cited the story of Cain and Abel as the example of the state of war (Thornton 2005, 1-15). Moreover, his pessimistic picture of the state of nature as leading immediately to the state of war of all against all is actually an attempt to provide a universal natural law in the era of renewed interest in scepticism, rooted in experiences of religious wars and the era of colonisation (Harrison 2003, 37-42). By constituting a society, people give up their rights for the possibility to preserve their lives and pursue happiness in a stable, relatively safe environment. Social contract, no matter how despotic the ruler would be, is the only way to escape the state of war. Hobbes has drawn this conclusion from political events of his era.

A quite different picture emerges from the works of John Locke, especially from the *Second Treatise of Government.* To begin with, the state of nature is painted in much lighter colours. People, according to the *Second Treatise of Government*, lived in

> (…) a state of perfect freedom to order their actions and dispose of their possessions and persons, as they think fit, within the *bounds of the law of nature*; without asking leave, or depending upon the will of any other man [emphasis by the author] (Locke 1764, 195).

In another place, Locke compares the state of nature with the state of war (which for Hobbes is an immediate result of the state of nature)

> (…) which however some men have confounded, are as far distant, as a state of peace, good will, mutual assistance and preservation, and a state of enmity, malice, violence and mutual destruction, are one from another (Locke 1764, 209).

For him, liberty is organically connected with property, namely, the property *in* our own person (Locke 1764, 216). The notion of 'boundaries of the law of nature' is the crucial one, for the liberty of people in the state of nature has limits set by different natural laws. We cannot kill ourselves or other people if they didn't breach anybody's freedom. Similarly, we cannot take the liberty or property of others (Locke 1764, 197). Natural law allows people to defend themselves, punish the offenders and require retribution, although all those actions must be proportionate to the offense – you cannot kill or demand a great retribution for a small thievery (Locke 1764, 198-199, 203).

The differences between the Lockean and Hobbesian visions of human nature and resulting state of nature remain an important divide within political philosophy.[1] What is even more important, this divide informs different perceptions of the necessity of the statist systems we live in today. Hobbesian vision of the government necessary to keep our violent nature in check and allow the society to flourish remains the foundation of almost all mainstream political ideologies, schools of thought, and part of the legitimacy of said governments. At the same time, Lockean perception of the state of nature as a more peaceful one and the government as an option "given by God" and established by our free will could only be found in some branches of anarchism or libertarianism. In the mainstream political landscape, Locke's ideas are evoked only to justify democracy and liberalism as supreme political ideas, without the consideration for the state of nature precluding the government.

Thus, assuming that one would argue for anarchism or free association with government within an anarchic world, the counterargument would be the Hobbesian chaos and war even among those who subscribe to Lockean perception of liberty otherwise. Another argument is the lack of a currently existing anarchic place on Earth, which is supposed to suggest that the governments and their expansion are natural and a higher form of organisation in a show of political determinism.

Finally, if one is insistent enough on the idea of anarchy, the interlocutor may say that even if it was the case, the hypothesis is impossible to check due to the constraints presented in the introduction to this article. However, in this work, we suggest that, putting aside moral and philosophical argumentation, there is a way to at least partially test the ideas on the "state of nature" on human subjects in a safe environment. These would be computer games and, more specifically, the aforementioned survival games.

In this article, we test the assumptions on the state of nature using the game *Rust*. In the following subchapters, all the elements of the experiment are described, followed by the findings from this in itself experimental attempt at an upgraded form of political experimentation.

5. The Method

5.1 Game Choice

The game chosen for the study is *Rust*. While other survival titles could also serve this purpose, *Rust* was selected for a number of objective and subjective reasons. The first objective reason is the setting of the game. Unlike many others, *Rust* is not set in either postapocalyptic (like *DayZ*) or fantasy world (like *Ark: Survival Evolved*), thus making it more realistic and yet more abstract in a sense that it is a rather neutral, generic island setting with various biomes placed on it. Moreover, it puts very little emphasis on player versus environment (PvE) gameplay, that is, gameplay focused on fighting computer-controlled creatures. The animals and human enemies are scarce as compared to many other titles, with a comparable low PvE intensity present in *DayZ*. However, unlike in *DayZ*, in *Rust*, we appear on the map as a Lockean *tabula rasa*, a literally naked individual with no resources.

As for subjective reasons, the researchers were already familiar with *Rust* as opposed to many other titles, making it more accessible to study.

5.2 Participants

We observed videos of players streaming their *Rust* gameplays on the platform Twitch. The retention and viewing of live broadcast recordings on Twitch are left to the discretion of the broadcasters. Broadcasters who approve the retention of their content on the platform for viewing will have their content available for access for a period of 7 to 60 days. Twitch's terms of service classify broadcast content as "user content" and state that users are permitted to access, use, and share this content. It also states that content with the "sharing"-function

1 For example, J. J. Rousseau subscribed to Lockean perception that the state of nature "(…) in which the care of our own preservation interferes least with the preservation of others, was consequently the most favorable to peace, and the most suitable to mankind" – Jean-Jacques Rousseau, 2002, "The Second Discourse: Discourse on the Origin and Foundations of Inequality Among Mankind" in *The Social Contract and the Two Discourses* (Yale: Yale University Press), 105.

enabled is available for users to reproduce, modify, adapt, publish, and create derivative works (Twitch, 2025). Facepunch Studios, the developer and publisher of *Rust* (2013), states in its Broadcast Guidelines that any fan content can be created without any restrictions on game content (Facepunch, 2025). For these reasons, no permission has been obtained from the players.

5.3 Selection Criteria

To be used in this study, videos had to meet certain criteria. First and foremost was that it showed *Rust* gameplay in an unmodified version of the game. Due to the huge community surrounding this title, some people prepare modified servers, where gameplay is removed from a typical *Rust* experience, turning it into a classical FPS game focused on skirmishes between two or more enemy teams or to the contrary, organise tournaments or roleplay events excluding or in other ways artificially affecting the player-on-player violence.

Second criterion was the length of videos – they had to include at least 30 minutes of regular *Rust* gameplay.

Finally, certain special circumstances could also lead to the video being disqualified. In one such a case, the streamer fell victim to so-called "stream sniping", where their viewers figured out what server they played in and used the livestream to find out their location and repeatedly kill them. The resulting violence was a result of para-social relationships rather than purely in-game behaviour.

5.4 Study Period and Sample

Three batches of video URL addresses from the Twitch website were obtained on September 23, 2022 (151 users, 246 videos), November 25, 2022 (207 users, 340 videos), and January 24, 2023 (46 users, 54 videos), resulting in the total of 404 users and 640 videos collected in three batches, the greater number of videos caused by collecting whenever possible second videos from players in case their first videos did not meet the criteria.

Of 404 players collected in three databases, many overlapped in cases where in the first or second batch the videos of a given player did not meet the criteria or expired or were removed before the researchers could watch it.

Due to several videos being removed before the researchers could watch them and many players posting videos from modified versions of *Rust*, the final number of players taken into consideration is 146.

5.5 Procedure

The researchers watched each video meeting the criteria for 30 minutes, starting after the 30th minute of every stream to ensure that streamers are engaged in actual gameplay. In case the actual play started later, the 30-minute watching period started with the actual gameplay. Similarly, if there was an interruption in gameplay due to breaks or switching to a modified version of *Rust* or to other games, the minute count was continued once the interruption was over. All such changes were noted in reports.

In the study, players' non-violent and violent behaviours were noted using an Excel form prepared for this occasion. The y-axis registered time in 10-seconds intervals. On the x-axis, the interactions were coded from the perspective of the streamer – how they reacted in the given situation. They were divided into following categories:

1. Non-violent:
    1) Ignore – player is ignoring other players
    2) Avoidance/escape – player attempts to avoid or if spotted/attacked to escape from other players.
    3) Communication – player attempts verbal or non-verbal communication.
    4) Cooperation – player begins cooperation with other players in a particular situation without forming a lasting bond.
    5) Alliance – player informally or formally (an option in *Rust*) forms an alliance with another player.
1. Violent
    1) Defence
        i. Warning shots/cover fire – player shoots warning shots or provides cover fire for themselves/allies in an attempt to avoid further fighting.
        ii. Threat – player announces that they will resort to violence if the situation escalates.
        iii. Defence Fight – player engages in a fight instigated by another player.
        iv. Base Defence – player engages in a fight to defend their base from others.
    2) Offence
        i. Pre-emptive/distrust – player initiates violence but due to suspicion of the other player's intention.
        ii. To Attack – player initiates violence without any reason other than the will to attack and possibly loot the opponent.
        iii. Base Attack – player attacks other players' base.

Apart from these categories, researchers noted the number of events in each 10-second period (for example, 3 short fire exchanges with three unrelated enemies

could happen). Moreover, they wrote down the number of participants in each event for the purpose of future studies.

What is crucial for the study, the changing nature of interactions was also taken into account. For example, a player may engage in a conversation with another only to be forced to defend themselves from the player or, to the contrary, start from a defensive fight and then try to establish communication with the other side to deescalate the conflict. However, while in individual report sheets these are coded as one event of changing nature, for this study, they were coded as two or more separate events if the general category changed between "non-violent", "defence", and "attack".

Based on the data collected from Twitch sessions of players, the researchers calculated the average share of non-violent, defensive, and offensive behaviours among players, as well as the number of players involved in each type of behaviour.

5.6 Study Limitations

There are a few limitations to this study due to its design and human capabilities of the research team.

Firstly, in order to cover a possibly large player base, researchers could dedicate only a limited time to each stream. 30 minutes usually constitute a small fraction of the stream, as experienced streamers routinely stream for hours. In a dilemma between the quantitative and qualitative approach to research, the team decided to choose the quantitative approach. As a result, the 146 gameplays resulted in 73 hours of gameplay watched. In an alternative scenario, longer parts of streams could be watched from a smaller selected player base, paired with post-watch interviews with players. Finally, longer parts of streams could be watched by a larger research team to both increase the watch time and preserve the quantitative aspect of the research. Both alternatives shall be explored in future research.

The study's replicability has also been affected by the fact that researchers watched the streams on Twitch.tv instead of downloading the videos on private discs. Due to Twitch policies, these videos have since been mostly lost as they are removed after a specified time period. However, as the research design was pretty straightforward and it covered a large sample size, it is fairly easy to replicate in order to confirm its validity.

The third limitation is the dependency on researcher judgement. While the categories are distinguishable and were prepared beforehand to obtain possibly objective picture of in-game interactions, human-on-human interactions are not always that clear cut. Hence, in a number of occasions, the researchers had to interpret certain events based on their own perception. It was especially pressing in the case of "pre-emptive/distrust" subcategory of "offence" category as it was in the researcher's hands to decide whether the player seemed threatened or just wanted to open fire to attack another. This subjectivity of some of the categorisation decisions is a weakness of the study, a weakness that could possibly be rectified in further iterations by keeping contact with particular players and asking them afterwards about the causes of their actions or through more stringent definitions and greater number of subcategories of interactions.

Another limitation of the study is the possibility that content creators may tend to behave more dramatically in order to make their content more interesting, attract more viewers, and generate revenue. At the same time, most of these content creators have thousands of hours of playtime and broadcast time. Therefore, it has been observed that they develop a gaming persona during this time and repeat behaviours that are consistent with this persona. For example, the broadcaster *Willjum*, included in the sample, displays a persona that is motivated by playing solo, avoiding conflict as much as possible, and building new and original bases in most of their content. Other examples include broadcasters *ShackyHD, Welyn*, and *spoonkid*, who frequently engage in behaviour aimed at disturbing and mocking other players and have a highly sarcastic gaming persona.

Finally, the study does not differentiate between the genders of observed streamers as well as other demographic characteristics. In the future research, these, too, could be taken into consideration.

5.7 Hypotheses

In this study, we want to find out whether people playing the survival game *Rust* without enforced ethical/moral code live in a more Hobbesian or Lockean state of nature. However, we formed hypotheses while setting out to conduct it. There are three hypotheses in total, two major, and one minor.

1st hypothesis (major): The state of nature in *Rust* will neither be Hobbesian (constant state of war and focus on self-interest) nor Lockean, due to several disadvantages mentioned previously, especially:

- The emphasis on combat and violence as part of the *Rust* experience, induced by the community surrounding the game.
- The possibility of reincarnation and continuation of the game making the risk of confrontation lesser.

The mode of interactions that we will observe in *Rust* will be something between the two ideal types (Hobbesian and Lockean) – non-violent behaviour and defensive

violence (self-defense) will be intermixed with offensive violence.

2nd hypothesis (major): Non-violent and violent yet defensive interactions will constitute the majority of behaviour among players.

3rd hypothesis (minor): The results will be skewed towards the Hobbesian end of the spectrum by a group of hyperviolent players. Excluding either

1) the most violent players by excluding players who engaged solely in offensive interactions or
2) 5% of players responsible for most offensive actions no matter if they engaged in other types of interactions

shall result in decreased share of offensive violence and even greater domination of non-violent or defensive behaviour, both acceptable in Lockean understanding of freedom.

6. Results

The results of the observation of 146 gameplays on Twitch have confirmed to some degree the hypotheses posited above. While Hobbes assumed the hegemony of violence in the state of nature and Locke and Rousseau assumed it to be much more peaceful, the reality in the realm of *Rust* constitutes a middle ground between the two.

As presented in Table 1, non-violent and defensive behaviour constituted a slight majority in the general population, as they together accounted for 52% of interactions (35% non-violent and 17% defensive). The removal of 20 players (13,7%) who engaged only in offensive behaviour brings the average score significantly up for the remaining 86,3% of players, as non-violent and defensive behaviour accounts then for 61% of all interactions. To provide balance, the removal of both players who engaged only in offensive interactions and those who conducted only non-violent interactions also leads to decrease in average share of offensive behaviour (41%) and increase in the non-violent and defensive behaviour (37 and 22% respectively, 59% in total).

Table 1. The average share of various types of interactions in all interactions

	Average share of non-violent interactions	Average share of defensive violent interactions	Average share of non-violent + defensive violent interactions	Average share of offensive violent interactions
General population	35%	17%	52%	48%
without totally offensive players	41%	21%	62%	38%
Without the 5% of most violent players	36%	18%	54%	46%
without totally non-violent players	31%	18%	49%	51%
without totally offensive and totally non-violent players	37%	22%	59%	41%

Table 2. Classification of players by types of interaction they conducted

Types of interactions exhibited by players	Player count	Player percentage
No interaction	15	10%
Only non-violent	8	5%
Only non-violent + defensive	20	14%
Only defensive + offensive	39	27%
Only offensive	20	14%
Only defensive	4	3%
Sum of players with no interaction, non-violent interactions or defensive interactions	35	24%
Sum of players who engaged in offensive violence	111	76%
Engaged in all types of interactions	50	34%

Table 3. Number of interactions, average number of interactions per player, and their share in all interactions

	General population			Excluding purely offensive players			Excluding 5% of most violent players by number of offensive interactions		
Type of interaction	Number of interactions	Per player (n=146)	As % of all interactions	Number of interactions	Per player (n=126)	As % of all interactions	Number of interactions	Per player (n=139)	As % of all interactions
Non-violent	359	2,45	39,2%	359	2,84	42%	332	2,38	43%
Defensive	140	0,95	15,3%	140	1,11	16%	126	0,91	16%
Non-violent + Defensive	499	3,40	54,5%	499	3,95	58%	458	3,29	59%
Offensive	416	2,84	45,5%	367	2,91	42%	322	2,31	41%

Another perspective on player behaviour provides the categorisation of players based on their interactions, shown in Table 2. Of 146 players in total, 10% (15 players) did not engage with others at all, focused on resource collection or building their abodes. If we add another 5% (8 players) who engaged only in non-violent interactions, 15% (23 players) did not recourse to violence at all throughout the watching period. Since the state of nature, even in Lockean understanding, includes defensive violence, counting in players engaged in no interactions, non-violent interactions or defensive interactions, we arrive at the number of 35 players (24%). As such, the remaining 111 players (76%) engaged in offensive violence at some capacity. Of these 20 (14%) conducted only offensive violence and no other type of interactions, leaving 91 (62%) who engaged in offensive interactions and at least one other (non-violent or defensive) type of behaviour.

Third and final way of analysing the data obtained throughout the research is to focus on the number of various types of interactions rather than their share in any player's overall interactions, as summarised in Table 3. While the share of non-violent interactions in all interactions is not far from the average share of non-violent interactions, it is nevertheless slightly higher in general population (39% against 35%) and when we remove 5% of most violent players (43% against 36%), while being the same if we remove purely offensive players (in both cases 41%). The table showcases also that purely offensive players did not engage in offensive action as much as the 5% of hyperactive players behind most offensive actions. In the former group, 20 players were responsible for 49 offensive interactions. Thus, offensive action per capita equals 2,45, below the average for general population. Moreover, removing the purely offensive players actually increases the average offensive action per remaining players from 2,84 to 2,91. Meanwhile, the 5% players (7 players) with most offensive actions (but who may or may not have conducted other types of interaction as well) committed 94 offensive actions, 13,42 per player. Removing them from the player pool results decreases significantly in average offensive action number per player from 2,84 to 2,31 (19% decrease).

7. Discussion

Overall, several conclusions could be drawn from the results recorded over the course of this study. Although the majority of players (76%) at least once engaged in offensive violence, the overall non-offensive behaviour slightly dominated among players (52% non-offensive, that is, non-violent or defensive). This proportion changes even stronger if we exclude players engaged only in offensive behaviour – in the remaining population, the share of non-offensive behaviour rises to 61%. This constitutes a middle ground between the ideal Hobbesian and Lockean types. While players acknowledge their "right" to conduct violence on other players, they do not recourse to it constantly. These findings confirm the 1st hypothesis set for this study, as the "state of nature" in *Rust* in the observed 30-minute spans is positioned between the constant state of war and general peace.

Moreover, while the non-offensive behaviour constitutes majority only by a small margin, it still constitutes majority even in the general population, meeting the expectations set in the 2nd hypothesis.

Finally, the removal of those players who engaged only in offensive interactions with others does indeed significantly decrease the average share of offensive interactions from 48% to 38%. However, their removal did not lead to a significant drop in the total amount of offensive interactions, as the group had lower average number of offensive actions (2,45) than the general population (2,84). Meanwhile, removing 5% of players responsible for most offensive actions, while having a smaller effect on the average share of offensive interactions in all interactions per player (2 percentage points drop from 48% to 46%), significantly decreases the number of all offensive interactions (by 94 or 19%)

and their share befalling an average player (from 2,84 to 2,31). Thus, the first data manipulation (removal of purely offensive players) naturally affects the average share of offensive interactions per player (as we remove 20 players with 100% share of offensive actions) but has a smaller effect on the whole structure of interactions when observed in absolute numbers. Removing each of these groups of players affects the share of offensive interactions in different metrics, confirming the 3rd hypothesis.

Overall, the neither Hobbesian nor Lockean world of *Rust*, seems to possess characteristics of both the violent state of war envisioned by the former and the peaceful pre-state world of the latter. However, it is worth noting that *Rust* is a game heavily emphasizing FPS (first person shooter) elements and player versus player violence. Additionally, the study was conducted on stream recordings, in which streamers are artificially prompted to behave more violently and extravagantly to maintain and grow their audience. Despite this, the majority of interactions between players were not offensive, indicating the need for further study under more controlled circumstances, which could result in further tendency for Lockean behaviour.

What becomes clear from the characteristics of survival games in their standard commercial versions and from the results of this study is that future studies on the topic should prioritise making *Rust* more realistic. This could be achieved in two ways, one related to player selection and the other to mechanics and rules of the server.

Regarding players, the current *Rust* player base has developed a certain gaming style emphasizing violence, killing other players, and raiding their bases as the core part of game experience. This emphasis is even stronger among those who stream their gameplays since any form of action allows to attract more viewers who can potentially generate revenue for the streamer. Another trend among players and streamers is the division between "roleplaying" and "casual" players, the former engaging in character building and storytelling, while the latter remaining much more disengaged from the story and undergoing much more shallow immersion in the game. In this respect, researchers could ensure that people participating in further studies are either unfamiliar with the title and thus do not have preconceptions of how one plays *Rust* or at least are not casual players. In the case of unfamiliar players, some sort of training sessions could be provided to introduce core mechanics of the game to not put them at a disadvantage.

The mechanics themselves could also be deliberately manipulated to simulate more realistic political and social conditions—shifting the research from passive observation to active experimentation. The private server to conduct research on could work in permanent death ("permadeath") mode, that is, each player has only one life and once dead, cannot reconnect with the server. This would make engaging in any form of violence a much more costly and risky endeavour, as it is in real life, where people not only avoid violence for ethical/moral reasons but also for the sake of self-preservation. Similarly, healing mechanics could be slowed down to make recovery a more prolonged and costly process, and resource collection rates could be lowered to heighten scarcity. Each of these changes would allow researchers to test hypotheses about cooperation, aggression, or institutional formation under varied structural conditions.

Additionally, in future studies, player data will be able to be recorded and processed seamlessly through dedicated servers. Open source mods available in mod libraries currently accessible to players (umod.org, codefling.com, etc.) that specifically track player movements and interactions will help us automate the data refinement process with minor modifications tailored to the needs of the research. However, since researchers' observations and interpretations are crucial in processing player behaviour at scale, these processes will still be carried out manually to some degree. The use of dedicated servers and third-party mods will enable the regulation or real-time monitoring of parameters such as map size, map size affecting interactions, biomes diversity, number of monuments and resources on the map, and the server's maximum and current player count, in accordance with the research requirements. Finally, it will allow for greater sample sizes, and, if needed, differentiation between the gender, age group, and other demographic characteristics of the players willingly participating in such a dedicated observational/experimental environment, as well as introducing more advanced statistical methods to analyse the obtained large body of data. Overall, the study shows that survival games and, more generally, online games offer a viable tool for political science research. Hopefully, this venue will continue to be explored by the academic community.

Bibliography

American Psychological Association (n.d.), Subject Bias, Internet: https://dictionary.apa.org/subject-bias (access: 09.02.2025).

Bloomfield, Lincoln P./*Padelford*, Norman J. (1959), Three Experiments in Political Gaming, in: *American Political Science Review*, Vol. 53(4), 1105-1115, Internet: https://doi.org/10.2307/1952078.

Bol, Damien (2019), Putting Politics in the Lab: A Review of Lab Experiments in Political Science, in: *Government and Opposition*, Vol. 54(1), 167-190, Internet: https://doi.org/10.1017/gov.2018.14.

Castro, Victor (2022), The Limits of Imagination: Securitisation and Exceptionalism in the World of Warcraft Video Game, in: *European Journal of International Security*, Vol. 7(2), 207-225, Internet: https://doi.org/10.1017/eis.2022.1.

Cheng, Kwan Min/*Cairns*, Paul A. (2005), Behaviour, Realism and Immersion in Games, in: *Proceedings of CHI 2005*, 1272-1275.

Çuhadar, Esra/*Kampf*, Ronit (2014), Learning about Conflict and Negotiations through Computer Simulations: The Case of PeaceMaker, in: *International Studies Perspectives*, Vol. 15, 1–16, Internet: https://doi.org/10.1111/insp.12045.

Dafoe, Allan (2011), Statistical Critiques of the Democratic Peace: Caveat Emptor, in: *American Journal of Political Science*, Vol. 55(2), 247–262, Internet: http://www.jstor.org/stable/23025049.

Darr, Benjamin J./*Cohen*, Andrew H. (2016), The Rules of the Game: Experiencing Global Capitalism on a Monopoly Board, in: *Journal of Political Science Education*, Vol. 12(3), 268–281, Internet: https://doi.org/10.1080/15512169.2015.1082475.

Falk, Armin/*Heckman*, James J. (2009), Lab Experiments Are a Major Source of Knowledge in the Social Sciences, in: *Science*, Vol. 326(5952), 535–538, Internet: https://doi.org/10.1126/science.1168244.

Facepunch (2025), Fan Content and Broadcast Guidelines, Internet: https://facepunch.com/legal/ugc/ (access: 15.07.2025).

Guru (2022), What Is the Average Cost of Game Development?, Internet: https://www.guru.com/blog/what-is-the-average-cost-of-game-development/ (access: 29.10.2025)..

Güth, Werner/*Schmittberger*, Rolf/*Schwarze*, Bernd (1982), An Experimental Analysis of Ultimatum Bargaining, in: *Journal of Economic Behavior & Organization*, Vol. 3(4), 367–388, Internet: https://doi.org/10.1016/0167-2681(82)90011-7.

Hanson, B. L. (1983), Monopoly Politics, in: *Teaching Political Science*, Vol. 10(3), 141–145, Internet: https://doi.org/10.1080/00922013.1983.9942607.

Harrison, Ross (2003), Hobbes, Locke, and Confusion's Masterpiece: An Examination of Seventeenth-Century Political Philosophy, Cambridge: Cambridge University Press.

Henthorne, Timothy (2003), Cyber-Utopias: The Politics and Ideology of Computer Games, in: *Studies in Popular Culture*, Vol. 25(3), 63–76, Internet: http://www.jstor.org/stable/23414945.

Hobbes, Thomas (1651), Leviathan or the Matter, Forme, and Power of a Common-wealth Ecclesiasticall and Civill, London.

Hobbes, Thomas (1909), Hobbes's Leviathan, Oxford: Clarendon Press, Internet: https://archive.org/details/hobbessleviathan00hobbuoft (access: 29.10.2025).

Hobbes, Thomas (1987), De Cive, Oxford: Clarendon Press.

Hofmann, Eva, *Kyriacou*, Lia, *Schmidt*, Klaus M. (2022), A Model United Nations Experiment on Climate Negotiations, in: *Jahrbücher für Nationalökonomie und Statistik*, 243(5), Internet: https://doi.org/10.1515/jbnst-2021-0054.

Huntemann, Nina B., *Payne*, Matthew T. (2009), Joystick Soldier: The Politics of Play in Military Video Games, London: Routledge.

Ish (2023), 1000 Players Build MASSIVE Civilization in Minecraft, YouTube video, 28.05.2023, Internet: https://www.youtube.com/watch?v=zv-TS_mEHE4 (access: 29.10.2025).

Iyengar, Shanto, *Kinder*, Donald R. (1987), News That Matters: Television and American Opinion, Chicago: University of Chicago Press.

Jennett, Charlene, *Cox*, Anna L., *Cairns*, Paul, *Dhoparee*, Samira, *Epps*, Andrew, *Tijs*, Tim (2008), Measuring and Defining the Experience of Immersion in Games, in: *International Journal of Human-Computer Studies*, 66(9), 641–661, Internet: https://doi.org/10.1016/j.ijhcs.2008.04.004.

Johnson, Dominic D.P., *McDermott*, Rose, *Barrett*, Emily S., *Cowden*, Jonathan, *Wrangham*, Richard, *McIntyre*, Matthew H., *Rosen*, Stephen Peter (2006), Overconfidence in Wargames: Experimental Evidence on Expectations, Aggression, Gender and Testosterone, in: *Proceedings of the Royal Society B*, 273(1600), 2513–2520, Internet: https://doi.org/10.1098/rspb.2006.3606.

Kahneman, Daniel, *Tversky*, Amos (1979), Prospect Theory: An Analysis of Decision under Risk, in: *Econometrica: Journal of the Econometric Society*, 47, 263–291, Internet: http://dx.doi.org/10.2307/1914185.

Kowert, Rachel, et al. (2014), Social Gaming, Lonely Life? The Impact of Digital Game Play on Adolescents' Social Circles, in: *Computers in Human Behavior*, 36, 385–390.

Lane, Jan-Erik, *Ersson*, Svante (2005), The Riddle of Federalism: Does Federalism Impact on Democracy?, in: *Democratization*, 12(2), 163–182.

Laponce, Jean, *Smoker*, Paul (1972), Experimentation and Simulation in Political Science, Toronto: University of Toronto Press, Internet: http://www.jstor.org/stable/10.3138/j.ctvcj2vgw.

Le Texier, Thibault (2019), Debunking the Stanford Prison Experiment, in: *American Psychologist*, 74(7), 823–839.

Lima, Luiz Augusto (2017), Videogames as a Political Medium: The Case of Mass Effect and the Gendered Gaming Scene of Dissensus, in: *Tosoni*, Salvatore et al. (eds.), Present Scenarios of Media Production, Bremen: Edition Lumière, 67–80.

Locke, John (1764), The Two Treatises of Civil Government, Edited by Thomas Hollis, London: A. Millar et al.,

Internet: https://oll.libertyfund.org/titles/hollis-the-two-treatises-of-civil-government-hollis-ed (access: 20.02.2025).

Loftus, Elizabeth F. (1975), Reconstructing Memory: The Incredible Eyewitness, in: *Jurimetrics Journal*, 15(3), 188–193.

Lupia, Arthur, *McCubbins*, Mathew D. (1998), The Democratic Dilemma: Can Citizens Learn What They Need to Know?, Cambridge: Cambridge University Press.

Malkowski, Jennifer, *Russworm*, Trea Andrea (eds.) (2017), Gaming Representation: Race, Gender, and Sexuality in Video Games, Bloomington: Indiana University Press.

McDermott, Rose (2002), Experimental Methodology in Political Science, in: *Political Analysis*, 10(4), 325–342, Internet: https://doi.org/10.1093/pan/10.4.325.

McDermott, Rose (2013), The Ten Commandments of Experiments, in: *PS: Political Science & Politics*, 46(3), 605–610, Internet: https://doi.org/10.1017/S1049096513000577.

Milgram, Stanley (1963), Behavioral Study of Obedience, in: *Journal of Abnormal and Social Psychology*, 67(4), 371–378.

Morton, RB, *Williams*, KC (2010), Experimental Political Science and the Study of Causality: From Nature to the Lab, Cambridge: Cambridge University Press, 455–499.

Murray, Soraya (2017), On Video Games: The Visual Politics of Race, Gender and Space, London: I.B. Tauris.

Mutz, Diana C. (1998), Impersonal Influence: How Perceptions of Mass Collectives Affect Political Attitudes, Cambridge: Cambridge University Press.

Peyton, Brian, et al. (2023), Cline Center Coup d'État Project Dataset Codebook, Version 2.1.2, 23.02.2023, Cline Center for Advanced Social Research, Internet: https://doi.org/10.13012/B2IDB-9651987_V6.

Rawls, John (2007), Lectures on the History of Political Philosophy, Cambridge: Belknap Press of Harvard University Press.

Raynor, Kelsey (2023), The Best Survival Games of All Time to Play in July 2023, in: *VG247*, 01.08.2023, Internet: https://www.vg247.com/the-15-best-survival-games (access: 29.10.2025).

Ro11en (2022), Ro11en, YouTube video, 14.03.2022, Internet: https://www.youtube.com/watch?v=1PXxgdDhjrc (access: 29.10.2025).

Rousseau, Jean-Jacques (2002), The Second Discourse: Discourse on the Origin and Foundations of Inequality Among Mankind, in: *Rousseau*, Jean-Jacques, The Social Contract and the Two Discourses, Yale: Yale University Press, 105.

Smith, Vernon L. (1962), An Experimental Study of Competitive Market Behavior, in: *Journal of Political Economy*, 70(2), 111–137.

Sniderman, Paul M., *Brody*, Richard A., *Tetlock*, Philip E. (1991), Reasoning and Choice: Explorations in Political Psychology, Cambridge: Cambridge University Press.

Sublette, Vanessa A., *Mullan*, Barbara (2012), Consequences of Play: A Systematic Review of the Effects of Online Gaming, in: *International Journal of Mental Health and Addiction*, 10, 3–23.

Thornton, Helen (2005), State of Nature or Eden?: Thomas Hobbes and His Contemporaries on the Natural Condition of Human Beings, Vol. 7, Boydell & Brewer.

Twitch (2025), Terms of Service, Internet: https://legal.twitch.com/legal/terms-of-service/#8-kullan%C4%B1c%C4%B1-i%C3%A7eri%C4%9Fi (access: 29.10.2025).

U.S. Department of Defense (2023), America's Army Background, Internet: https://dacowits.defense.gov/Portals/48/Documents/General%20Documents/RFI%20Docs/Dec2018/USA%20RFI%203%20Attachment.pdf (access: 09.08.2023).

Winnerling, Tobias (2014), The Eternal Recurrence of All Bits: How Historicizing Video Game Series Transform Factual History into Affective Historicity, in: *Eludamos: Journal for Computer Game Culture*, 8(1), 151–170.

Xu, Katherine (2020), The Politics of Papers, Please: Border Control and Biological Essentialism, in: *34th Street*, 21.10.2020, Internet: https://www.34st.com/article/2020/10/papers-please-border-control-gender-empathy-game-lucas-pope (access: 29.10.2025).

Zamaróczy, Nicolas de (2017), Are We What We Play? Global Politics in Historical Strategy Computer Games, in: *International Studies Perspectives*, 18(2), 155–174, Internet: https://doi.org/10.1093/isp/ekv010.

Zoss, John M. (2010), Ethics 101: Designing Morality in Games, in: *Game Developer*, 26.05.2010, Internet: https://www.gamedeveloper.com/design/ethics-101-designing-morality-in-games (access: 29.10.2025).