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Co-constructed Pretensive Realities in Organizations:

Roleplaying and Other Action Methods in Human Resource Development

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Co-constructed Pretensive Realities in Organizations:
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DOCTORAL DISSERTATION

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I. INTRODUCTION

"[W]e create games to examine, explore, understand, or explain dynamic systems" (Baker, 2017)

I.1. Research framework and outline

An enduring topic in management education research is the study of business schools themselves (Starkey et al., 2004; Jandrić and Loretto, 2021; Colombo, 2023). Rather than following this popular path, this dissertation focuses on non-formal education and non-formal learning environments (Coombs et al., 1973) within organizational contexts, explicitly examining learning and development (L&D) methods and interventions.

In my doctoral research, I specifically explore roleplaying[1] and other forms of pretense utilized in human resource development (HRD) processes and interventions that allow participants to co-construct a (fictional) organizational reality to assess, train, or evaluate themselves. This means that this dissertation overlaps several disciplines, including management education and HRD (Obazuaye, 2024), game and play studies (Deterding, 2016), and design sciences (Cross, 2001; Kuchinke, 2013), and thus is inherently interdisciplinary.

Of the main concepts in the thesis (see I.4.), three interrelated key terms are worth clarifying in advance. **Pretensive behavior** is the capacity to imaginatively engage in fictional scenarios individually as if they were real. When done collectively, it creates a **pretensive reality**, a shared imaginative space with agreed-upon rules and norms that differ from consensus reality. These phenomena form the cognitive, affective, behavioral, and social foundation of **pretensive action methods**, learning methodologies that utilize our individual and social pretensive abilities.

[1] Throughout the dissertation, with the exception of titles, I consistently use the form "roleplaying" without hyphen or pause, following Corsini et al. (1961).

This PhD dissertation adheres to the content and format requirements outlined in the *Rules of Operation of the Doctoral School of Business and Management* at Corvinus University of Budapest. Errors, grammatical correctness, and language proofreading were checked using an organizational access program (Grammarly EDU). The thesis was also benchmarked against exemplary PhD dissertations from the doctoral school, following the structural and formal examples of Máté Baksa and Soma Kárpáti, as well as the content approach of Rita Tóth and Péter Szentesi, whose research also explores playful topics related to management and organizations.

Furthermore, it aligns with Ruth Weatherall's bold proposal to approach doctoral dissertations in management & organization studies differently. Specifically, it seeks to be „a more practitioner-oriented thesis" (Weatherall, 2019, p. 111), extending beyond academia to offer practical relevance for trainers, consultants, and dramatists working in organizational contexts.

I used three of my written manuscripts and previously published publications to compile my paper-based PhD dissertation. The following are the articles' specifics:

1. Hartyándi, M. (2021b) Videójátékok, szimulációk és a tapasztalati tanulás kapcsolata: avagy, Lehetséges Minecraftot játszva tanulni? [The Relationship Between Video Games, Simulations, And Experiential Learning. Is it possible to learn by playing Minecraft?] *In Medias Res*, 10(1), 39–55. https://inmediasresfolyoirat.hu/imr/article/view/221
2. Hartyándi, M., and van Bilsen, G. (2024): Playing with Leadership. A Multiple Case Study of Leadership Development Larps. *International Journal of Role-playing*, 17(15), 142–177. https://doi.org/10.33063/ijrp.vi15.327
3. Hartyándi, M. (2025a): Distrust & Disillusionment Toward Generative Artificial Intelligence. Psychodramatic Exploration of Employee Trust in Organizational Technology Acceptance. *Society & Economy*, 47(2), 235–255. https://doi.org/10.1556/204.2025.00002

While the first study initially focused on video games, it also described how digital and analog games, especially **gaming simulations,** contribute to management and organizational learning by enhancing decision-making, strategic thinking, and team-based problem-solving, particularly in corporate training and leadership development.

It proposed an evaluation framework applicable to both serious and leisure games, aiming to assess their educational value and impact on HRD.

The second article examined whether one of the latest trends in applied roleplaying, **educational live-action roleplaying games** (edu-larps), fundamentally differs from previous forms. It explores their added value by analyzing how different leadership development edu-larps are designed to foster leadership skills.

The last article is unique in exploring its chosen method, **psychodrama-based monodrama**, through a projective methodological approach. This research examined hidden assumptions and unconscious beliefs about technology acceptance in an organizational division, focusing on trust and highlighting the power of pretensive action methods in qualitative research.

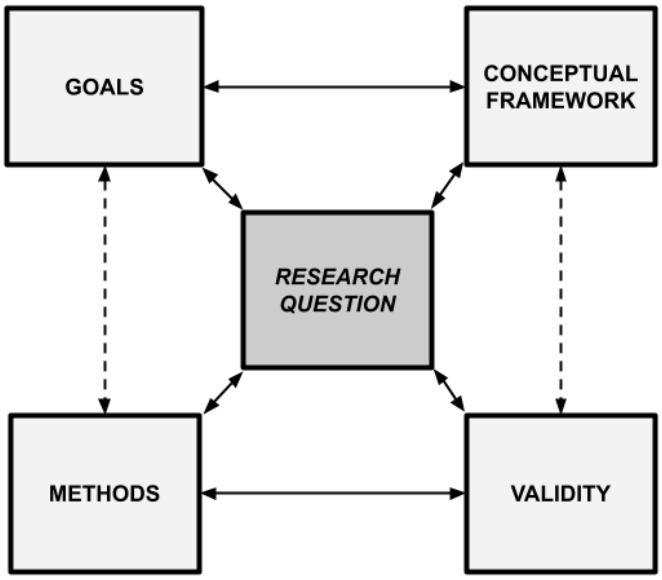
Why did this research happen, what was it about, and how did it happen? Following the introduction to research design, the opening chapter is organized like a funnel, moving from broad guiding questions to specific details. First, I explain my research goals (I.2.) and the relevance of the study (I.3.) to address the **why** of the research. Next, to define **what** will be explored, I introduce the main concepts (I.4.) essential for understanding the topic. The **how** of the research is presented in a more structured way: I begin with my meta-scientific and paradigmatic stance, connect the dissertation topic to established organizational theories (I.5.), outline the research setting (I.6.), identify the emerging research gaps and questions (I.7.), and describe the methods used to answer them. The chapter closes with an overview of the dissertation's structure (I.9.).

As a paper-based dissertation, sections on theory, research goals, and methods are distributed across the published articles rather than compiled in one place. This is because each journal paper had to stand on its own. As a result, key theories and models are sometimes reiterated in more detail or within a specific context when necessary. This introductory chapter provides an overview and summary, bridging these gaps.

I utilize Maxwell's (2009) widely used qualitative model to present my research framework (see Figure 1), as it aligns with the constituent articles. In this model, the upper triangle represents the conceptual part of the research design, while the bottom triangle corresponds to the operational part (Maxwell, 1996).

At the heart of the model lie the research questions, which inform and drive all components, goals, conceptual framework, methods, and validity.

Figure 1: An interactive model of research design.



Source: Maxwell (1996, p. 5; 2009, p. 217)

However, the research process was not so clear-cut; it was much messier. Therefore, I will introduce an alternative research metaphor that better reflects the actual process.

I.1.1. A guiding metaphor

Richardson (2000) compares writing to crystallization, emphasizing that a crystal is not a fixed point to be triangulated but a multifaceted, ever-evolving structure that refracts light differently depending on the angle of observation. Similarly, writing this PhD dissertation was not about identifying a single truth but about constructing a layered, complex, and dynamic scholarly work, where the same research narrative can be told in multiple ways, just as light interacts differently with a crystal's surfaces, revealing various facets and perspectives with each shift.

Building on this metaphor, Mitev (2015) further refines the analogy, likening the research writing process to crystallization, where fluid knowledge comprising theoretical insights, practical experiences, and interdisciplinary richness gradually solidifies into a structured form. However, crystal can only emerge from a supersaturated solution, meaning academic clarity arises only after the researcher has been fully immersed in the dense complexity of literature and real-world applications.

Roleplaying and other pretensive action methods exhibit exceptional diversity and remarkable richness in form, application, and terminology, leading to continuous *aha* moments throughout the research. Nearly every year of my PhD, each breakthrough deepened my understanding of the field, integrating more historical and methodological aspects, constantly expanding its scope, and shifting the focus. My goal was to distill this richness, separating the essential from the extraneous, much like the purification process in crystallization. Paradoxically, impurities within the system, such as contradictions, anomalies, and even my own biases, served as crystal nuclei (Mullin, 1993), shaping the final form of this dissertation.

The three dissertation-constitutive articles selected from my publications serve as crystallization points, each exploring a distinct pretensive action method, gaming simulations, roleplaying games, and psychodrama in HRD, highlighting the field's diversity. At the same time, these crystallization points follow a logical and chronological progression: the first is a literature review and conceptual article aimed at understanding, the second analyzes literature and game design to support planning, and the third applies its focus to a real organizational challenge, thus illustrating a gradual transition from theory to practice. They show where I have come from in five years.

In the following sections, I present the various research goals, research problems, and the relevance of my study. I describe the paradigmatic stance of the constituent papers, the research setting, and finally, my research questions derived from identified literature gaps. The last part details the key concepts and methodologies utilized.

I.2. Research goals

PhD dissertations often transparently discuss their personal, practical, and intellectual goals (Maxwell, 2009; Saunders et al., 2019).

I.2.1. Personal goals – Finding meaning in life

From 2012 to 2017, I published five Hungarian papers on ancient Zhou-era Chinese Philosophy. While that research line seems to have nothing to do with our scientific context, most of these articles were centered around ancient principles and schools on governance, charismatic leadership, and management.

Years before starting my PhD research, I had already begun comparing the theoretical foundations and practical techniques of three educational methodologies: various streams of gamification, applied drama (primarily British Drama in Education and process drama), and applied analog roleplaying games (RPGs, mainly Scandinavian Nordic larp and edu-larp) (Hartyándi, 2018). What connected these approaches for me was their shared emphasis on playful, imaginative learning, which also made it possible to integrate their techniques effectively.

I knew that my strengths and passion lay in education and development, but I sought a domain where my contributions would be more valued, and the demand for my expertise was greater. Slowly, I transitioned from public education to the field of adult learning, but I have reached a glass ceiling in research and publication, as I did not hold a PhD. I came to Corvinus to become a professional researcher, and I chose the field of management & organization studies because of my intellectual and self-interest.

During my PhD studies, I first recognized that organizational and management practices have long utilized similar methodologies, particularly in assessment centers, interactive case studies, situational or policy exercises, business simulations, and serious games, culminating in my very first management-related journal paper (Hartyándi, 2021b). This realization led me to the International Simulation and Gaming Association (ISAGA), which significantly broadened my perspective on experiential learning in organizational contexts.

After an Új Nemzeti Kiválóság Program (ÚNKP, New National Excellence Programme) study on the intersection of workplace learning, blended learning, and gamified learning (Hartyándi, 2022b), as a career-switcher, I started working as a consultant and trainer at Grow Group. I gained hands-on experience with widely used corporate training, coaching, and facilitating techniques at this Hungarian consulting firm.

At the same time, after extensive personal preparation, I began training in psychodrama. Through this, I discovered that both psychodrama and roleplaying techniques in management & organization studies can be traced back to Jacob L. Moreno, leading me to study his work in greater depth.

These experiences led me to leadership development, a field that aligned with all four of my key criteria. What sets leadership development apart is that it goes beyond mere leader development. It is not solely about enhancing individual leader competencies but about shaping the process and phenomenon of leadership and followership within a specific (organizational) context (Day, 2000). In this sense, it intersects human resource development (HRD) and organization development (OD), addressing individual growth and systemic transformation. It is an intervention arena that can significantly impact local, organizational, and even global levels. As a professional in helping vocations, this is where I can receive the most outstanding recognition while making the most significant impact on the world through personal connections.

I consider my PhD studies to be an inflection point in my career, as I want to realize the ideal model proposed previously by Miklós Dobák: part lecturer, researcher, and consultant. I have almost a decade of experience in teaching and education; thus, my main concern was to gain expertise in the last two aspects. As higher education is gradually transforming in the 21st century, becoming a scholar-practitioner might seem to be an outdated concept for some. Still, it is the only authentic way to "make science" as I want to fuse theory with practice (Gelei et al., 2013).

I.2.2. Intellectual goals – Creating a grand history

My initial and somewhat naive goal was to embed and understand roleplaying and other pretensive action methods within the context of management & organization studies. Common sense often rejects playful behavior in adulthood, especially in work and business, considering it worthless (Sutton-Smith, 1997; Tóth and Mitev, 2022). In Hungary, roleplaying game (RPG) research is still in its infancy (Hartyándi, 2018; 2024b; Hlavacska, 2023), forcing me to take on a pioneering role, mainly challenging these biases in management & organization studies. However, I soon realized that these approaches have been an integral yet often underrecognized part of the field, periodically resurfacing as valuable tools for leadership and human resource development (HRD).

As it became clear to me that the primary focus of my topic was HRD and learning and development (L&D), I gained insight into the field's richness and had to adjust my original intentions. In this second phase, my intellectual goal shifted toward mapping the landscape and comparing different approaches. As I expanded my

international academic network, I observed that many scholars focus on specific aspects of my research area, often aligned with a particular tradition, scholarly school, or leading theorist. However, few engage with the broader connections, shared foundations, or historical evolution across these different approaches. This disciplinary fragmentation was evident not only in practice but also in theory and research, which often advances in parallel silos (Schaller, 2001; Hallinger and Wang, 2020).

Ultimately, I concluded that these so-called action methods (Kipper, 1992) are fundamentally linked by their reliance on our imagination-driven ability to engage in "as-if" scenarios, our capacity to think and act as if we were in a different reality or playing a different role. We co-construct alternative realities and use them for learning, growth, and development.

Now, my intellectual goal extends beyond this PhD dissertation. I have developed an ambitious desire to comprehend the full breadth of my chosen field, both historically and in its present form, weaving together its parallel threads (van Ments, 1998) and "braided rivers" (Martel et al., 2022) into a comprehensive, grand history.

I.2.3. Practical goals – The added value of a scholar-practitioner

To quote feedback from my supervisor, András Gelei, he characterized me as follows:

"He is looking for ways to change the world. He wants to take people deep. He criticizes that the tools that could do that often do not. He seeks and even finds alternative ways. He wonders how to relate this to practice and theory. He is obsessed with being a bridge. He has come a long way." (2024.09.30.)

The practical goal of this research is to foster better research, better design, and better practice. Based on the extensive study of the famous educational researcher John Hattie (2009), it is safe to say that almost any teaching-learning method can work, but not consistently well. We can improve systematic design by scientifically studying design (Cross, 2001). By reaffirming my topic as a critical area of inquiry within management & organization studies and constructing its grand history, we can develop more effective and efficient HRD processes and L&D interventions that lead to better leadership. Better leadership creates healthier communities and organizations and, ultimately, a more functional and adaptive society, making it a worthwhile pursuit for a PhD and a lifetime.

I.3. Research problem and relevance of research

The history of the term roleplaying has taken a complex and evolving trajectory (Hartyándi, 2024a; 2025b). In Anglo-American sociology, roleplaying generally refers to the characteristics and expected behaviors associated with social roles (Coutu, 1951). As early as 1943, the renowned social psychologist Kurt Lewin anticipated a key trend in contemporary leadership research by asserting that leadership inherently requires followership. He argued that "[n]*either the autocratic nor the democratic leader can play his role without the followers being ready to play their role accordingly*" (Lewin, 1943, p. 561), highlighting that social role is not isolated but interdependent; each eliciting and reinforcing the other.

Although Lewin did not explicitly acknowledge Jacob L. Moreno's influence, his frequent collaborator, Ronald Lippitt, directly referenced Moreno when discussing methods that can address long-standing challenges in leadership development: "*One of the most effective techniques the writer has discovered for satisfying these criteria is the utilization of several variations of the roleplaying or psychodramatic situation which Moreno has developed most fully in the areas of individual diagnosis and therapy in psychiatric cases*" (Lippitt, 1943, p. 287). Moreno himself was likely one of the first to conceptualize social roles not as rigid constraints but as opportunities for spontaneity (Moreno, 1924), seeing roleplaying as a tool for personal and social development (Moreno, 1943).

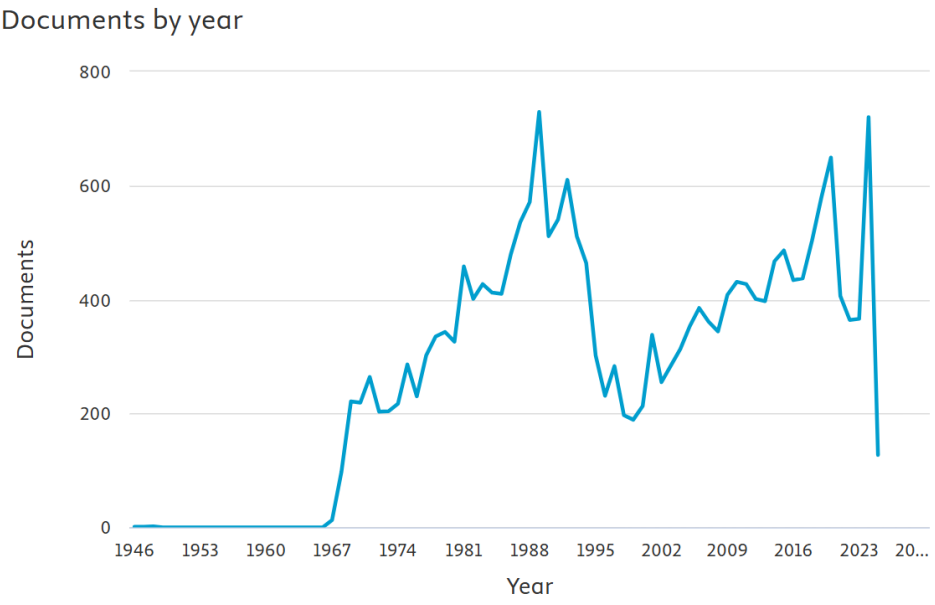
As we have seen, 1943 marked a turning point when management and organization scholars began viewing roleplaying as a developmental tool. Organization development (OD) pioneer Chris Argyris, for example, noted in one of his early articles that "[m]*anagement and union officials have both found it extremely useful to roleplay their points before presenting them in final bargaining sessions*" (Argyris, 1951, p. 7). This early enthusiasm culminated in *Roleplaying in Business and Industry* by Raymond J. Corsini, Malcolm E. Shaw, and Robert R. Blake (1961), a foundational work synthesizing more than one hundred contemporary sources to provide theoretical insights and practical applications.

At the time, it seemed that many mainstream leadership and management theory thinkers were turning toward roleplaying as a serious subject of study. However, today, the idea that roleplaying is closely linked to management & organization studies

is far from self-evident. This suggests that the initial wave of scholarly interest waned and was largely forgotten.

A keyword search in the Scopus database reveals 21,977 documents[2], highlighting the extensive research behind the phenomenon. Scopus Analytics confirms that while general scientific interest in roleplaying declined during the 1990s, the trend has since reversed, restoring the subject to its former prominence (see Figure 2).

Figure 2: Distribution of the keyword "roleplaying" across the years.



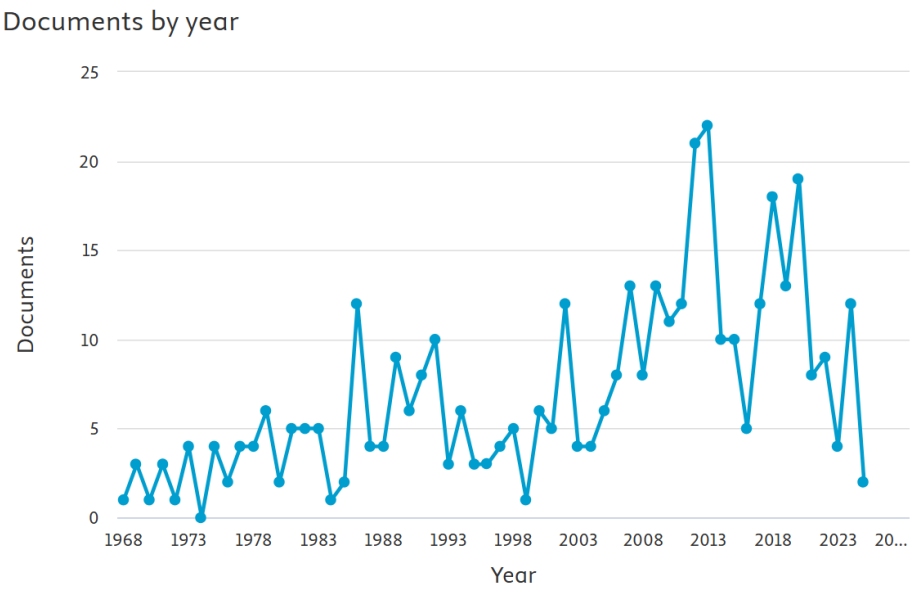
Source: Scopus Analytics.

However, when narrowing the search to Business, Management, and Accounting[3], the number of hits drops dramatically to 398, reflecting only a modest increase in interest over the decades (Figure 3).

[2] KEY (role AND play*) AND (LIMIT-TO (EXACTKEYWORD , "Role Playing") OR LIMIT-TO (EXACTKEYWORD , "Role-playing Game") OR LIMIT-TO (EXACTKEYWORD , "Role Play") OR LIMIT-TO (EXACTKEYWORD , "Role-play") OR LIMIT-TO (EXACTKEYWORD , "Role-playing"))

[3] KEY (role-play* OR roleplay*) AND (LIMIT-TO (EXACTKEYWORD , "Role Playing") OR LIMIT-TO (EXACTKEYWORD , "Role-playing") OR LIMIT-TO (EXACTKEYWORD , "Role-play") OR LIMIT-TO (EXACTKEYWORD , "Role Play") OR LIMIT-TO (EXACTKEYWORD , "Role-playing Game")) AND (LIMIT-TO (SUBJAREA , "BUSI"))

Figure 3: Distribution of the keyword "roleplaying" across the years in Business, Management, and Accounting.

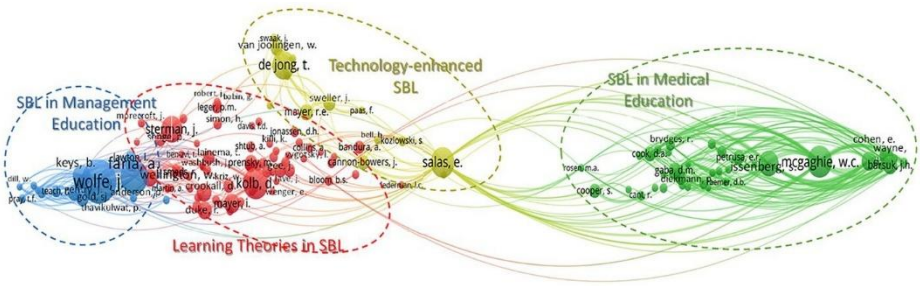


Source: Scopus Analytics.

This discrepancy presents a fascinating puzzle: If roleplaying was once a hot topic of management and leadership studies, why has its academic presence diminished despite its continued relevance in practice? One plausible explanation is that what began as a theoretical interest has since evolved into a practical tool and a specialized profession.

Another possible explanation might be that both research and application occur in silos (see Figure 4), each using different terminology (Schaller, 2001; Hallinger and Wang, 2020), which leads to conceptual confusion and further complicates research on the topic.

Figure 4: Fragmentation of simulation-based learning research.



Source: Hallinger and Wang (2020, p. 21).

Building on this foundation, this dissertation aims to explore developments in the more than 60 years since *Roleplaying in Business and Industry* (Corsini et al., 1961) by examining three key directions in a fragmented area:

- The world of **gaming simulations** has been widely adopted in business education and decision-making training (Faria, 1987).
- Applied **roleplaying games (RPGs)**, especially **larps,** a trend in the last two decades, turning leisure games into serious educational tools (Lasley, 2024).
- **Psychodrama**, rooted in Moreno's original methods, influences therapeutic and developmental practices (Lippitt, 1943).

By tracing these trajectories, this dissertation seeks to bridge the historical and methodical gap, crystallize the potential of roleplaying, and reestablish it as a critical area of inquiry within management & organization studies.

My comparative and integrative approach's added value and contribution gradually became recognized, often as invitations, some of which are still in progress. The first notable Hungarian recognition was the 2022 Corvinus University of Budapest Creative Research Idea Grant, awarded for my research topic, followed by two successful ÚNKP applications.

A key opportunity followed when András Hlavacska, head of the Tabletop Roleplaying Research Group at the University of Debrecen, invited me to contribute to a special issue of the journal *Kortárs.* My article traced the historical development of the term "roleplaying," linking its academic origins to decision theory and management studies (Hartyándi, 2024a). Published in Hungarian, an extended and refined English version of this research is currently under review at a Tampere University research seminar in Finland.

My first significant international recognition came in 2023 when I was invited to *join Simulation & Gaming* as an Associate Editor. As the leading journal in gaming simulation research and a Scimago Q2-ranked journal in management science, this role has allowed me to apply my approach to shaping the field at a global level.

Another significant milestone was being selected as lead reviewer for the first textbook of the Transformative Play Initiative, founded at Uppsala University, Sweden. Published in January 2025, *The Transformative Role-playing Game Design* (Bowman

et al., 2025) synthesizes the current state of knowledge on applied roleplaying games (RPGs) at the intersection of game studies and design sciences.

Following my presentation at the 8th International Sociodrama Conference (2024), where I examined the fragmentation of sociodrama research and compared its methods with other leadership development approaches, Ann Light invited me to contribute to the forthcoming *Immersive Practices Collection* (Routledge), providing a comprehensive overview of various pretense-based trends.

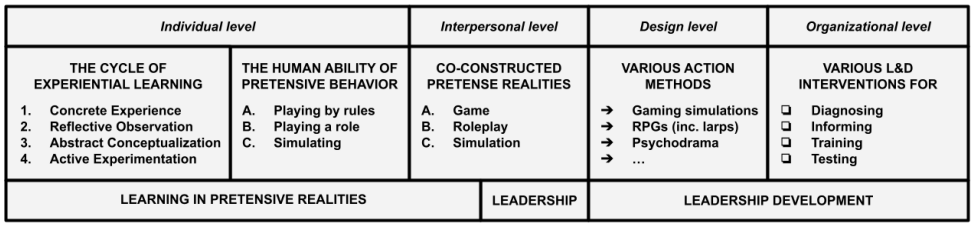
Finally, the methodological focus of my dissertation has also gained academic recognition. My research on psychodramatic methods in qualitative inquiry has been accepted for inclusion in *Doing Research Methods Differently*, edited by Alexandra Bristow and Marco Distino, to be published by Routledge as part of the *Doing Academia Differently* series.

These developments highlight the growing relevance of my interdisciplinary approach, bridging gaps between management & organization studies, design sciences, and pretensive action methods.

I.4. Main concepts

In this dissertation segment, I highlight the key ideas from the published research articles to explain the result of the crystallization. They form a conceptual map (Figure 5), providing an overview for those unfamiliar with the subject area while linking the "braided rivers" of the fragmented scene (Martel et al., 2022). In Figure 5, the top row indicates the level of analysis, the middle row details the related central concepts used in the dissertation, while the bottom row contains other key concepts related to the levels of analysis.

Figure 5: A conceptual map of the thesis.



Source: Author's own work.

I.4.1. Individual level

The human ability of pretensive behavior

The ability of pretense refers to an individual's capacity to engage in imaginative and fictional scenarios, treating them as temporarily real. It exists due to an evolutionary adaptive developmental trait in children and some mammals (Kapitany et al., 2022). Human children and primates play pretend because these fictive situations can inform real-life situations. In childhood, they help to anticipate unknown, future real-life events (Harris, 2021). When children play, for example, they can take up a banana as a telephone and talk to it (Leslie, 1987). This type of activity is often referred to as symbolic play (Bretherton, 2014) or make-believe (Deterding, 2016) in children-related research fields. The capability is based on the cognitive function of metarepresentation, which refers to things that can be regarded as different things, like wooden sticks as swords (Kim et al., 2021). Humans can imagine things that are not real and behave accordingly.

In everyday language, pretending often means dissimulation, such as adopting a behavior to conceal one's true intentions, from politeness to deception (Corsini et al., 1961). However, the cognitive theory of pretense (Nichols and Stich, 2000) encompasses many different goals, as this cognitive function allows people to construct alternative realities and simulate different roles and behaviors mentally. Pretense enables personal exploration, skill development, and mental flexibility through engagement in make-believe scenarios. Moreover, pretense plays a crucial role in leadership development, decision-making, and problem-solving by allowing individuals to experiment with different perspectives and strategies in risk-free environments.

If we dissect the object of pretense, we should distinguish at least three directions (Hartyándi, 2018):

- **Playing by Rules:** Behaving as if arbitrary rules were binding. Individuals can follow structured guidelines in pretense, which mirrors adherence to organizational policies and decision-making frameworks.
- **Playing a Role:** Behaving as if one were different. Playing a role allows individuals to explore different identities, like managers adopting various leadership styles in other contexts.

- **Simulating:** Behaving as if under different circumstances. Simulating helps individuals anticipate real-world scenarios, developing their strategic thinking and crisis management competencies.

Experiential learning

Experiential learning is acquiring knowledge through direct experiences, reflection, conceptualization, and real-world application (Kolb, 1984). This learning cycle integrates perception, cognition, and behavior, allowing individuals to develop skills beyond formal instruction. Not all learning is consciously recognized or articulated; much of it occurs implicitly, forming what is known as tacit knowledge.

Tacit knowledge, which is deeply personal and difficult to verbalize, plays a crucial role in professional expertise, enabling individuals to apply insights effectively without explicit theoretical understanding (Haldin-Herrgard, 2000). Experiential learning is widely utilized in leadership training, coaching, and organization development to enhance employees' decision-making, teamwork, and innovative thinking.

I.4.2. Interpersonal level

Co-constructed Pretensive Realities

Theory of mind describes how we understand that other people's thoughts and perspectives may differ from one's own (Leslie et al., 2004). When this ability is combined with individual pretense and shared intentionality, and further supported by ritualized action (Rossano, 2012), it enables people to collectively create fictional or semi-fictional settings. This is how dissimulation differs from co-constructed pretensive realities (Hartyándi, 2025b).

In more formal language, this is defined as *"the ability of a group of individuals to employ a range of higher-order cognitive functions to explicitly and implicitly share representations of a bounded fictional reality in predictable and coherent ways, such that this constructed reality may be explored and invented/embellished with shared intentionality in an ad hoc manner"* (Kapitany et al., 2022, p. 1) and *"a constellation of mental objects subject to shared intentionality, which is durable, and which embodies a set of (implicit or explicit) premises, rules, or norms, that knowingly differ from the 'real' world by some degree."* (Kapitany et al., 2022, p. 3).

In the term "Reality," the reference is that co-constructed pretensive realities can function as imagined workspaces that individuals can collectively share, react to, influence, and elaborate upon. It is called "pretensive" because it is derived from imagination and maintained by it and differs from consensus reality. "Co-constructed" implies that participants engage with each other with shared intentionality and a common understanding.

At the group level, co-constructed pretensive realities enable structured activities that mimic real-world situations, fostering shared meaning-making, collaborative problem-solving, teamwork, coordination, and group decision-making through interactive learning experiences. Contrary to children's make-believe, imaginative adult play has a *"greater reliance on shared intentionality & agentic expression, which yields personal and social benefit under the umbrella term of 'social utility'"* (Kapitany et al., 2022, p. 8). These activities foster communication, negotiation, and leadership skills in organizational teams by providing simulated business environments for learning and experimentation.

We observe interpersonal phenomena when the directions indicated at the individual level become reciprocal. However, the terminology of the field is fragmented, and terms like games, simulations, and roleplaying are often used interchangeably (Hallinger and Wang, 2020). For example, the definition of roleplaying in *Roleplaying in Business and Industry*, *"realistic behavior in imaginary situations"* (Corsini et al., 1961, p. 8), confuses roleplaying with simulations. To clarify these distinctions, we refine the definitions of Crookall and Saunders (1989):

- **Games:** Structured activities with defined rules that encourage strategy development and often involve competition (Arjoranta, 2011; Hallinger and Wang, 2022, p. 12). Because they allow for meaningful engagement, players adopt a lusory mindset (Suits, 1978) and willingly accept rules, even those that make tasks uncomfortable.
- **Roleplay:** As previously seen (Lewin, 1943), social roles are interdependent, presuming, provoking, and strengthening each other. In co-created roleplays, people can safely explore the social dynamics of counter-roles (Zeintlinger-Hochreiter, 1996).

- **Simulation:** Simulations aim to accurately model and depict a particular aspect, segment, or scenario of consensus reality (Tuson, 1994) to consider the future states of their dynamic systems (Lukosch et al., 2018).

Moreover, the magic circle (Huizinga, 1955; Klabbers, 2009), surplus reality (Moreno, 1965; Watersong, 2011), shared make-believe reality (Giffin, 1984), and shared imagined space (Edwards, 2004; Fuist, 2021) are all similar terms, pointing toward the same phenomenon as pretensive reality: imaginary situations and contexts co-created by shared intentionality (Kapitany et al., 2022).

Their main difference lies in their origins and focus. The magic circle of game studies and sociology originally denoted the physical area where the artificial reality of a gaming world takes the place of the actual world and its conventional norms, ranging from football fields to imaginary tea parties. Surplus reality comes from the world of therapy and is an inversion of a Marxist expression, indicating our capability to go beyond enacting past or present life episodes to develop and heal, for example, acting out a fantasy like having a good mother instead of a bad one in the dramatic space (Moreno, 1965; Watersong, 2011). Shared make-believe reality is often used in children's studies to signal cooperative symbolic play (Bretherton, 2014). Shared imagined space comes from roleplaying game studies, describing the intersection of individual imaginations, or, in other words, how separate "pretend world boxes" (Nichols and Stich, 2000) merge through communication. Over the years, the meaning of each term has broadened, and depending on the context, they can be considered synonyms or closely related terms to pretensive realities.

Learning in Pretensive Realities

Because pretense allows individuals to gather first-hand stories in safe, controlled environments, it has the potential to be both instructive and developmental (Hartyándi, 2025c). As stated in another article, *"[p]laying in the fictional context of x is advantageous for actions in the real context of y"* (Kapitany et al., 2022, p. 8). The blurred lines between social reality and pretense make this feasible (Järvelä, 2019), as roleplaying exercises and gaming simulations involve active thinking, physical embodiment, and social co-creation (Hartyándi, 2025b). Co-constructed pretensive realities further deepen learning by fostering agency and immersive participation, producing novel cognitive, affective, and behavioral experiences that enrich both individual and group development (Kapitany et al., 2022, pp. 4-6). Unlike passive

learning methods, these experiences facilitate conceptual change (Carey, 1985) and promote deeper, double-loop learning (Argyris, 1991).

Leadership

Leadership is possibly the most frequently discussed and researched topic in management (Antonakis and Day, 2017). As the various authors disagree on a universal definition of the term, it probably comprises more models than any other type of behavioral research (Bass, 1990). Yukl provided a comprehensive summary of the various definitions and concluded that generalized leadership is *"the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives*" (Yukl, 2010, p. 26).

The terms "management" and "leadership" are sometimes used interchangeably. While they are differentiated concepts in academic literature, in practice, it isn't easy to separate leadership from management. Compare the previous leadership interpretation with the widespread management definition: "*Management refers to the process of getting activities completed efficiently with and through other people."* (Robbins, 1991, p. 5). The quotes show that leadership is often understood as management's "soft" side. This is echoed by the fact that in Hungarian management & organization studies, leadership is usually translated as "in-person management" (Dobák and Antal, 2010). This view goes back to the managerial functions identified by Fayol (1949). As a managerial function, leadership is often connected to the topic of (organizational) behavior in contingency theories (Fiedler, 1967; Kieser, 2010).

I.4.3. Design level

Various Action Methods

As structure shapes behavior (Simon, 1947), designing around pretense as a surface is possible purposefully. Action methods (not to be confused with action learning and action research) serve as an umbrella term encompassing various interactive and experiential learning methodologies that involve active participation, improvisation, and experimentation to engage participants in dynamic activities and pretensive scenarios (Kipper, 1992). Action methods aim to mirror real-life situations to facilitate learning, self-exploration, and behavioral change in many ways, to investigate and get

a deeper understanding of previous events, to view the present from a new perspective, or to investigate potential futures to practice and prepare for them (Hartyándi, 2025c).

They have many methods and formats, such as business simulations, serious games, or policy exercises (de Caluwe et al., 2012) like the famous Beer Game (Senge, 1990), applied dramatization (Steed, 2010), scenario building (Durance and Godet, 2010), preferred futuring (Bengston, 2020), and microworlds (Hoyles et al., 2002). Interactive case studies also belong here (Plakhotnik et al., 2020). For a German-language treatment of the topic, see van Ments (1998) and Schaller (2001). For a Hungarian summary, see Hartyándi (2018). The following is just a selection relevant to the thesis:

Gaming Simulations: Gaming simulations that replicate business environments differ from mathematical simulations in that they do not merely explore the consequences of existing knowledge but enable participants to investigate dynamics and scenarios that computers cannot model.

They are powerful tools for building "cognitive bridges" to the future, allowing individuals to envision alternative futures within a condensed time frame and gain a holistic view of change processes (Wenzler and Chartier, 1999, p. 379). Unlike passive reflection, gaming simulations provide visceral experiences that are deeply recorded in memory, essentially "rehearsing" the future and fostering a sense of preparedness and adaptability, particularly for leaders who need to anticipate change rather than react to it (Wenzler and Chartier, 1999, p. 377).

Additionally, they offer a safe space for experimenting with diverse strategies and solutions, expanding participants' behavioral repertoires and reinforcing learning through active engagement (Mayer, 2009). However, their effectiveness often depends on organization-specific contexts, making them difficult to generalize while remaining highly cost-effective in tailored applications (Klabbers, 2018). As structured activities designed to replicate real-world systems, gaming simulations help individuals develop problem-solving skills and test strategies in a controlled environment, enhancing decision-making and adaptability in professional settings.

Roleplaying games (RPGs), especially larps: RPGs originated with Dungeons & Dragons (D&D) in 1974 (Peterson, 2022; 2024) and are distinguished by their three-layered structure, as analyzed by sociologist Gary Alan Fine (1983). The primary layer

consists of real-world social interactions shaped by cultural norms and implicit agreements. The secondary layer represents the structured game environment governed by rules and objectives. The third layer is the imagined world, where fictional characters act based on narrative logic and in-game motivations. This interplay between reality, structured gameplay, and imagination makes RPGs unique, blending role assumption with gamification, involving all three forms of pretense.

RPGs can be classified into analog (tabletop RPGs and live-action roleplaying games, or larps) and digital (computer-based RPGs) (Zagal and Deterding, 2018). These formats vary in terms of physical embodiment and cognitive engagement. While all RPGs require significant mental effort, tabletop RPGs rely on verbal expression and limited physical movement, sitting between computer RPGs primarily using manual input and live-action roleplaying games (larps), which demand full-body participation (Hartyándi, 2025c).

Psychodrama and other formats of Morenian drama: The psychodramatic method, pioneered by Jacob L. Moreno (1934; 1949), leverages pretensive work to reveal underlying assumptions and unconscious beliefs by dramatizing them within a theatrical space or surplus reality (Moreno et al., 2000). In psychodrama, several core techniques facilitate self-exploration and interpersonal understanding (Cruz et al., 2018). *Soliloquy* allows the protagonist to verbalize inner thoughts and emotions, externalizing internal experiences, while *Double* enables a participant to express the protagonist's unvoiced feelings. Through *Mirror*, the protagonist gains self-awareness by observing their own behavior reenacted by another. *Role reversal* fosters empathy and perspective-taking as individuals exchange roles, deepening their understanding of others. Lastly, *Resistance interpolation* challenges the protagonist by introducing obstacles during enactment, uncovering and working through psychological resistance. These methods help shift focus from self-consciousness to deeper introspection, gradually turning the process into a tool for heightened self-awareness. By addressing suppressed emotions and previously unspoken thoughts, participants gain clarity about their subconscious patterns.

Serving both diagnostic and interventionist purposes, psychodrama provides a transformative avenue for self-exploration and experiential learning. Psychodrama has been applied to leadership development since the 1940s, with Ronald Lippitt (1943) emphasizing that effective leadership training should focus on changing actual

leadership behavior rather than merely increasing knowledge or shifting attitudes. One approach involves learning from real-life leadership situations through structured steps, including gaining role insight, warming up to the immediate situation, working through leadership challenges, evaluating leadership roles, re-playing scenarios, and engaging in final discussions and planning. A second approach explores fictional but typical leadership dilemmas, particularly those that provoke strong reactions, through group projection of scenarios, role assignments, and leader comparisons.

Leadership development

As Bernd Vogel and his colleagues (2021, p. 1) pointed out, the *"development of leaders and leadership is a formative research area and a considerable industry in practice"*; however, it is very fragmented. Their analysis shows that the dominant discourse is characterized by journals such as *The Leadership Quarterly, Journal of Applied Psychology, Academy of Management Learning & Education*, and highly impactful authors like Avolio, Day, and Lord. They argue that the origin of the LD field lies in practice; it has evolved around one main narrative, and that organizational behavior and leadership theory ground the LD discourse. However, they also comment that there is much to be done as LD theories are not yet comprehensively investigated, LD competency models about specific leadership styles are highly problematic (see Hollenbeck et al., 2006), and LD interventions are often researched in isolation. LD aims to improve not only the leader, but also the leadership-followership relationship and process (Day, 2000) and can therefore be understood as a phenomenon that is partly design and partly organizational level.

I.4.4. Organizational level

Various L&D Interventions

Learning and development (L&D) interventions are structured programs designed to enhance employee skills, competencies, and organizational effectiveness (Harrison, 2011). At the organizational level, L&D interventions support talent development, performance improvement, and strategic alignment. L&D interventions contribute to organizational success by fostering continuous learning, adaptability, and leadership development. In the context of L&D, pretensive action methods can be utilized for various means (Corsini et al., 1961):

- **Diagnosing**: Identifying skill gaps and organizational challenges to design effective interventions (Almeida and Buzády, 2022b).
- **Informing**: Providing knowledge and best practices through workshops and e-learning modules.
- **Testing**: Assessing the effectiveness of a behavior or strategic approach training through performance evaluations and feedback mechanisms.
- **Training**: Enhancing employee competencies through hands-on learning experiences (Almeida and Buzády, 2022a).

Leadership Development Interventions

Leadership is most effectively developed in real life rather than theoretical discussions (Lippitt, 1943). However, such interventions face several challenges of efficiency, including significant time demands, limited accessibility, and the fact that much training occurs before individuals assume leadership responsibilities. Additionally, direct approaches often trigger ego defenses, making it difficult for participants to adopt new interpersonal skills, and real-life situations rarely allow extensive practice. Moreover, traditional leadership development primarily benefits only one individual at a time, limiting broader organizational learning.

Pretensive action methods encompass structured experiential learning techniques that can address these limitations by enabling participants to focus on real leadership problems, providing trainers with opportunities for observation and diagnosis, and allowing aspiring leaders to anticipate and practice upcoming challenges. By removing the pressure of real-world consequences, action methods foster self-reflection without ego defensiveness and encourage experimentation with new leadership behaviors. Furthermore, all participants benefit simultaneously in a group setting, maximizing learning efficiency and collaborative development.

I.4.5. Human Resource

The conceptualization of employees as human resources or forms of human, social, or positive psychological capital (Luthans et al., 2004) has significantly influenced organizational strategies. This perspective emphasizes the economic value of workers' skills, knowledge, and experiences, collectively termed human capital, which is pivotal in driving productivity and achieving organizational objectives.

The evolution from traditional human resource management (HRM) to human resource development (HRD) reflects a strategic shift in managing human capital (Swanson, 2001). Initially, HRM focused on administrative tasks such as hiring, orientation, and compensation. Over time, there has been a transition towards HRD, which emphasizes strategic planning, continuous learning, and development to align employee growth with organizational goals (Thoman and Lloyd, 2018).

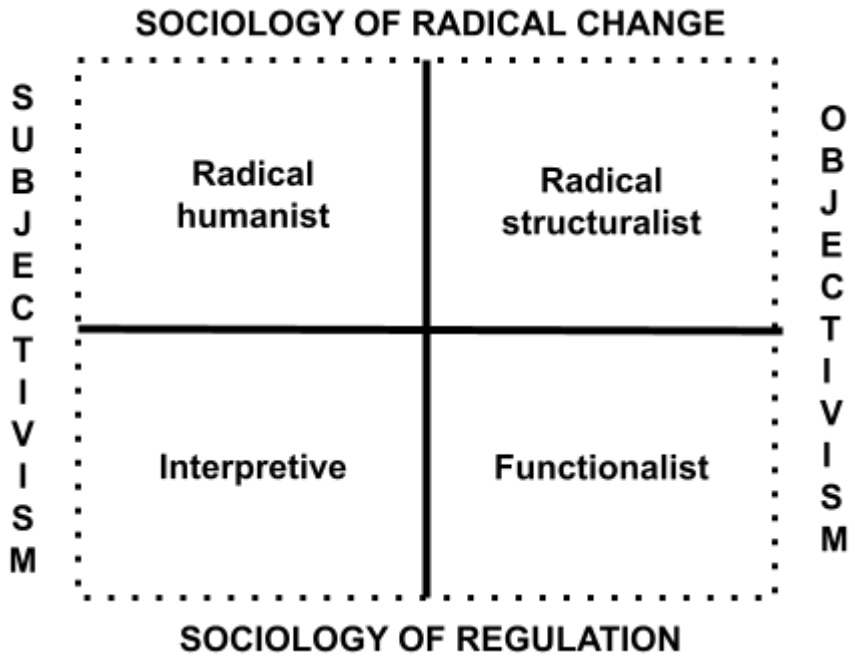
HRD distinguishes itself by concentrating on the development of individuals through training, career planning, and fostering a culture of continuous improvement. This approach enhances individual capabilities and contributes to the organization's adaptability and long-term success (Garavan et al., 2016). However, the field of HRD has faced challenges due to its evolving and sometimes inconsistent definitions, leading to confusion regarding its scope and application (McLean and McLean, 2001; Obazuaye, 2024).

HRD is realized through Learning & Development (L&D) in organizations, as it is a strategic function dedicated to enhancing employees' skills, knowledge, and competencies to improve individual and organizational performance. L&D directly supports personal growth and business success by equipping employees with essential capabilities. Integrating L&D into HRD strategies ensures employee development aligns with broader business objectives, fostering a high-performance culture (Thoman and Lloyd, 2018). Beyond its organizational role, L&D has evolved into a distinct industry, providing specialized services to large enterprises. This external dimension grants organizations access to advanced expertise and resources, optimizing workforce capabilities.

I.5. Paradigmatic stance

Gibson Burrell and Gareth Morgan (1979) attempted to map out a typology for possible sociological research based on two dimensions (Figure 6).

Figure 6: Paradigms.



Source: Burrell and Morgan (1979).

The subjective-objective dimension is about the nature of social science, and the regulation–radical change dimension is about the nature of society. The subjective-objective dimension consists of at least four factors: ontology, epistemology, human nature, and methodology. The regulation–radical change dimension postulated by the authors attempted to correct the problematic aspects of the previous order-conflict debate in social sciences.

These two dimensions constitute a 2x2 classification for possible paradigms and a *"tool for negotiating social theory"* (Burrell and Morgan, 1979, p. 8). The four resulting quadrants or zones for scientific inquiry are the functionalist, interpretivist, radical humanist, and radical structuralist paradigms. Each encompasses multiple scientific traditions but represents a distinctive approach to social analysis that is fundamentally different and mutually exclusive.

The paradigmatic stance of this dissertation is a tricky question and requires careful consideration, as co-constructed pretensive realities are multifaceted phenomena that can be researched from any research paradigm.

First, this thesis explores methods and tools that create affordances (Gibson, 1977) for learning and development, often explicitly guiding participants toward specific behaviors. As is widely attributed to modernist architect, systems theorist, and designer R. Buckminster Fuller: *"You can't change the way people think; all you can do is give them a tool, the use of which will change their thinking."* This reflects a hypothesis that structures can shape behavior (Simon, 1947), revealing an underlying assumption of objectively existing structures. Mixing this with the regulatory function of L&D and HRD designates this thesis in the functionalist paradigm.

The functionalist paradigm is rooted in the tradition of sociological positivism but is also influenced by some aspects of German idealism and post-Marxism (Burrell and Morgan, 1979). Pragmatical and problem-oriented in its approach, it is committed to social engineering. Its main branches in sociology are objectivism, social systems theory, integrative theory, interactionism, and social action theory. Still being the central paradigm in organizational analysis, its leading schools consist of objectivism, social systems theory, pluralism, and the action frame of reference theory.

But how is it possible to learn from realities that are pretended? This is possible because of the natural blurring of the boundaries between social reality and pretense (Järvelä, 2019). Because we are actively thinking, physically embodying, and socially co-creating these situations, our minds are unable to completely disconnect the experience from reality when we immerse ourselves in a gaming simulation or roleplaying exercise (Kapitany et al., 2022; Hartyándi 2025b). In contrast with mainstream functionalist research, this represents a significant shift in one of the variables of the objectivist-subjectivist dimension, epistemology. Epistemology encompasses and studies every aspect of human knowledge. One of its forms, naive realism, holds that knowledge is mind-independent, while radical idealism thinks the opposite (Haldane and Wright, 1993). Many have introduced a form of anti-realism that treats external reality as existing but somewhat hypothetical, avoiding the unprovable and often untenable positions of these extremes.

In contemporary analytic philosophy, different approaches to anti-realism were elaborated. For example, David Wiggins proposed that our conceptual frameworks somehow map reality (Ferner, 2016). This concept strengthens the modeling interpretation of pretense: The human mind maps reality, and in return, pretensive realities map some aspect of it (Duke, 1974; Kriz, 2022).

In this respect, conceptualist realism closely resembles subtle realism, an attitude Blaikie (2007) described as blurring subjectivity and objectivity. Subtle realism presupposes the existence of external reality; however, it considers this to be knowable only through the human mind and the meanings created by social constructs. This is, in fact, a form of social constructivism, a belief that the world is independent of human minds, while knowledge is always human and socially constructed (Crotty, 1998).

Stephen Hawking and Leonard Mlodinow (2010) elaborated on one of the complex views on anti-realism. Their model-dependent realism theory states that the human mind cannot access an objective reality. It can only get an approximation of it provided by the intermediary of models. They outlined the criteria of a good model but proposed that if multiple models describe a particular phenomenon, then multiple, equally valid realities exist. If multiple, equally valid realities could exist, people must somehow navigate this ambiguous complexity. By reconciling individual models, society co-constructs (social) reality.

Here, we crossed a border and arrived at the interpretivist research paradigm, where *„[k]nowledge and truth are created, not discovered by mind"* (Schwandt, 2020, p. 125). The fundamental difference between functionalist and interpretive paradigms is their approach to the nature of science. Functionalists take an objective ontological stance, combining realist epistemology with a deterministic view of human behavior. Meanwhile, interpretive scholars generally maintain a subjective stance, mixing antirealism and voluntarism (Burrell and Morgan, 1979).

The third consideration stems from the design science approach. Design science fundamentally differs from traditional natural sciences in its focus and methodology (Kuchinke, 2013). While natural sciences aim to describe and understand existing phenomena, design sciences strive to create solutions that transform current situations into preferred ones (Cross, 2001). Herbert Simon (1969) emphasized this distinction in *The Sciences of the Artificial*, highlighting that design involves devising artifacts to achieve specific goals. This approach prioritizes synthesis over analysis, employing iterative and user-centered methods to develop and refine innovative artifacts (Buchanan, 1992).

Such methodologies are particularly valuable in addressing complex, real-world problems, as they facilitate the creation of practical solutions through continuous

testing and refinement. Design sciences align closely with the functionalist paradigm by seeking to develop practical solutions through systematic, empirical research.

Suppose we break down the three publications that form the dissertation's core. In that case, we find that the second chapter details the role of gaming simulations in experiential learning, proposing an evaluation framework to assess their educational value and position them within the functionalist paradigm. The third chapter shares this stance, exploring how live-action roleplaying (larp) design contributes to leadership development.

The fourth chapter is nuanced, examining hidden assumptions and unconscious beliefs about technology acceptance and trust in generative AI. This qualitative study could be interpreted as interpretive research, aiming to understand how colleagues co-construct meaning within an organizational division. However, its explicit goal is to uncover interviewees' unconscious internal models, aligning with model-dependent realism, and the data were coded according to a pre-existing theoretical framework. These results support an institutional explanation of the adoption of AI under study.

I argue that this study resides at the subjectivist-adjacent corner of the functionalist quadrant. Due to this nuanced stance, the dissertation draws from both the instrumentalist-functionalistic approach (March 2020; Costea et al., 2005) and the ontological-interpretive perspective (Huizinga, 1955) among the theoretical schools of organizational context games (Tóth, 2022).

In summary, by combining a cautious and nuanced (anti-)realist attitude with a design science approach and a more deterministic than voluntarist perspective on human behavior, the paradigmatic stance of this dissertation can be described as self-aware and heterodox functionalism.

I.5.1. Tying co-constructed pretensive realities to organizational theories

To link the theme of this thesis more clearly to organization studies, it is necessary to show why companies might use pretensive realities in their L&D processes. A comprehensive theoretical foundation can be provided based on my earlier study on firm theories (Hartyándi, 2022a).

The focus of strategic management research has undergone several historical "pendulum swings" between internal and external factors during the past 50 years, and the degree of study has also changed "constantly and simultaneously" between the macro and micro levels (Guerras-Martína et al., 2014, p. 75.).

Based on these two dimensions, four possible quadrants emerge (see Table 1), and contemporary organizational theories can be utilized as research lenses to gain a 360-degree insight into why co-constructed pretensive realities might be used in organizations as learning & development interventions.

Table 1: Organizational theories (and their key concepts regarding competitive advantage) in contemporary strategic management research.

	Internal	External
Marco	Resource-based view (VRIN/O)	Institution-based view (influence rents)
Micro	Behavioral theories (strategic ambidexterity)	Entrepreneurial theories (dynamic capabilities)

Source: Author's own compilation, based on Guerras-Martína et al. (2014).

At the macro level, the **institution-based view** of the firm highlights the concept of influence rent, defined as "extra profits earned by an economic actor because the rules of the game of business are designed or changed to suit an economic actor or a group of economic actors" (Ahuja and Yayavaram, 2011, p. 1631).

Influence rents play a crucial role in shaping strategic competitive advantage. They can be considered a fifth type of economic rent, alongside efficiency, entrepreneurial (Schumpeterian), monopolistic, and quasi-rents (Ahuja and Yayavaram, 2011).

Formal and informal institutions shape the business environment in a complementary way, often described as a yin-yang relationship (North, 1991). While formal institutions include "laws, rules, and regulations," informal institutions encompass "culture, norms, and values" (Garrido et al., 2014, p. 83).

In the context of multinational corporations, global markets are presumed to favor firms that integrate L&D programs featuring co-constructed pretensive realities, aligning with the broader institutional environment and mimetic pressure. Moreover, action methods can be utilized to investigate and map the "rules of the game" to earn influence rents.

The **resource-based view** focuses on an organization's internal capabilities, emphasizing that sustained competitive advantage (SCA) depends on acquiring valuable, rare, inimitable, and nonsubstitutable (VRIN) resources (Barney, 2001). While the resource-based view remains a prominent theoretical framework, its knowledge-based offshoot views organizations as knowledge-integrating entities whose primary function is knowledge application (Grant, 1996).

Within this framework, co-constructed pretensive realities in L&D programs contribute to human, social, and positive psychological capital (Luthans et al., 2004) to turn human resources into VRIN assets, reinforcing the organization's ability to achieve SCA.

Behavioral theories examine micro-level decision-making processes within organizations, focusing on critical economic choices (Cyert and March, 1963). To achieve sustained competitive advantage (SCA), organizations must continuously balance exploiting existing certainties with exploring new possibilities, a dynamic capability known as organizational ambidexterity (March, 1991). Co-constructed pretensive realities in L&D interventions provide a space to practice ambidexterity in hypothetical situations.

Entrepreneurial theories explore the micro-level of organizations, emphasizing the entrepreneurial role of managers in identifying and capitalizing on opportunities in the external business environment. To succeed, organizations must develop dynamic capabilities, which are defined as *"higher-level activities that enable an enterprise to direct its ordinary activities toward high-demand uses, develop new capabilities, and effectively coordinate (or 'orchestrate') internal and external resources to address and shape-shifting business environments"* (Teece, 2016, pp. 204–205).

In this context, co-constructed pretensive realities in L&D programs provide managers and decision-makers with a safe, simulated environment to test strategies, anticipate outcomes, and refine decision-making skills, ultimately supporting the development of dynamic capabilities (Almeida and Buzády, 2024).

After clarifying the research paradigm and embedding the topic within organizational theories, I will proceed to discuss the research setting.

I.6. Research settings

In the empirical papers incorporated into my doctoral dissertation, I studied multiple settings, reflecting the evolving focus and scope of my PhD journey. The first article examined informal and **non-formal learning environments**, particularly gaming simulations and learning and development (L&D) interventions within organizations.

The second article delved into the design of live-action roleplaying games (larps) aimed at leadership development, a central theme in management & organization studies. The analyzed cases span a diverse array of contexts, including formal settings (Royal Norwegian Naval Academy, and Széchenyi István University), non-formal environments (HR conferences, the International Simulation and Gaming Association (ISAGA) Conference 2023, open and in-house training sessions), as well as informal educational opportunities (larp conventions like Knutepunkt 2021 and Kamaralarp Hétvége).

While this diversity highlights the broad applicability of leadership development larps across various educational contexts, it is essential to note that design sciences typically distinguish between the **design of an intervention** and its actual application (facilitation and instruction; Bell et al., 201). This paper focused on the design aspects rather than their implementation.

The third article focuses on a small Hungarian knowledge-intensive organization operating within the professional service sector, explicitly offering consulting services (Løwendahl et al., 2001). This study encompassed all eight full-time members of a **divisional team** and an additional member from their generative AI project team.

A unifying theme across all three papers is the foundational premise that human capital, encompassing experience, education, skills, knowledge, and ideas (Luthans et al., 2004), is paramount in **knowledge-intensive organizations** (Meso and Smith, 2000). Consequently, these organizations necessitate robust human resource development (HRD) processes, mainly through well-structured learning and development (L&D) strategies and interventions, to maintain and enhance their competitive edge (Alvesson, 2004).

I.7. Research gaps and research questions

In this segment, the text details the relevant gaps and rationale of research, culminating in the research questions. Each research question is followed by a new train of thought.

As an important note, in explanatory or descriptive studies, research gaps typically relate to missing empirical evidence, insufficient theoretical coverage, or unresolved conceptual debates (Booth et al., 2008). In contrast, design science research emphasizes "problem–solution" gaps, where the research contribution lies in creating and evaluating an artifact that improves upon existing solutions (Peffers et al., 2007; Kuchinke, 2013). In other words, gaps are framed in terms of the absence or inadequacy of useful, innovative methods, models, constructs, or systems that address relevant problems (Hevner et al., 2004; Gregor and Hevner, 2013). Where "regular" science often focuses on the rigor cycle, extending theory without necessarily producing a usable artifact (Hevner, 2007), in design science research, the identification of a research gap is tightly coupled with the relevance cycle, that is, interactions with practitioners and contexts that ensure the problem is real and the solution is applicable.

For this reason, in addition to listing traditional research gaps and supporting references, I also discuss the practical relevance of the issues. For more information on the connections between chapters, research topics, and questions, see I.9. Structure of the Dissertation (Figures 7–8).

I.7.1. Reaching an initial understanding of the field

At the very beginning of my PhD studies, I was already aware of corporate L&D applications of pretensive action methods, so I was looking for academic evidence of their connection to human resource development. While experimenting with keywords in the Scopus database, I came across Hallinger and Wang's (2020) fresh bibliometric literature review on simulation-based learning. This article contained so much relevant information that it completely disrupted my initial conceptual framework.

These insights led me to write an article to crystallize my understanding of my subject area. A conference on video games provided an excellent opportunity to explore the role of games and simulations in learning in greater depth, leading to the article in Chapter II.

As the reader will notice, this chapter is primarily concerned with game-based and simulation-based learning, with only limited direct references to management and organizational studies. This focus reflects the orientation of the original article, which examined tacit knowledge and experiential learning in informal and nonformal settings such as Learning & Development interventions. As part of the dissertation, however, the chapter functions as a bridge from game studies and learning theory to human resource development, anchoring games and other forms of pretensive action methods to topics such as organizational learning (Wenzler and Chartier, 1999) and organizational change (Tsuchiya, 2011).

More specifically, to tie my interest more closely to the established topics of my doctoral school, I attempted to bring some order to the conceptual confusion (Schaller, 2001; Feinstein et al., 2002; Kriz, 2017a), because I saw that the fragmented nature of existing literature across disciplines has hindered interdisciplinary insights (Hallinger and Wang, 2020):

RQ1 What are the well-established forms of roleplaying and other pretensive action methods in an organizational context?

By answering this question, I also found that tacit knowledge acquisition through game-based learning remained largely underexplored (van Haaften et al., 2021). A scoping review reported no standardized methodology for creating educational games and noted minimal evidence on how specific design elements influence learning (Videnovik et al., 2023), highlighting a lack of standardized methods and mappings from design to outcomes. Landers (2014) also found that studies rarely isolate or test individual game elements, as most evaluate whole games, leaving the causal role of points, narrative, feedback, etc., unclear. To answer these, I realized that I must connect it to experiential learning (Kolb, 1984), culminating in a new research question:

RQ2 How do we learn while playing?

The topic of the upcoming conference pushed me to broaden my scope from serious games (Abt, 1970) and include leisure video gaming as well. In a sense, every game is educational in that it teaches how to play itself (Hayes and Gee, 2010; Gadamer, 2004, 106; Hartyándi, 2025c). Since Learning & Development processes fall outside the scope of formal education, opening the topic to leisure games made it possible to

examine informal (e.g., team building) and non-formal (e.g., corporate training) learning settings (Coombs et al., 1973), prompting me to ask:

RQ3 Regarding their educational value, is there a radical difference between leisure and serious games?

Regardless of the exact answer, the following research question arose directly from the previous two, forming the practical question of the study. From a design science perspective, this question is relevant because it leads to an artifact: an evaluation framework that can be used to improve existing solutions (Peffers et al., 2007):

RQ4 How can we assess the learning potential of a (video) game?

Research often compares serious games only to traditional learning methods without examining how specific game elements influence learning outcomes (Mayer, 2014). Instead of that direction, I wanted to see what makes a serious game stand out. I compiled an evaluation framework from relevant sources that can be used to assess the educational potential of any game. Staying true to the conference's subject, I applied the criteria I had created to a leisure game that was still very popular then.

RQ5 What can be learned from *Minecraft*?

This short case study may seem like a tangential addition or "red tail" at the end of the article, but it served as an essential preparatory step for the next chapter. Through this exploration, I recognized that my hobby, various analog roleplaying games, could be assessed and leveraged in adult education along similar lines, forming the following nuclei in the crystallization process.

I.7.2. Drilling deeper into a specific topic

Encouraged by the previous case study and investigative framework, I sought to apply my hobby, analog roleplaying games (RPGs), to human resource development (HRD). While initially created for recreational purposes, RPGs have increasingly been adopted for educational use, mainly through the emerging edu-larp scene (Bowman, 2014; Hartyándi, 2018; Westborg, 2023). However, the research on their structured application in leadership development remained largely anecdotal.

At the 2021 Knutepunkt conference in Oslo, I met Maria Kolseth Jensen (2020; 2021), who had utilized a larp for leadership development at the Royal Norwegian Naval Academy, a moment that profoundly influenced my research direction. I connected

with Joe Lasley through international contacts, who had just defended his doctoral thesis (2020) on using tabletop RPGs for leadership development. While his work laid the necessary groundwork, the application of live-action roleplaying games (larps) for leadership development had yet to be systematically examined. Recognizing this gap, I aimed to investigate larps as a distinct form of analog RPGs for leadership development.

Parallel to research, I began to use my larp, *Memento Morrison* (Hartyándi, 2020), which had previously competed for the Otto Award at the Danish competition Fastaval 2021, for leadership development purposes, where I reframed it as the *Groundhog Leadership Experiment* (Hartyándi, 2022c). Evaluating and improving its design, therefore, became an important professional issue for me.

At the Transformative Play Seminar 2022, I met Gijs van Bilsen, and we discussed the corporate applications of larps. However, no prior studies systematically analyzed their implementation in corporate settings, highlighting the need for foundational research. Consequently, I invited him as an industry expert and co-author for my article on leadership development larps. It became evident that existing research offered little direct support for our study, necessitating a foundational literature review. Our first research question was formulated accordingly:

RQ6 What has been said about leadership development and roleplaying in the past?

Considering that many roleplaying activities in learning and development are (at least partially) embodied (Hartyándi, 2024b), larps had to be distinguished from other forms of roleplaying and pretense. The best available criteria (Fine, 1983; Harviainen, 2011) showed limitations (Hartyándi, 2024b), raising the question:

RQ7 How do larps differ from other forms of roleplaying in leadership development?

From a design perspective, we also wanted to see how the actual cases compared to our theoretical framework (Fine, 1983; Harviainen, 2011). With this mindset, we sought real-world use cases:

RQ8 What kind of leadership development larps exist?

Finally, but most importantly, we wanted to compensate for the lack of examination of specific design elements (Mayer, 2014) by exploring the intended learning mechanisms of the identified cases and then drawing practical lessons for

professionals to help them refine larp design in alignment with the nature of design science (Buchanan, 1992):

RQ9 How do larps aim to develop leadership through their design?
RQ10 How can we design better leadership development larp interventions?

While the former research question deals with past examples, the latter concerns those yet to come, thereby linking past and future from a design perspective.

I.7.3. Applying action methods to solve practical problems

As the concept of larp as a scientific framework proved too volatile to be worth pursuing further, my interest shifted to the roots of roleplaying in leadership development to determine whether there was a tangible method behind its richness of form.

I concluded a historical study on the genealogy of the term "roleplaying" (Hartyándi, 2024a), which brought me back to Jacob L. Moreno through Ronald Lippitt's (1943) article on roleplaying, specifically, psychodramatic leadership development. At the same time, I was nearing completion of my training as a psychodrama assistant, which further deepened my interest.

I was driven by a design-oriented understanding of this specific methodology and the desire to apply it to a practical and empirical case. The AI theme, which was particularly popular then, emerged in connection with the ÚNKP grant. Initially, I intended to focus on managers; however, given my interest in emphasizing the interpersonal aspects of leadership (Day, 2000), I chose to focus on a company division attempting AI adoption. This shift presented an opportunity to explore how leadership-followership dynamics influence AI integration, which remains underexplored in existing literature.

Naturally, I was compelled to integrate multiple approaches once again. I sought to examine the psychodramatic method not as an isolated practice but within its broader context. At the time, I had gained extensive experience in participatory modeling (Basco-Carrera et al., 2017). The structural similarities between constructionist modeling practices (Papert and Harel, 1991) and Morenian psychodrama made it seem likely to me that both are based on constructivist (Piaget, 1955) learning theory. This insight prompted the first question:

RQ11 What is common between constructionist modeling practices and Morenian (psycho)drama?

As humans possess bodies, I assumed that physicality and embodiment are crucial in technology-mediated relationships (Billings et al., 2012), even when dealing with a digital tool. I could only access participants' self-reported views and explicit opinions with a standard interview format (Alvesson, 2003; De Leeuw, 2008; Gauntlett, 2007), but I wanted to go deeper as I found that studies relying on survey-based approaches often fail to capture subconscious biases or affective attitudes toward AI.

I hypothesized that psychodramatic techniques could unearth hidden assumptions and unconscious beliefs, as they are able to bring unarticulated thoughts and repressed emotions to the surface (Moreno, 1934; 1949). Using this methodology, it seemed possible to understand human - AI interaction on a deeper level:

RQ12 How do people relate to an intangible entity like an AI tool?

To avoid an exploratory approach lacking direction, engaging with established technology adoption models was critical. Mainstream acceptance models like the Technology Acceptance Model (TAM, Davis et al., 1989) and the Unified Theory of Acceptance and Use of Technology (UTAUT, Venkatesh et al., 2003) were originally focused on customers, and the Technology-Organization-Environment (TOE) framework (Tornatzky et al., 1990) was too high-level to describe the conditions and processes of AI adoption in organizations, prompting a literature review on the topic:

RQ13 How can we best describe AI technology acceptance in organizations?

Finally, it is always worth comparing academic theory with (organizational) reality, which led to the last question, belonging to empirical research:

RQ14 How does this division relate to using generative AI in the workplace?

The answers to the research questions are presented in Chapter V.2.

I.8. Research methods

I provide an overview of my research methods for my dissertation-constituting papers, highlighting their specifics.

I.8.1. Narrative literature reviews

All my articles used for this dissertation include a narrative literature review. Narrative literature reviews are essential in synthesizing and interpreting existing research, especially when addressing complex topics characterized by ambiguous phenomena or heterogeneous literature. Unlike systematic reviews, which adhere to strict protocols and predefined criteria, narrative reviews offer flexibility, allowing researchers to make intellectual deep drillings or connect seemingly distant areas, constructing a comprehensive understanding of a subject (Baumeister and Leary, 1997). This adaptability was particularly valuable in my field, where research and practice are fragmented and done in silos. Inconsistent terminology and conceptual ambiguity prevail (Schaller, 2001; Hallinger and Wang, 2020), making standardized systematic approaches challenging.

I uncovered patterns and relationships that might remain obscured in more rigid review structures (Sukhera, 2022). Chapter two was one of the first articles in Hungarian to connect (video) games, simulations, and serious games as experiential learning methods with group and organization-level learning. Chapter three provides a truly comprehensive and ground-breaking summary of leadership development and live-action roleplaying game (larp) literature, including every relevant source that has come to my attention. The fourth chapter discusses theories of AI-related technology adoption that go beyond the mainstream client-based models and even draw from the parallel field of Human-Robot Interaction in relevant ways and interprets mono- and psychodrama through a modeling lens as a technique for projective qualitative research.

At the same time, various bibliometric and systematic literature review methods, which I frequently used as a starting point for my research, were invaluable in refining my focus and crystallizing my chosen topic. These approaches provided a comprehensive overview and helped identify foundational, frequently cited works. Throughout my research, I primarily relied on Google Scholar and Scopus databases; however, mere luck and the snowball sampling technique also played a crucial role in uncovering key historical texts. One example is *Roleplay in Business and Industry* (Corsini et al., 1961), which significantly reshaped my prior understanding of the field.

I.8.2. Case studies

Every journal article in this paper-based thesis includes case studies. Case study methodology is a widely used qualitative research approach that allows for an in-depth examination of complex and ambiguous phenomena. Unlike experimental or survey-based research, case studies provide a detailed exploration of a particular issue within its real-world context, making them particularly useful when the boundaries between the phenomenon and its environment are unclear (Yin, 1994).

This methodology enabled me to systematically analyze practical issues (Yin, 2003), assess them from multiple perspectives (Merseth, 1994), and ultimately contribute to theory-building or validation (Yin, 2003). I found this approach to be especially valuable for investigating novel or poorly understood subjects, as it allows for flexibility in data collection and analysis while maintaining methodological rigor through techniques such as theoretical sampling, data triangulation, and pattern matching (Pauwels and Mattyssens, 2004).

Given its ability to incorporate multiple data sources and perspectives, case study research is particularly well-suited for examining design-based problems where innovation, iteration, and contextual factors play a significant role. In design research, case studies are instrumental in uncovering the nuances of creative and emergent processes, where traditional methodologies may struggle to capture the full complexity of real-world applications.

By following a structured yet adaptable framework, such as the research steps outlined by Dooley (2002) and Klenke (2008), case study research can systematically examine how and why specific design choices influence outcomes. This process comprises defining research questions, selecting cases, determining appropriate data collection and analysis methods, preparing through researcher reflexivity, conducting data collection, analyzing and interpreting the data, reporting the findings, and establishing validity and reliability criteria.

The published version of chapter two included a case study on the popular leisure game *Minecraft*, applying the previously established evaluation framework. Chapter three employs a comparative framework synthesized from various sources to conduct a multiple case study on different live-action roleplaying game (larp) designs, assessing their potential for leadership development. It provided insights into design

methodologies, practical implementations, and participant experiences, enabling researchers and practitioners to refine best practices and improve theoretical models. Chapter four adopts a combined theoretical sampling approach to identify a critical case that enhances potential transferability and applicability to other cases by being typical, regular, and average (Flyvbjerg, 2006).

Here, monodramatic techniques derived from psychodrama were used as projective qualitative methods to collect non-evident data. Participants' internal representations become visible, tangible, and plastic during this innovative methodology in the dramatic space. These externalized internal models, comprising physical objects, behavioral cues, and verbal expressions, were regarded as artifact outputs and analyzed accordingly using thematic analysis (Holloway and Todres, 2003), enabling me to identify, analyze, and interpret patterns and themes across the entire data set.

I.9. Structure of the dissertation

The first and last sections of my paper-based dissertation serve as a framework for the specific articles presented in the middle. Chapter I outlined my PhD research and topic of study, detailing the research goals, objectives, and questions. It also discussed the paradigmatic stance, methods, and key concepts employed in my studies. Chapter V, the final one, serves as a conclusion, summarizing the contributions and future directions of the key constituent papers, followed by references and appendices.

Between these sections, in Chapters II to IV, three published journal articles form the core of my thesis. Table 2 summarizes key information about these articles, including:

- Publication details, such as title, authorship, and journal.
- Topic and context, including the pretensive action methods explored.
- Research gaps addressed and their relevance to the research questions.
- Design lens orientation.
- Literature review approach, highlighting covered management & organization studies concepts and other key models.
- Learning & development (L&D) functions covered.
- Case study methodology, including sample size, data collection, and data analysis methods.

- Findings and contributions, summarized by magnitude and type.

Table 2: Summary of articles used for this paper-based dissertation.

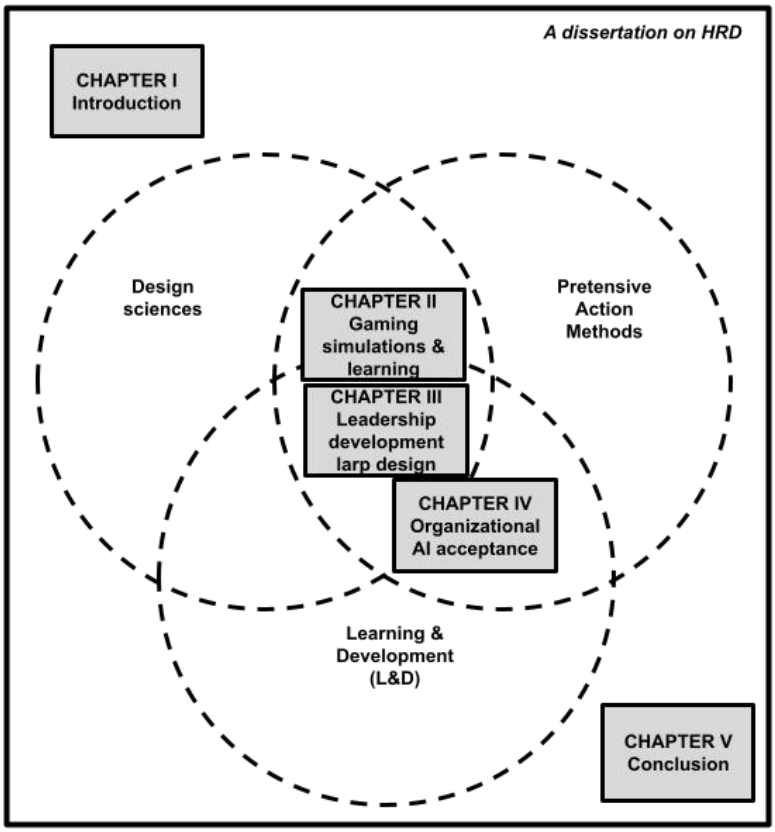
Chapter	**II.**	**III.**	**IV.**
Article	Videójátékok, szimulációk és a tapasztalati tanulás kapcsolata: avagy, Lehetséges Minecraftot játszva tanulni? [The Relationship Between Video Games, Simulations, And Experiential Learning. Is it possible to learn by playing Minecraft?]	Playing with Leadership: A Multiple Case Study of Leadership Development Larps	Distrust & Disillusionment Toward Generative Artificial Intelligence: Psychodramatic Exploration of Employee Trust in Organizational Technology Acceptance
Author ship	Single author	First and corresponding author, involving a non-academic expert co-author	Single author
Source	*In Medias Res*	*International Journal of Role-playing*	*Society & Economy*
Research period	2021	2023–2024	2023–2024
Topic	Video games & simulations	Larps	Generative AI acceptance
Pretensive action methods involved	Gaming simulations, serious games, policy exercises	Larp, RPGs	Psychodrama, modeling
Context	Informal and nonformal learning	Leadership development intervention design	Organizational technology acceptance
Research gaps	Clarifying terminology, Criteria to evaluate the learning potential of recreational games	Clarifying terminology, Leadership development larp literature, Criteria to compare leadership development intervention design	Organizational AI acceptance, Place of trust in mainstream technology acceptance models, Projective techniques to assess the unconscious
Research goal	Assessing the educational value of (video) games and simulations, and formalizing evaluation criteria	Exploring how leadership development edu-larps attempt to develop leadership through their design	Exploring employees' hidden assumptions, unconscious beliefs, and trust toward Generative AI (GAI)

Chapter	II.	III.	IV.
Design science focus	Educational design (the educational potential of games and simulations)	Educational design (leadership development)	Research design (projective qualitative methodology)
Literature review	Narrative (scoping)	Narrative (comprehensive)	Narrative (theoretical)
Management & organization studies topics covered	Organizational learning (Wenzler and Chartier, 1999), organizational change (Tsuchiya, 2011)	Leadership assessment (Branc, 2018), leadership styles, leadership development (Vogel et al., 2021)	Organizational resistance (Choi et al., 2020); organizational technology acceptance, TOE (Awa et al., 2017)
Other key concepts and models	Experiential learning, simulation-based learning, game-based learning, tacit knowledge	Human and social capital, experiential learning, process analysis, layer analysis, larping analysis	DOI, TAM, UTAUT, AIDUA, trust in robots (HRI)
L&D functions covered	Informing, Diagnosing Testing, Training	Diagnosing, Training	Diagnosing
Case study	Single case	Multiple case	Single critical case (an organizational division)
Sample size	A leisure video game	Four leadership development larps (purposeful sampling, all cases meeting criteria)	All full-time members of the organizational division (9 interviews)
Data collection	Document analysis	Document analysis, interviews with designers	Monodramatic interviews with division members
Data analysis	Evaluation framework criteria	Comparative framework (4 dimensions)	Theoretical Thematic Analysis
Findings	13 identified evaluative criteria to assess the educational potential of games (& action methods)	13 identified design dimensions (4 aspects shared, 4 other common patterns, diversity in 5 aspects)	3 identified main themes (Janus-faced presence, unmet performance expectations, avoided proximity)
Contribution	Theoretical (interdisciplinary integration; refinement), Design (design methodology development, artifact evaluation), Practical (educational)	Theoretical (interdisciplinary integration; refinement), Design (design methodology development, artifact evaluation), Practical (managerial, educational)	Theoretical (interdisciplinary integration; testing, extension, and refinement), Methodological (development and refinement), Practical (managerial)

Source: Author's own work.

Figure 7 illustrates the relationship between the chapters of this dissertation on human resource development (HRD), structured around pretensive action methods, the design science approach, and the learning & development (L&D) field. As shown, Chapter II serves as a bridge to L&D applications, Chapter III lies at the intersection of all three domains, while Chapter IV extends beyond the design science focus by not investigating the design aspects of pretensive action methods themselves but rather applying some of them in an empirical study on a specific organizational context.

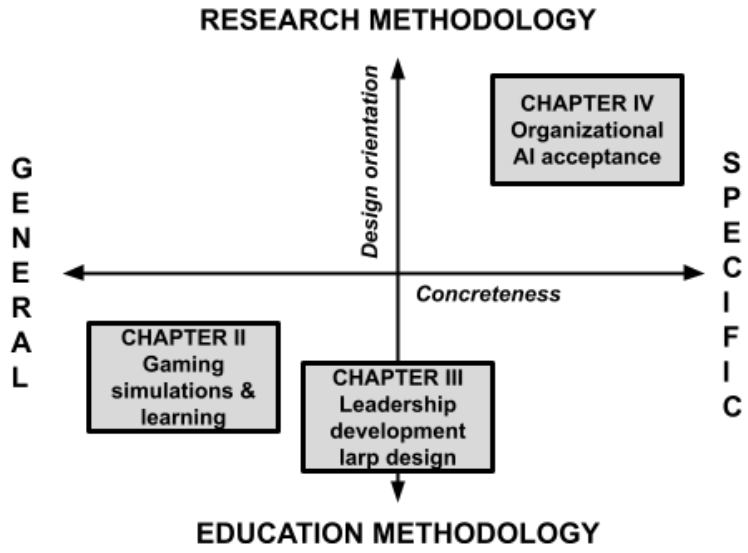
Figure 5: Structure of the thesis.



Source: Author's own work.

Figure 8 further differentiates these chapters. The Y-axis represents orientation within the design science approach, spanning from educational methodology to research methodology, encompassing non-formal experiential learning design to projective qualitative research design. The X-axis reflects the level of topic concreteness, forming a funnel: Chapter II explores conceptual issues, Chapter III focuses on the design of leadership development interventions in a general sense, and Chapter IV examines AI adoption in a specific division of a particular organization.

Figure 6: Orientation and concreteness of the papers.



Source: Author's own work.

II. THE RELATIONSHIP BETWEEN VIDEO GAMES, SIMULATIONS AND EXPERIENTIAL LEARNING: IS IT POSSIBLE TO LEARN BY PLAYING MINECRAFT?[4]

Abstract

Not only can we relate to life playfully, but we can also model different areas of life as games. It is perhaps no coincidence that research on the learning potential of simulations coincides with the advent of the first video games. Their cross-section, serious gaming, is a phenomenon that has been around for at least half a century. However, can we learn from a leisure game? If so, what and how? Literature on these topics has developed in several ways, in parallel. This paper aims to provide a comprehensive picture of the relationship between leisure video games and informal and experiential learning by finding commonalities between them. It also attempts to outline the theoretical foundations of a set of criteria for their evaluation. The study is based on a secondary research project elaborating on *Simulation & Gaming*, a journal decisive for the subject. A narrative literature review of three related topics can be found below. By analyzing the so-called serious games, in other words, gaming simulations for learning purposes, it is possible to identify various functional mechanisms and criteria that can be used to assess the learning potential of recreational video games.

II.1. Introduction

Years after the cultural panic surrounding video games has subsided, the societal status of video gaming remains ambivalent. In *Man (Dis)connected*, Philip Zimbardo (2015) attributes the "decline of masculinity" to a triad of influences: video games, pornography, and drugs. The World Health Organization further cemented concerns by officially recognizing "gaming disorder" (excluding gambling addiction) in the 11th revision of the International Classification of Diseases (ICD-11, 2018).

[4] Published as Hartyándi, M. (2021b) Videójátékok, szimulációk és a tapasztalati tanulás kapcsolata: avagy, Lehetséges Minecraftot játszva tanulni? [The Relationship Between Video Games, Simulations, And Experiential Learning. Is it possible to learn by playing Minecraft?] *In Medias Res*, 10(1), 39–55. https://inmediasresfolyoirat.hu/imr/article/view/221

Meanwhile, with the rise of smartphone gaming, digital games have become more accessible than ever, reaching an unprecedentedly broad audience. Beyond entertainment, games have expanded into various sectors. According to Gartner's Hype Cycle, interest in *gamification*, the integration of game elements into non-game contexts, peaked around 2013–2014, drawing significant attention to its potential applications. Since then, the initial hype has subsided, paving the way for more in-depth research on the subject.

Within academic circles, the effectiveness of purpose-built educational games and gamified tools is now widely accepted. A more intriguing question, however, is whether entertainment-driven video games, originally designed for leisure, can also serve educational purposes. Among these, *Minecraft* (Mojang, 2009), a pixelated, block-based 3D game offering various modes of play, has been particularly celebrated. Media narratives surrounding *Minecraft* often portray it as an all-encompassing educational tool (Thompson, 2016). Some sources claim that beyond fostering essential life skills such as autonomy, creativity, problem-solving, and collaboration, it also enhances career competencies (e.g., business principles, STEM subjects, global awareness) and even key academic skills crucial in formal education, including literacy, mathematics, and history (IDTech, 2016). Given such claims, it is reasonable to ask: *What exactly can be learned through gaming?* Can children acquire valuable skills simply by playing *Minecraft*?

This topic spans multiple disciplines, including game studies, education, learning theories, and design sciences. Research in these areas progresses along several parallel trajectories (Hallinger and Wang, 2020). However, attempting to cover all these dimensions in a single study would risk superficiality or exceeding the scope of this paper. Instead, I approach the question through a research project conducted at Corvinus University of Budapest, which investigates the management and organizationial applications of simulation-based learning (Hartyándi, 2021a). This project primarily relies on literature from *Simulation & Gaming*, a leading journal in the field. Over half of the Scopus-indexed research on simulation-based learning originates from this journal, which has been a cornerstone of digital game research for over fifty years (Nguyen and Hallinger, 2020).

Through reviewing the most cited articles, I began to suspect that insights from serious educational simulations and learning games might also apply, albeit with some

modifications, to entertainment-driven gaming. To be clear, I do not claim that educational simulations and leisure games are identical. Rather, I propose that the rigorous criteria applied to assessing educational games' effectiveness can also serve as a framework for evaluating entertainment games. Furthermore, I hypothesize that these criteria could help identify general principles governing learning outcomes and effectiveness across game types.

The following sections will review relevant literature within this framework. First, I will clarify fundamental concepts and research directions before delving into three major thematic areas. I begin by defining *simulations* and their operational mechanisms, followed by an exploration of the literature on simulation-based learning, grounded in experiential learning theory. Second, I discuss *serious games*, a subset of simulation games designed for educational purposes, covering their definition, history, characteristics, and effectiveness. Third, I examine the connection between leisure gaming and informal learning, assessing the potential for acquiring knowledge through entertainment video games. Finally, I outline some research using games and simulation that focuses on organizational learning, and then I will examine to what extent and how the results can be applied to a multiplayer recreational video game, *Minecraft.* The study concludes by summarizing key findings, outlining connections between leisure games and structured learning, and suggesting future research directions.

II.2. Conceptual Framework: Game and/or Simulation?

What defines a game? While this may seem like a straightforward question, even Ludwig Wittgenstein left it unresolved, and no universally accepted definition has been established since (Arjoranta, 2011). The ambiguity is further compounded by the lack of consensus within academic circles regarding key terminology. As early as the turn of the millennium, Andrew Feinstein and colleagues (2002) pointed out that terms such as *game*, *roleplaying game*, *simulation*, and *scenario exercise* are often used imprecisely and interchangeably in academic literature. Even within specialized fields, expressions like *gaming simulation*, *gaming & simulation*, and *gaming/simulation* are frequently used inconsistently (Kriz, 2017a), sometimes treated as synonymous despite their distinct meanings (Hallinger and Wang, 2020, p. 12). The emergence of *gamification* in the early 2010s only exacerbated this confusion (Klabbers, 2018).

Moreover, in the Hungarian language, the distinction between *game* (structured rule-based play) and *play* (a more freeform, spontaneous activity) is not as clearly delineated as in English (Hartyándi, 2018).

To clarify these concepts, I turn to an established definition. According to David Crookall and Danny Saunders (1989), games do not necessarily relate to real-world situations but always contain strategic elements, as competition within a set of rules naturally leads to winning and losing strategies. This characteristic is fundamental to most digital games, including video games. Simulations, in contrast, do not always involve strategic decision-making; instead, they create a fictional reality through representations. In simulations, participants act *as if* they were in a different setting and engage with objects *as if* they were something else. Often, this extends to assuming a different identity, further deepening the pretense (Hartyándi, 2018, p. 374). To illustrate this distinction, an ancient parable provides an apt analogy.

Many people know that, according to the Chinese zodiac, the Year of the Ox began on February 12, 2021. However, fewer are familiar with the legend explaining why the ox became the second animal in the zodiac. According to the story, the animals held a race to determine which could swim across a great river the fastest, with the winners earning a place in the zodiac. Given its strength and swimming ability, many expected the ox to win. However, before the race, the clever rat asked to ride on the ox's back. The kind-hearted ox agreed, unaware that just before reaching the shore, the rat would leap off and touch land first, securing first place while the ox finished second.

This fable serves as a useful metaphor for distinguishing between games and simulations. The swimming race itself involved competing strategies, making it a rule-based game. However, anyone assuming the race was purely about swimming ability would have been misled, the outcome was not solely determined by physical skill, proving that the event was not a simplified simulation of real-world swimming. However, the distinction is not always so clear-cut. Many games incorporate elements of simulation. For instance, most 3D video games simulate real-world physics, while sports games attempt to replicate the mechanics of actual sports matches. Similarly, many simulations, regardless of how they are presented, incorporate game-like elements, allowing for strategic decision-making within a model that represents real-world systems.

The frequent pairing of the terms *game* and *simulation* reflects their close relationship in practice. As Jan Klabbers (2018, p. 2019) observes, *"the generic structures of games* [consisting of actors, rules, and resources] *and social systems are synonymous."* In other words, not only can we adopt a playful approach to life, but we can also model various aspects of life through games. Similarly, game designer Vincent Baker (2017) has stated that he and many of his peers create games to *"examine, explore, understand, and explain dynamic systems."* Given the interplay between rule-based games and simulations, it is perhaps no coincidence that research on the educational potential of simulations emerged around the same time as the first video games. The overlap of these two domains gave rise to the field of *serious games*, which has been a recognized phenomenon for at least half a century (Faria, 1998). The following sections will explore these concepts in greater detail.

II.3. Simulations

II.3.1. Literature on Simulation-Based Learning

Before delving into the topic, it is essential to examine the academic status of simulation-based learning, as several comprehensive reviews have been published in recent years. Philip Hallinger and Ray Wang (2020) conducted an extensive bibliometric analysis of the Scopus-indexed literature on simulation-based learning, examining 2,812 documents published between 1965 and 2018. Their findings can be summarized in four key points:

1. Research on simulation-based learning is experiencing rapid growth, with 90% of peer-reviewed publications emerging since 2000. This accelerating expansion and high citation rate indicate that the field has developed into a substantial and credible body of knowledge.
2. Literature can be categorized into four main streams: (1) simulation-based learning in management education, (2) simulation-based learning in healthcare education, (3) technology-enhanced simulation-based learning, and (4) theoretical perspectives on learning.
3. The conceptual core of the field is situated within the learning theory stream, leading the authors to interpret simulation-based learning not as an independent discipline (Crookall, 2010) but as a subfield of education.

4. There is minimal connection between the research streams on healthcare education and management education, with studies in these areas developing in isolated, parallel silos, contributing to the fragmentation of knowledge.

II.3.2. The Mechanisms of Simulations

Now, let us turn our attention to the functioning of simulations. As previously mentioned, simulation-based learning is possible because simulations mirror certain aspects of reality (Hartyándi, 2018, p. 374). This is achieved by constructing *isomorphic models* of real-world systems, reduced representations that maintain structural similarity with the original context (Tuson, 1994). In practice, this structural equivalence can take many forms. Simulations do not merely replicate reality through visual or linguistic means but can convey complex phenomena in an immersive and holistic manner. With skilled design, even abstract concepts and intricate scenarios can be rendered into experientially engaging formats. Such presentation techniques are more likely to evoke emotional reactions, which, in turn, enhance memory retention and cognitive processing.

Due to the variety of representational forms within structurally identical systems, a simulation may sometimes appear unrecognizable compared to its real-world counterpart. This apparent divergence can be a deliberate design choice, allowing for the indirect presentation of sensitive or difficult topics. For instance, my designed simulation *The Settlers of Mars II* introduced participants to the lived realities of extreme poverty by framing the experience within a science-fiction narrative about colonizing a distant planet (Hartyándi, 2017). Whether a simulation closely resembles its source material or not, its structural alignment ensures that on a deeper level, it replicates the same dynamics and relationships. (Tuson, 1994, p. 60.) In reality, the mechanism of simulations is even more intricate, as they blur the distinction between simulation and participant, object and subject.

For a simulation to function effectively, active participation is required; engagement reinforces the artificial reality constructed within the simulation. Thus, unlocking the learning potential of simulations depends not only on the alternative reality they create but also on the presence of participants who interact with and bring them to life. While simulations are expected to authentically model certain aspects of reality, participants must recognize these elements and engage with them to animate the experience.

II.3.3. The Process of Simulation-Based Learning

As discussed earlier, simulations incorporate multiple layers of *as-if* engagement: a fictitious environment, fictitious objects, and, in some cases, fictitious roles (Hartyándi, 2018, p. 374). This structure provides a safe space for participants to experiment with decision-making and behaviors without real-world consequences. It enables them to explore their existing behavioral repertoire, test new strategies, and expand their competencies. This effect is particularly pronounced when simulations do not impose performance-oriented goals or winning conditions but instead maintain an open-ended system. In such cases, participants derive satisfaction not from success within the simulation but from engagement itself, encouraging them to take risks and experiment with suboptimal strategies (Cherif and Somervill, 1995). This hybrid approach, part play, part serious experimentation, can enhance participants' agency, adaptability, and empathy.

Now that we have outlined the meaning and mechanisms of simulations, it is possible to explore their role in learning. The process of game- and simulation-based learning extends beyond mere participation (Kriz, 2003). It ideally includes *briefing*, *contextualization*, *goal setting*, and *instruction* before the activity (Mayer and Johnson 2010), followed by *debriefing*, *group reflection*, *evaluation*, and *knowledge consolidation* afterward (Granic et al., 2014). In an optimal setting, the gameplay experience is embedded within a broader learning supporting framework (Garris et al., 2002). From this perspective, games and simulations function as catalysts within the learning process, facilitating deeper engagement and understanding (Greenwald, 1970).

II.3.4. Experiential Learning and Tacit Knowledge

The structured learning framework surrounding simulations is fundamentally a form of *experiential learning*. According to David Kolb's classical definition, experiential learning begins with a concrete experience, which is then processed through reflective observation, leading to the formation of abstract conceptualizations. These conceptual constructs are subsequently tested in real-world practice, completing the experiential learning cycle (Kolb, 1984). This approach integrates perception, cognition, and behavior into a unified model of learning.

It is important to note that experiential learning does not always entail deliberate, goal-driven activities. While reflection on experiences is an inherent component, this does not always equate to conscious self-reflection or explicit articulation of learning. People often acquire knowledge and skills without being fully aware of their origins or being able to verbalize them effectively.

This phenomenon is known as *tacit knowledge*, referring to the idea that individuals often know more than they can tell. Tacit knowledge comprises deeply personal, subjective experiences that may not be easily articulated but are nonetheless applicable in practice. This is why fields such as management and medicine highly value professionals with extensive implicit know-how, even when they lack explicit theoretical knowledge (Haldin-Herrgard, 2000). Research suggests that games and simulations may serve as effective tools for surfacing and structuring tacit knowledge (van Haaften et al., 2021). When the experiential learning cycle is deliberately facilitated, using structured learning communities and professional guidance, experiential learning reaches a higher level of refinement. Simulation-based learning, in this sense, has the potential to fully harness and enhance the principles of experiential learning.

II.4. Serious Games

II.4.1. A Brief Conceptual History

The term *serious game* was first introduced in 1970; however, to fully grasp its meaning, one must look further back in history. After World War II, particularly in the 1950s, business simulation games gained traction both in application and research, leading to the establishment of several influential research groups and academic journals that continue to shape the field today (Kriz, 2017b). Within this context, Clark C. Abt (1970) introduced the term in his book *Serious Games*, defining these games as those with explicitly stated and carefully designed educational or instructional purposes.

At first glance, the phrase *serious game* might seem like an oxymoronic contradiction of terms. However, this conceptual tension likely contributes to the term's attention-grabbing nature. Johan Huizinga (1955), a pioneer in the scholarly study of play, argued that the concept of play is broader and more elevated than seriousness, suggesting that they are not fundamentally opposed. Moreover, the choice of wording

may have been driven by marketability; framing these games with a serious tone made them more appealing in business contexts.

The first critique of the term emerged within the same decade. Ron Stadsklev (1979) analyzed Abt's work and criticized it for its conceptual vagueness, noting that Abt failed to clearly differentiate between games and simulations. Moreover, Stadsklev pointed out that the book lacked the citations and bibliography necessary for academic rigor. He argued that *serious games* seemed more like a marketing tool for Abt's company and its products than a legitimate research agenda.

One of the simplest and most widely recognized forms of serious games is the *quiz game*, an example being *Honfoglaló* (THX Games, 2002), a popular Hungarian trivia game in which players compete to capture territories by correctly answering quiz questions. A more technically and content-rich example is *FLIGBY*, which applies Mihály Csíkszentmihályi's flow theory to a leadership development simulation, allowing players to manage a family-owned winery while testing and measuring fundamental leadership skills (Buzády and Almeida, 2019).

Over time, business games and simulations designed to support managerial training and decision-making became increasingly widespread. Initially, serious games encompassed both analog and digital formats. However, with technological advancements, particularly the rise of personal computers, the term gradually became more associated with digital applications. This shift is reflected in Michael Schrage's (2000) concept of *serious play*, which referred specifically to policy exercises and simulations conducted within private corporations.

A pivotal moment in the evolution of serious games came with the release of *America's Army* (United States Army, 2002), the first serious game to achieve mainstream success in the entertainment market. Funded by the U.S. Army as a recruitment tool, this military simulation game provided players with a realistic digital environment to experience the daily lives, responsibilities, and combat scenarios of American soldiers. The game's immense popularity was likely amplified by the 9/11 terrorist attacks and the subsequent U.S. government response. With multiple sequels, *America's Army* significantly contributed to the wider adoption of serious games.

This success led to a further transformation of the concept: *serious games* became increasingly synonymous with digital applications, while their strict focus on

education relaxed. For example, Ben Sawyer and Peter Smith (2008) classified any use of gaming industry resources for non-entertainment purposes as a *serious game*, further broadening the definition.

The proliferation of smartphones over the past decade has further accelerated the spread of serious games. At the same time, the concept has faced renewed criticism. Jan Klabbers (2018) argued that the term should be abandoned in academic discourse, contending that it is merely a fashionable buzzword lacking internal consistency. Others, however, have defended the idea, asserting that playfulness and seriousness are not mutually exclusive but rather describe different, complementary dimensions of the same activity (Deterding, 2016). Playfulness and enjoyment are elements of the *experience*, whereas seriousness refers to the *intended goal*. This distinction explains why even high-stakes gambling, despite its life-altering consequences, can still be an enjoyable activity (Clapper, 2018).

II.4.2. Categorizing Serious Games

Various contemporary definitions and classifications of serious games provide valuable insights into their scope. For instance, Zoltán Buzády and his colleagues (2015) position serious games at the intersection of games, simulations, and learning. From this perspective, serious games can be understood as gamified training exercises, simulation-enhanced edutainment, or educational simulation games specifically designed for instructional purposes.

A similar framework exists within applied practice. Belén Gómez and colleagues (2017) identify four key components that converge in serious games: (1) educational content, (2) game mechanics with serious intent, (3) storytelling elements, and (4) entertainment features. This integrative perspective highlights how serious games can combine the best aspects of e-learning, gamification, and video games.

Given these models, one might get the impression that *serious games* is an umbrella term covering a wide range of applications. In response to this conceptual ambiguity, Christoph Deterding (2016) sought to distinguish serious games from other playful methodologies. He argues that serious games share similarities with broad gamification in that they are designed for *serious* purposes rather than purely for entertainment. However, they differ in that, unlike gamified processes, serious games constitute *fully-fledged games*, providing authentic gaming experiences.

Considering the historical evolution of the term and the accelerating pace of technological advancements, it is reasonable to predict that serious games will continue to grow in significance. Emerging innovations in virtual and augmented reality are likely to shape the next wave of developments in this field.

II.4.3. Effectiveness of Serious Games

There is a broad consensus in the educational literature that game-based learning is effective (Nadolny et al., 2017). However, researchers continue to debate which specific characteristics of games contribute most to their educational impact. Over time, various models have attempted to pinpoint these factors.

One of the earliest frameworks was developed by Rosemary Garris and colleagues (2002), who identified several key elements that contribute to the effectiveness of game-based learning: rules and objectives, sensory stimuli, fantasy, challenges, a sense of control, and mystery. Wendy Bedwell and colleagues (2012) expanded on this approach, proposing a more comprehensive taxonomy with *nine dimensions* of game-based learning:

1. User interface for interaction (*"Action Language"*)
2. *Assessment* and feedback provided by the game
3. *Conflicts and challenges* within the game
4. Sense of *Control* and agency for the player
5. *Immersion* in the game environment
6. *Environment* and setting of the game
7. Degree of *Fictionality* in the game world
8. Modes of *human interaction* between players
9. *Rules and goals* guiding gameplay

Azita Jabbar and Patrick Felicia (2015) later refined this model into four fundamental factors: interactive, fun, motivational, and multimedia elements. A key ongoing debate concerns the optimal balance and integration of these game elements. One of the primary challenges is that serious games are typically evaluated only in comparison to traditional learning methods (Mayer, 2014). The didactic role of specific game

elements has not been fully examined, although this is beginning to change in response to the rise of gamification (Landers, 2014).

A study by Nina Imlig-Iten and Dominik Petko (2018) investigated whether digital serious games produced significantly different motivational and learning outcomes compared to non-game-based educational simulations. Their quantitative research, conducted with 153 Swiss elementary school students, found no statistically significant differences between the two formats in terms of controlled learning outcomes, self-reported learning gains, or motivation levels. However, serious games outperformed non-game simulations in *deep thinking* (i.e., cognitive engagement), as measured through self-assessment surveys. In other words, serious games were more effective in capturing students' attention and eliciting greater cognitive effort.

While their findings align with other studies (Landers and Armstrong, 2017), it is important to acknowledge the limitations of their research, particularly the small sample size and methodological constraints. Nonetheless, their study highlights a critical issue in serious game design: the shallow integration of game mechanics. Simply layering game elements onto a simulation does not necessarily enhance learning outcomes (Landers, 2014). In some cases, poorly integrated game mechanics may even be detrimental. For example, if game mechanics feel out of place, they can disrupt immersion, while overly engaging mechanics may distract players from educational content (Mayer, 2014).

Andreas Lieberoth (2015) coined the term *shallow gamification* to describe such ineffective implementations. In contrast, *deep gamification*, where game elements are seamlessly integrated with learning objectives from the very beginning of the design process, offers greater potential for success. From this perspective, designing an effective and engaging serious game requires expertise not only in education but also in game design (de Caluwé et al., 2012).

II.5. Informal Learning

Can entertainment-focused games serve as learning tools? To answer this question, it is essential to examine the concept of informal learning. The distinction between formal, non-formal, and informal learning is often based on the learning environment (Coombs et al., 1973). Different modes of learning occur in public education, paid training courses, and self-directed exploration, such as browsing the internet or

visiting a museum. However, these distinctions can also be made based on whether the learner intends to learn and the degree of control they have over the learning objectives and processes (Iacovides et al., 2014).

From this perspective, it becomes evident that entertainment games can facilitate learning not only within formal and non-formal settings but also through self-directed engagement at home. Learning from such games can be either intentional or incidental. The same applies to serious games. Thus, the fundamental distinction between entertainment and serious games is not necessarily in *how* or *where* they are used but rather in *how* and *why* they were designed (Clapper, 2018).

If this premise holds, it follows that the learning principles applied to serious games can also be extended to entertainment games. After all, the criteria for simulation-based and game-based learning should be independent of the designer's original intent. Therefore, the academic benchmarks used to evaluate serious games, and educational simulations can also be examined in relation to entertainment games.

Furthermore, the learning environment itself does not inherently dictate the learning supporting framework. For instance, informal learning settings can still involve structured preparation, guided reflection, and deliberate framing of experiences. Conversely, in formal learning environments, these essential instructional elements, such as guidance and debriefing, may be absent or insufficient. Conceptually, therefore, the distinction between different learning environments is not as significant as it may seem; rather, the actual learning process depends on how these environments are utilized in practice.

II.6. Group-Based Simulations

In multiplayer video games, social dynamics such as competition, cooperation, and teamwork significantly influence action-based learning. Although research on game- and simulation-based learning has traditionally focused on organizational settings, its findings are broadly applicable to collective learning experiences, including those in entertainment multiplayer video games. The following section adapts three key studies from organizational learning literature to explore their implications for entertainment gaming.

II.6.1. Organizational Learning Perspectives on Games and Simulations

Ivo Wenzler and Don Chartier (1999), in an early paper on organizational learning, highlighted the positive impact of games and simulations on communities. Reformulating their claims into questions relevant to entertainment gaming, we can ask:

- Do shared learning experiences within games foster a collective knowledge base among players? Does team-level knowledge emerge from group gameplay?
- Do games enhance symbolic thinking and Gestalt understanding, helping players perceive the big picture of a phenomenon and its broader context?
- Do games allow players to experiment with and rehearse possible future scenarios, improving their preparedness for real-world situations? (Hartyándi, 2021a)
- Do rapid in-game successes enhance players' motivation and initiative?

If the answer to any of these questions is yes, then entertainment video games share at least some of the educational mechanisms of serious simulations. Notably, only the first factor is strictly group-dependent, while the remaining three can also occur in single-player games. This suggests that organizational learning is essentially a synthesis of individual learning experiences, which, under optimal conditions, can result in more than the sum of its parts.

A decade later, Shigehisa Tsuchiya (2011) investigated computer-based simulations designed to facilitate organizational change. He formulated a similar set of criteria, which can also be applied to video games:

1. Do games allow players to share their experiences with others?
2. Do they expand players' interpretive frameworks, reshaping how they perceive problems?
3. Do they broaden players' learning horizons, facilitating conceptual shifts?
4. Do they provide a risk-free environment for experimentation?
5. Do they accelerate learning through immediate and clear feedback?

Interestingly, the first four criteria align closely with those proposed by Wenzler and Chartier, with the final criterion, feedback speed, representing a novel addition. Tsuchiya argued that computer simulations support double-loop learning by enabling

participants to build a shared mental model of a given situation. Regarding effectiveness, he identified three primary conditions:

- Are the chains of command and directions clear?
- Do team members freely express their opinions?
- Are participants encouraged to provide and accept suggestions?

It is reasonable to assume that, apart from the first condition, these factors are often more easily realized among frequent online gaming teammates than within corporate settings.

Finally, Leon de Caluwé and colleagues (2012) synthesized key methodological characteristics of simulation-based research in the Dutch game and simulation studies tradition. Their findings closely align with those of the previous two studies but offer a more detailed and structured analysis of effectiveness criteria. Reformulated as questions, these include:

A. *Replication*: Do games allow multiple attempts, fostering bold experimentation and alternative strategy testing?
B. *Systematic Variations of Conditions*: Can players adjust different variables (akin to sliders) to understand their effects on a system?
C. *Eliminating Sources of Variance:* Can unnecessary factors be gradually eliminated to isolate key causes and effects?
D. *Simplified Situation*: Do games transparently distinguish between core mechanics and superficial details?
E. *Time Compression, Feedback, and Evolution:* Do games provide rapid feedback, allowing players to quickly adjust their strategies?
F. *Interaction Density*: Can the pacing of interactions be adjusted to suit different learning needs?
G. *Openness*: Do emergent, unexpected behaviors arise, revealing complex dynamics that might be harder to observe in real-world settings?
H. *Social and Psychological Realism*: Do games authentically depict social systems, allowing players to immerse themselves fully and transfer insights to real-world contexts?

II.7. *Minecraft* as a Learning Tool?

Building on the preceding chapters, I return to the core question posed in the subtitle: Is it possible to learn through playing *Minecraft*? Drawing on the insights of renowned educational researcher John Hattie (2009), it is reasonable to assert that almost any teaching and learning method can be effective, but the extent of their effectiveness varies. The following sections provide a brief introduction to the game before evaluating it through the five primary and eight additional learning criteria discussed earlier.

Minecraft consists of five distinct gameplay modes, allowing players to switch between them seamlessly. In spectator mode, players can observe the game world as intangible, invisible entities, freely exploring and witnessing other players' activities. Creative mode enables unrestricted building, allowing users to construct structures using an infinite supply of virtual building blocks. Survival mode, the game's most well-known and versatile form, blends multiple traditional video game genres. Here, external challenges such as resource scarcity and adversarial opponents emerge. Players must explore, mine materials, manage hunger, and avoid hostile creatures; failure to do so results in "death," requiring them to restart or rebuild lost progress. For more advanced players, hardcore mode intensifies these challenges by increasing enemy difficulty and eliminating respawning. Finally, adventure mode is designed for narrative-driven gameplay, allowing players to guide each other through curated experiences. This mode enhances the game's potential for structured storytelling and designed player experiences. Furthermore, the ability to mod (modify) the game at a programming level reinforces a designer-oriented mindset, enabling advanced customization.

Like many video games, *Minecraft* provides immediate and clear feedback on player actions within the game world. This feedback loop (Criterion 5, E) helps players refine their behavior, fostering in-game skill development. Additionally, the game's built-in tutorial ensures a low entry barrier, allowing beginners to quickly achieve success. At the same time, Minecraft's complexity and variety provide an expansive learning curve, which is a significant motivational factor—as evidenced by the numerous large-scale projects created by its community.

Like other open-world games, *Minecraft* excels in repeatability and experimentation (Criterion A). In creative mode, players can construct, demolish, and rebuild freely without significant consequences, while in survival mode, multiple strategies can be tested to overcome challenges. Exploring and combining different blocks (Criterion B) allows players to understand the game's physics (Criterion 3), further reinforced by emergent phenomena arising from game mechanics (Criterion G). Players can also deconstruct and analyze constructions made by others, thereby enabling variance restriction (Criterion C). Additionally, switching between gameplay modes provides a limited degree of interaction density control (Criterion F).

In summary, *Minecraft* supports the comprehension and application of fundamental principles related to design, construction, collaboration, and resource management (Criterion 2). While the game itself does not inherently promote knowledge-sharing and community-building (Criterion 1), its surrounding culture does. This is evidenced by over 160 million YouTube videos featuring *Minecraft*, including more than 60 million tutorial-based videos, and over 200 billion total video views (Wyatt, 2020). Moreover, the knowledge exchange extends to physical formats such as magazines, books, and educational camps.

The most critical question in assessing *Minecraft*'s learning potential is its social and psychological realism (Criterion H). While the game possesses strong internal consistency and immersion, estimating the transferability of its in-game experiences to real-world applications remains difficult. The block-based abstraction (Criterion D) provides a clear visual structure but only superficially represents physical reality. Consequently, the knowledge acquired in-game is applicable to real-world scenarios only within certain constraints and through indirect means. This limitation is reinforced by the release of Minecraft's specialized Education Edition, designed for classroom use, which includes features for modeling laboratory environments (Stuart, 2016).

As a recreational game, *Minecraft* fosters general competencies and provides valuable perspectives. However, one should be cautious about directly applying its principles to real-world construction—after all, a house built according to *Minecraft*'s logic might not stand for long.

II.8. Conclusion

At the outset of this study, the central question was whether, and how, video games facilitate learning. This inquiry was explored through the intersections of simulations, serious games, and experiential learning. The analysis revealed that distinguishing between complex games and simulations is often challenging, as many video games blend these elements to varying degrees.

The study then examined the mechanisms of simulations, showing that they enable experiential learning by preserving the structural integrity of real-world systems in an isomorphic model. With advancing technology, simulation-based learning has gained increasing attention, as evidenced by the expanding body of academic literature.

Following this, the study traced the historical development of serious games, framing them as educationally motivated simulations that serve as benchmarks for assessing entertainment games' learning potential. However, the comparison between serious games and non-gamified educational simulations revealed persistent ambiguities. It remains an open question how game elements contribute to learning. Some aspects of simulation-based learning may be mistakenly attributed to games, while others might only be effective when game mechanics are deeply integrated into the design.

Finally, insights from organizational learning literature were used to establish criteria for assessing the learning potential of multiplayer entertainment games. The findings indicate that, despite their diverse formats, video game-based simulations likely rely on a limited set of effectiveness factors. A comparative content analysis of multidisciplinary literature on video games, simulations, and experiential learning could help identify game methodology cornerstones that allow for assessing both serious and entertainment games in terms of learning potential.

Acknowledging the study's limitations, it is important to note that this is not an exhaustive systematic review of the literature. The research was framed within the academic discourse of *Simulation & Gaming* and focused on three interrelated themes identified within that corpus. While potential objections to the definitions used have been noted, a more critical examination of these concepts remains an open avenue for future research.

This suggests promising directions for further inquiry. One possible line of research could explore how game designers and theorists conceptualize serious games and

simulations and how these ideas evolve within professional communities. Another could involve formalizing and empirically validating the proposed assessment framework, allowing for a systematic evaluation of both serious and entertainment games based on their learning potential. Additionally, future studies could investigate how game-based simulations contribute to surfacing and refining tacit knowledge, thereby supporting strategic decision-making.

Applying these insights to *Minecraft*, it can be concluded that engagement with the game effectively supports informal experiential learning in various ways. However, due to the significant divergence between the virtual game world and real-life environments, estimating its direct practical benefits and effectiveness remains challenging. While the format clearly facilitates learning, the practical validity of its content remains questionable, necessitating further research. Conclusive answers regarding its long-term educational impact can only emerge as the so-called "Minecraft generation" enters adulthood and becomes a dominant segment of the workforce. In the coming decades, we will see what kind of world they build, this time, in the physical reality.

III. PLAYING WITH LEADERSHIP: MULTIPLE-CASE STUDY OF LEADERSHIP DEVELOPMENT LARPS[5]

Abstract

Learning and development solutions often contain some form of roleplaying activity. Many live-action roleplaying (larp) leisure events openly center their themes or story on leadership topics like conflicting visions, cooperation, or strategic decision-making. Despite this, only a few larps to date have dared label themselves as "leadership development" edu-larps.

This multiple-case study utilizes a synthesized theoretical framework that combines several typologies of both the leadership development research field and the fields of roleplaying game studies, edu-larp, applied drama, and simulation. Four individual leadership development larps were identified, categorized by type, compared, and evaluated.

The four cases have some striking similarities, as they all make use of the same learning cycle, have observers, and focus on developing versatility as a worthwhile leadership trait. Furthermore, all four larps have relatively few visible game mechanics, the hierarchical difference between characters is low and urgency or uncertainty is used to enhance learning.

The main difference between cases is the setting, where a modern business setting seems to be the default, but more fantastical settings, such as "samurai in feudal Japan" were also used. Character design also differs, from abstract roles to very-detailed personality descriptions. Framing, such as duration, varies from one 2-hour session through five sessions spread over weeks to a continuous 36-hour session.

These and other identified differences and similarities highlight patterns to build upon by designers and gaps to fill with later research.

[5] This is the revised preprint of Hartyándi, M., and van Bilsen, G. (2024): Playing with Leadership. A Multiple Case Study of Leadership Development Larps. *International Journal of Role-playing*, 17(15), 142–177. https://doi.org/10.33063/ijrp.vi15.327

III.1. Introduction

Every activity has the potential to develop us in a casual, informal, tacit way (La Belle, 1982). This is also true for leadership competencies, especially when considering social activities in which one can practice the management of attention, communication, influence, and decision-making.

This implies that a lot (if not most) leisure live-action roleplaying games (larps) have latent leadership aspects embedded in their structure. Larps are a peculiar type of embodied roleplaying game that emerged in the late 1980s from various sources and have expanded and evolved since (Harviainen et al., 2024). Larpers are aware of this developmental potential. There are best practice articles in the Nordic larp scene about how to lead during larps (Fischer et al. 2020) and how collaboration toward co-ownership is a form of leadership in itself (Rönnåsen, 2022).

In addition, a lot of larps explicitly deal with leadership topics, either foregrounding them or using them as central overarching themes. Examples from the last decade include, but are not limited to: *The Climb* (2013) and *Perfection* (2019) from Bully Pulpit Games, *Witchwood Larp* (Red Feather Roleplaying 2013), *Anything for N.* (Turbolarp 2014), *Legion: Siberian Story* (Rolling 2015), *Cult* (Obscurus 2018), *Suffragette!* (Vejdemo et al. 2018), *Wing and a Prayer* (Allied Games 2018), *Lord of Lies* (Atropos Studios 2021), *A Meeting of Monarchs* (Charmed Plume Productions 2022), *Three Kingdoms* (Cyriax 2022) and *The Seekers* (Langland 2023). While these do not consider themselves formal leadership development (LD) larps, they still provide a fertile ground to experience rich instances of leadership that might easily lead to informal learning. Facilitators can also apply them in a non-formal learning setting to foster leadership development (Westborg, 2023). For a summary, see Appendix 1.

Larps can be educational in at least two senses (Westborg, 2023). Many leisure larps can be *applied* in an informal or formal educational setting for educational purposes. Meanwhile, some larps were *designed* to be educational in their gameplay, as opposed to being designed for leisure. While more loose interpretations of the term "educational larp" (or edu-larp) include the first sense (Bowman, 2014), stricter definitions require that both the gameplay design and the framing design (application) of the larp should be focused on learning (Westborg, 2023).

On the other hand, a lot of well-known leadership development interventions (LDIs) contain some form of roleplaying. They utilize roles, situations, rules, props, and interaction to foster experiential or action learning (Agboola Sogunro, 2004), but they do not originate from larps and do not use the term to denote themselves. Examples include basket-in challenges (Bass, 1990), situational roleplaying exercises (Guenthner and Moore, 2005), improv theater (Gagnon et al., 2006; Visscher, 2023), development centers (Hertz, 2006), psychodramatic sessions (Lippitt, 1943), leadership coaching (Lee, 2003), socio- and applied drama (McLennan and Smith, 2006), strategic scenario planning (Coates, 2000), educational simulation games (Avolio et al., 1988), serious games (Buzády, 2017), and gamified activities (Cebulski, 2017).

To show that edu-larps can be novel and valuable leadership development interventions, one must present arguments and evidence on how edu-larp differs from other LDIs that involve embodied roleplaying. This can be shown through their gameplay design. To position the edu-larp form in relation to other LDIs, in this article, we will look at how edu-larp interventions are designed to reach their goal, namely leadership development. The focus is on design considerations and their effects, not on how these leadership development larps can be applied and facilitated.

To further complicate this situation, it is rather easy to separate the content (the special type of roleplaying activity, which we will denote from now as larping) from its game format (e.g., a larp). The former is a particular mindset and behavioral way of doing things that can be experienced and identified in other activities. J. Tuomas Harviainen (2011, p. 176) attempted to specify and distinguish this roleplaying phenomenon with his criteria of *larping*:

- Roleplaying in which a character, not just a social role, is played.
- The activity takes place in a fictional reality shared with others. Breaking that fictional reality is seen as a breach in the play itself.
- The physical presence of at least some of the players as their characters. (Harviainen, 2011, p. 176)

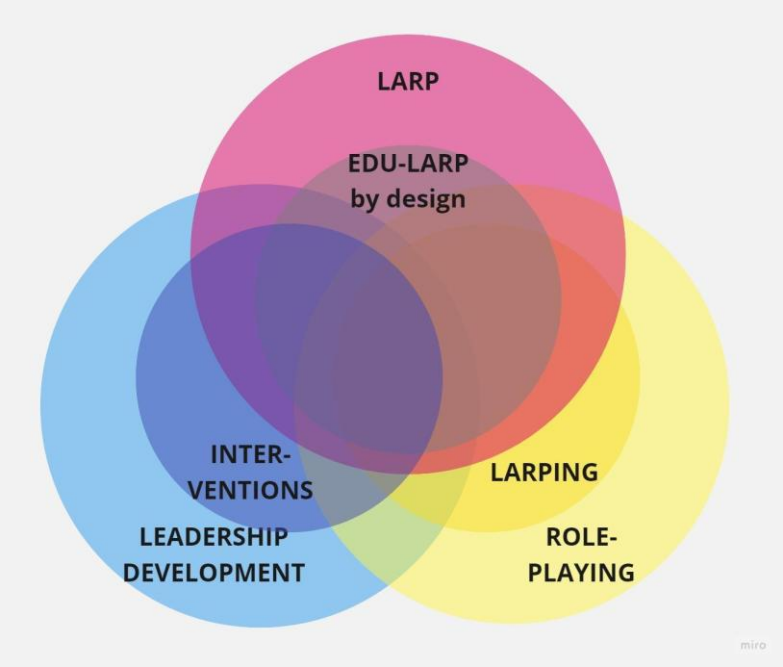
In this sense, larping is a special type of roleplaying, where participants enact individualized characters in a continuous and embodied manner. Larping happens at most larp events, while it can also exist at non-larp events (Harviainen et al., 2024 cite

re-enactment, bibliodrama, and other activities). Without the intention to judge and qualify, we can safely say that on the other side of this space, there are extreme cases, specific larps where no actual larping happens, as players enact only social roles, purposefully break the fiction, or are all not physically present (Reininghaus, 2021).

In summary, informal and formal leadership development includes interventions that often involve some form of roleplaying. Taking into account interventions, some leisure larps can be applied or "framed" for leadership development. Moreover, there are educational larps that are designed for leadership development in terms of their gameplay. It is also possible to define a specific type of roleplaying, an activity that is an embodied, undisturbed enactment of individualized roles, often found in larps, called larping. Considering all of this information, we propose a conceptual map (see Figure 9) that includes three sets:

- Leadership development situations (with a subset of formal and informal leadership development interventions)
- Larps (with a subset of edu-larps in a strict sense, Westborg, 2023)
- Roleplaying activity (with a subset of larping, as defined by Harviainen, 2011)

Figure 7: Leadership development, larps, and roleplaying.



Source: Hartyándi and van Bilsen (2024), based on Harviainen (2011) and Westborg (2023).

It is not immediately evident what the different cross-sections on this conceptual map might contain and categorizing individual cases would require thorough understanding of that case. For example, some edu-larps do not meet the criteria of larping (Harviainen, 2011; Bowman, 2014). Furthermore, there might be leadership interventions that fit the criteria of larping but are not labeled as (edu-)larps. Leadership development (edu-)larp(ing) is a very hazy phenomenon that needs further inquiry to be crystallized (Richardson, 2000). A comparative design analysis might facilitate this process.

III.2. Background

As the general audience of this journal is knowledgeable about larps, in the background section we mainly focus on giving a broad introduction to leadership and leadership development (LD) studies by summarizing relevant bibliometric and systematic literature reviews.

III.2.1. Leadership

Leadership is arguably the most widely debated and explored issue in management (Antonakis and Day, 2017). Because different authors cannot agree on a single definition of the concept, it probably compromises more models than any other sort of behavioral research (Bass, 1990). Yukl (2010) provided a comprehensive summary of the various definitions and formulated a definition that has now become the accepted standard of generalized leadership: "*The process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives*" (Yukl, 2010, p. 26).

Historically, mainstream leadership research evolved in steps, each step hallmarked by a milestone leadership theory (Samul, 2020). According to the oldest one, the Great Man theory, leaders are born with specific intrinsic qualities that make them inherently fit to lead (Carlyle, 1993). The Trait hypothesis expanded on this premise by claiming that particular characteristics, such as self-confidence, honesty, and empathy, are more significant than others for leadership effectiveness (Stogdill, 1948). Behavioral theory, on the other hand, focuses on leaders' actions rather than their inherent features, suggesting that good leadership can be learned via observation and imitation of successful behaviors (Lewin et al., 1939; Blake and Mouton, 1964; Hersey and Blanchard, 1977). According to the Contingency Theory, the most effective leadership

style depends on the situation, and leaders must be able to modify their style to match the demands of their followers and the context in which they operate (Vroom and Yetton, 1973; Fiedler, 1974). Later, the Process-based Leadership theory stressed communication and cooperation, arguing that great leaders are those who can involve their followers in a shared vision and encourage them to work toward common goals (Graen and Uhl-Bien, 1995).

Recent leadership theories are very diverse. Ethical leadership emphasizes leaders acting as moral role models and prioritizing the rights and dignity of others (Brown et al., 2005). Servant leadership is centered around leaders serving the needs of followers and promoting their development (Greenleaf, 1970). Humble leadership involves leaders acknowledging their limitations and fostering a culture of mutual learning (Owens and Hekman, 2012). Transactional leadership focuses on exchanges between leaders and followers, rewarding performance (Burns, 1978), while transformational leadership inspires followers to transcend personal interests for the group's greater good (Bass, 1985).

Looking at leadership studies from the contemporary side, a bibliometric analysis of leadership studies identified two dominant themes in the literature: leadership development and leadership effectiveness (Vijayakumar et al., 2018). The content analysis on these two themes revealed six distinct lenses that shape the academic discourse: cultural, cognitive, learning, personality traits, social/relational, and political lenses. Others (Samul, 2020) recently argued that the main topical clusters of leadership studies are leadership management, leadership performance, leadership models, leader's behavior, leader's personality, and team leadership.

Leadership in organizational contexts is usually contrasted with management and used in a narrow sense. This trend could be highlighted with two concepts. One is a famous statement from Peter Drucker, explaining that while management focuses on doing things right, leadership is about doing the right things (Cohen, 2009). The other widespread interpretation is that leadership is one of the four managerial functions besides planning, organizing, and controlling (Koontz and O'Donnell, 2004), heavily connected to, and influencing organizational behavior. Another line of thought links leadership with changes in the external environment and the capability of helping others adapt to change (Heifetz et al., 2014).

III.2.2. Leadership development

As David Day (2000) influentially distinguished, while leader development works at the individual level and develops human capital, leadership development (LD) is a broader category that works at the supra-personal (relational, team, group, or organizational) level and in return, develops social capital.

According to Bernd Vogel and his colleagues (2021, p. 1), "*development of leaders and leadership is a formative research area and a considerable industry in practice*," but it is also extremely fragmented. According to their findings, the dominant discourse is defined by journals such as *The Leadership Quarterly, Journal of Applied Psychology, Academy of Management Learning & Education*, and highly influential writers such as Bruce J. Avolio, David D. Day, and Robert G. Lord. Vogel suggests that the origins of the LD field can be found in practice, that it has grown around a single primary narrative, and that organizational behavior and leadership theory underpin the LD discourse.

Day et al. (2014) identified six main topics in leadership development. The *intra*personal, individual topics including experience and learning, skills, personality, and self-development, while *inter*personal leadership topics include social mechanisms and authentic leadership. With an even wider scope (Vogel et al. 2021), we can distinguish three main directions in leadership development research: its learning processes and their elements, leadership styles, and finally intra-person learning mechanisms.

Leadership development is an especially essential task in light of environmental and societal changes (Ey et al. 2021). Our present is often described as a volatile, uncertain, complex, and ambiguous (VUCA) world (Lawrence, 2013). While some researchers suggest stoic calmness and negative capability as a solution to cope with radical uncertainty and turbulent changes (Hirsch et al., 2023), in agreement with Dave Snowden and Alessandro Rancati (2021), we believe that careful experimentation is a better fit to these situations. Moreover, leadership skills, styles, and solutions to slow-burning crises (Hart and Boin, 2001) can be developed in the vocal and experiential spaces of larps and roleplaying.

Roleplaying in some form was probably always part of leadership development processes (Lippitt, 1943). Bernard M. Bass (1990) enlists a couple of interactive methods that might develop leadership, including in-basket activities, living case games, simulation, behavior modeling, sensitivity training, and roleplaying. According to him, *"The purpose of playing a role, rather than reading or talking about a solution to an interpersonal problem without a script, is to improve learning and retention and to promote transference from the learning situation to the leadership performance on the job"* (Bass, 1990, p. 821).

III.2.3. Leadership development and larps

The Scopus database showed zero documents when we searched for "leadership" "development" and "live-action roleplaying" in the article titles, abstracts, and keywords in the May and December of 2023. One conference proceeding (Hallander, 2003) showed up for "larp" but it was about the Lean Aircraft Research Program (L.A.R.P.). When we broadened the search to include synonyms, we got twelve hits, but after manual evaluation, we found that most of the documents were false hits and only three (Bailey et al., 2022; Hjalmarsson, 2011; Mercer et al., 2021) were somewhat connected to our research agenda.

Summarizing the Scopus findings, while Sara Hjalmarsson (2011) identified a significant potential in the "larp artform" to enhance scenario-based training in military leadership education in her explorative presentation, Jennifer Bailey and her colleagues (2022) promoted simulation-based learning for school principals as a way to develop school leadership in their article. Based on the cognitive load theory (Sweller, 2020), they argued that *"the building of situational memory through roleplaying helps leaders to be better prepared to face those situations when they arise in reality"* (Bailey et al. 2022, p. 218) and roleplaying simulations as an effective but passive approach compared to digital simulations.

Turning to the most relevant hit, Ian Mercer and his colleagues (2021) used Jason Morningstar's (2013) larp *The Climb* as a way to teach university students about "*leadership, influence tactics, decision-making, conflict resolution, and communication*" (Mercer et al., 2021, p. 71). Their article describes the game and the student reactions, compares it to other mountain climbing-themed management simulations, and makes suggestions about its usage. As a leisure larp that was applied

in an educational context, instead of an edu-larp designed for learning, this case could be categorized as a non-serious game-based learning intervention or as an "RPG in education" (Westborg, 2023).

A search in Google Scholar was more successful, it showed around 50 documents, where a dozen were found to be relevant, but nothing specifically about leadership development and larps. This list was supplemented by snowballing and editor suggestions. We do not attempt to conduct a comprehensive literature review about every article that briefly mentioned some element of our topic, as our current research is interested in design comparison. However, as a narrative review, we included every relevant source that has come to our attention.

Talking about leisure RPGs such as larps, Sarah Lynne Bowman (2010) mentions that these may require the players to take on leadership roles, and thus, practice the necessary skills such as holding others' attention, communicating efficiently, managing or mediating conflicts, maintaining cohesion, etc. Larp activities might offer practice opportunities that are unprecedented in real life and encourage players to develop leadership competencies. Perspective-taking inherent in playing roles might also help in understanding others' points of view in group dynamics. She also cites simulation and applied improvisational drama as used in business contexts.

A systematic review on edu-larps (Bowman, 2014) mentions that many organizations use roleplaying activities to teach staff in areas such as teamwork and leadership and lists exercising leadership skills as a behavioral learning dimension of edu-larps. Bowman and Standiford (2016) also conducted a mixed-method study on middle school science students, collecting self-reports on five broad learning dimensions, among them leadership and teamwork. Although 13 students believed larp increased their leadership skills and 6 thought larp somewhat helped, student opinions of their leadership characteristics remained consistent. As the authors summarized their findings, "*the data did not reveal significant changes in the areas of team work and leadership between the two time points, although several students offered examples in which these two factors were exercised during the course of the edu-larps*" (Bowman and Standiford, 2016, p. 5). To interpret these results correctly we must cite research that suggests that all larp participants gain leadership experience and confidence, even if they are unaware of it (LeClaire, 2020). Designers and organizers also intuitively use management techniques to exert control before, during, and after play (Harviainen,

2013). Another article briefly mentions managerial functions in the organization of roleplaying and larp events and recommends the analysis of organizers' leadership styles (Túri and Hartyándi, 2023).

Another book, *Imagine This* by Blaž Branc (2018), is probably the best expert writing on applying roleplaying games in corporate and business contexts. Its analysis focuses strongly on Nordic larps. While the book mentions leadership aspects regularly, there is no specific chapter on leadership or leadership development, thus the topic remains mostly implicit.

The *Routledge Handbook of Role-Playing Game Studies* (Zagal and Deterding, 2024) does not list leadership in its index; however, the last chapter discusses the related topics of power, control, and authority in roleplaying games (Hammer et al., 2024). Ryszard Praszkier in *Empowering Leadership of Tomorrow* (2017) mentions larps in the chapter about exploring the future and briefly introduces the activity and the hobby. In his interpretation, larps can help to experience the "adjacent possible" (Kauffman, 2000), thus linking it closer to horizon scanning and scenario planning than actual roleplaying.

There are also numerous theses and dissertation texts connected to our topic. In his Ph.D. dissertation, Balzac (2016) did a grounded theory study on the transference of leadership qualities from a gaming setting to a non-game one. His findings suggest that larps may improve one's understanding of leadership, decision-making, and group functioning. Another good fit for our specific topic is a BA thesis from Maria Kolseth Jensen (2020) who utilized larps for leadership development at the Royal Norwegian Naval Academy. The results indicate that larps might contribute to role flexibility. Moreover, enacting challenging characters and a positive inclination toward larps influences the outcome of leadership development interventions (Kolseth Jensen, 2021).

Another significant contribution to the topic of leadership development and applied RPGs comes from Joe Lasley, who researched roleplaying games in leadership learning. His dissertation (Lasley, 2020) examines the gaming environments in *Dungeons & Dragons* groups employing content analysis, group observations, and interviews for data collection and analysis. His findings suggest that the inherent power in leader-member interactions might serve as the foundation for a

psychologically layered emotional container. He mentions that these results can inform the design of tabletop RPGs for leadership development. While his conceptual research (Lasley, 2022) nominally focuses on all analog forms of roleplaying games and incorporates theories and terms from the (Nordic) larp scene, his analysis is mostly relevant to tabletop roleplaying games.

Samantha Funk's MA thesis (2021) reviewed and summarized what tabletop RPGs can offer for leadership development, highlighting the creative potential of the format. Also very valuable is the dissertation of Christina N. Mackay (2022) which discussed the perceptions of skill transference from *Dungeons & Dragons (D&D)* to personal, social, and work life from a leadership theory perspective. The qualitative study of an online *D&D* group revealed new learning capacities that were transferred socially to various life interactions in three main themes: skill identification, social interactions, and leadership skills. Thus, tabletop RPG campaigns can significantly enhance informal learning.

To summarize research concerning leadership development and larps, we can state that it is a relatively new topic. Several studies explored the potential for informal leadership learning in larps, both theoretically (Bowman, 2010; Harviainen, 2013; Bowman, 2014; Hammer et al., 2018; LeClaire, 2020; Sweller, 2020; Túri and Hartyándi, 2023), and empirically (Balzac, 2016; Mackay, 2022). Another line of research is interested in the application of tabletop RPGs (mostly *D&D*) for leadership development (Lasley, 2020; Funk, 2021; Lasley, 2022).

The topics of edu-larps and leadership were also discussed concerning school principal development through simulations (Bailey et al., 2022), and military leadership education (Hjalmarsson, 2011). Empirical research includes using edu-larps to develop middle school science students in general learning dimensions in a mixed-method study (Bowman and Standiford, 2016), and leisure larp about mountain climbing to foster thinking about leadership topics in higher education in a case study (Mercer et al., 2021).

It can be concluded that larp designed or applied for leadership development is a topic that has been discussed and touched upon multiple times. However, as an intersection of different topics, it is still a highly under-researched topic, especially in terms of quantitative results.

III.3. Methodology

We decided to examine leadership development edu-larps using multiple case-study methodologies, because it is capable of revealing the characteristics of its objects (Guest et al., 2013) by systematically analyzing a practical issue (Yin, 1994), namely designing educational larps for leadership development (Westborg 2023), from multiple perspectives (Merseth, 1994), and building or validating a theory (Yin 2003). Theoretical sampling, data collection triangulation, the logic of matching patterns, and analytical generalization can further enhance the validity of case-study methodology (Pauwels and Mattyssens, 2004).

As the case study methodology is highly flexible, it does not have a widely accepted, fixed set of procedures (Yazan, 2015). We followed the research steps recommended by Larry M. Dooley (2002) and Karin Klenke (2008).

1. **Defining the research question**;
2. **Case selection criteria**;
3. **Selection of data collection and analysis techniques**: collection triangulation and comparative framework;
4. **Data collection preparation and researcher reflection:** by paradigm awareness (above);
5. **Data collection**;
6. **Data analysis and interpretation**;
7. **Preparing the research report**; and
8. **Defining quality criteria:** validity and reliability (for data analysis).

Several of these categories are explained in separate subsections below.

III.3.1 Research question

Leadership development edu-larps should be properly positioned in relation to other leadership development interventions that involve roleplaying. Our research agenda is committed to finding a solution to this challenge using the research lens of design:

How do leadership development edu-larps attempt to develop leadership through their design?

To break down our research question above, first, we look at the various goals of these leadership development edu-larps, considering what their goal structure is in terms of

leadership development, how the gameplay design attempts to reach that, and what are the known results. Conducting a multiple-case study allows us to look at already existing examples and compare them.

While our research sheds some light on how the case studies have been applied, implemented, or deployed by organizations, our research focuses on design considerations. However, the design similarities and differences between the already existing leadership development edu-larps can be used to map out the possible breadth of the topic and highlight gaps.

Moreover, the comparative design analysis might be also used to evaluate if the cases promote or require larping (Harviainen, 2011). Answering this question might further clarify or problematize the phenomenon of leadership development (edu-)larp(ing).

III.3.2 Case selection criteria

As we outlined in the introduction, delineating larps from other roleplaying activities, and formal or non-formal leadership edu-larps from leadership-themed leisure larps are complex issues.

For this reason, first, we only searched for cases that defined themselves as leadership larps and deliberately omitted the examination of whether a larp contained true larping (Harviainen, 2011) or some other form of embodied roleplaying. This step excluded leadership development interventions that involve roleplaying but do not define themselves as larps.

We attempted to collect all available cases on the internet that labeled themselves as leadership (development) larps. We started with our own two designs, and then searched through the internet, using search prompts and asking for advice and recommendations in related social media groups. We also networked at the Knudepunkt 2023 conference.

To meet our design-oriented research agenda, we utilized purposeful sampling (Creswell, 2007) and the matrix developed by Josefin Westborg (2023) and kept only "educational RPGs"; cases that are education-oriented not just in their framing, but also in their gameplay design, as we are interested in cases that were designed for leadership development purposes from their conception, and not just applied afterward. This step excluded applied "RPGs in education" (Westborg, 2023), for

example, the university application (Mercer et al., 2021) of *The Climb* (2013*),* originally a leisure larp.

By the end of 2023, only four cases fit all of our case selection criteria. We considered whether to exclude cases that existed only on paper but had not been implemented, but as all four cases had been applied at least once, we did not find this as a meaningful filter.

III.3.3 Comparative framework

To answer our research question about the design considerations of leadership development larps, we created a comparative framework that underlines the differences and similarities of the different designs. This framework was combined from various models from different fields.

In the comparative framework, the first dimension is chronological, as it deals with analyzing and phasing the processes that unfold during the larps, from start to finish. From the simulation gaming field, we borrowed the widespread concepts of briefing and debriefing (Der Sahakian et al., 2015), pre- and post-simulation activities that surround the gameplay, and support raw experiences to be digested through the phases of experiential learning, generalized into theory, and finally into a plan of action (Kolb, 2015). We used it to summarize from start to finish what happens during larps from a participant's point of view.

The second dimension separates the parallel existing levels observed during larps. For this, we adopted the three-layered approach to roleplaying games created by Fine (1983) and fine-tuned by Barker (2005), Montola (2008), and Cullinan and Genova (2023). The three-layered structural model postulates that every roleplaying game process has a primary, social, exogenous, or contextual frame inhabited by acting persons, a secondary, game, or endogenous frame inhibited by players, and a third, diegetic or imagined frame inhabited by characters (Montola, 2008, p. 23). For example, a wooden shaft covered with foam and duct tape in the social layer can be used as a special tool that impacts "3 points of damage" in the magic circle of the game layer, and it is imagined as a runed steel sword in the diegetic layer. For our model of the three-layered structure in roleplaying games, see Table 3. This distinguishing of layers helped us to separate different aspects of the larps and, for example, see if the goals of the various layers are in synchrony or dissonance.

Table 3: Our model of the three-layered structure in roleplaying games.

	Layer	Space	Presence	Framework
	social	physical & social consensus reality	as a person	personal purpose & social contract
	game	set design & game materials	as a player	game objectives & rules
	diegetic	pretense & imagination	as a character	character goals & diegetic fate/laws

Source: Author's own work, based on Fine (1983), Barker (2005), Montola (2008), and Cullinan and Genova (2023).

To further distinguish the larps, we also utilized a categorization from the field of Drama in Education (Bolton and Heathcote, 1999), or more broadly, process drama (O'Neill, 1995). These movements distinguish between three forms of play: protagonist play, meaning that one participant is in the spotlight, intra-group conflict play, and inter-group conflict play. Of course, all three forms can be composed of several types of activities.

In the third dimension, we applied Harviainen's (2011) criteria of larping to see the extent to which the cases meet them, i.e., the extent to which the design of these larps promotes, supports, or requires larping behavior.

Our framework was constantly redefined in interactive cycles, with categories being split and merged as the comparison of cases progressed. For the final comparative framework, see Tables 4, 6, and 7.

Table 4: Our comparative framework.

Dimension	Main question	Framework	Author(s)
Process analysis	What is the process of the larp?	Briefing, Debriefing	Der Sahakian et al. (2015)
Layer analysis	How do the goals of the different layers relate to each other?	Three-layered approach	Fine (1983), Barker (2005), Montola (2008), Cullinan and Genova (2023)
		Forms of play	Bolton and Heathcote (1999), O'Neill (1995)

Larping analysis	Does the design of the larps promote, support, or require larping behavior?	Criteria of larping	Harviainen (2011)

Source: Hartyándi and van Bilsen (2024).

III.3.4 Data collection

To gain a deeper understanding of the cases, we attempted data triangulation by interviewing the designers both orally and in writing and collected relevant documentation, and qualitative and quantitative reports about the larps. The data items constituting the data corpus are summarized in Table 5.

Table 5: The data corpus.

Number	Data item	LD larp
#1	Blog post	7 Samurai
#2	LinkedIn post	7 Samurai
#3	Case study by the author	7 Samurai
#4	Audio interview with the author	7 Samurai
#5	Thesis of the research	SPGR larps
#6	Author's documentation	SPGR larps
#7	Written interview with the author	SPGR larps
#8	Memento Morrison, influential scenario design	Groundhog Leadership Experiment
#9	3 versions of design documents	Groundhog Leadership Experiment
#10	Written notes of expert feedback collected after the demo and the IT utilization	Groundhog Leadership Experiment
#11	University participant survey	Groundhog Leadership Experiment
#12	Design documents	MoveOn
#13	Participant survey	MoveOn

Source: Hartyándi and van Bilsen (2024).

III.3.5 Data analysis

Utilizing abductive reasoning (Lipscomb, 2012), we analyzed the cases and refined the comparative framework in parallel. The full analysis consisted of three complete rounds:

1. Case processing according to the preliminary comparative framework;
2. Cross-analysis of the topics emerging from the processing of cases in each case; and
3. Systematic comparison with the final comparative framework.

To minimize bias, the co-authors cross-analyzed each other's games. To ensure reliability, we attempted to report the results in an analytical approach that does not conceal inconsistencies (Gall et al., 1996).

III.4. Results

The result chapter contains the description of the cases and four leadership development (LD) larps. We outline the concepts, design aims, and known results of all cases, and detail the analytic dimensions of the comparative framework, namely the processes, the layers, and the larping (Harviainen, 2011) aspects of the four larps. See Table 6 for a summary.

Table 6: Basic information about the cases.

Year	2015	2020	2023	2023
Main Designer(s)	*7Samurai*, Ziga Novak, Blaz Branc	SPGR, Maria Kolseth Jensen	*Groundhog*, Mátyás Hartyándi	*MoveOn*, Gijs van Bilsen, Vanes Spee
Leadership theory	Team roles theory (Belbin)	Systematizing Person-Group Relations theory (Sjøvold)	Jacob L. Moreno's role theory (Lippitt)	Situational leadership (Hersey and Blanchard), Core quality quadrants (Offman)
Applied as	Assessment center demo at an HR conference	Part of the curriculum of the Royal Norwegian Naval Academy (RNNA)	Demo for OD consultants, university training for engineer uni students, leadership development intervention for mid-level managers, demo at ISAGA Conference	Open training for leadership development

Target groups	Job candidates / HR	RNNA 1st year cadets	Playset dependent	Individual managers and directors
Duration	4 hours	70 minutes / larp, 5 sessions	2-3 hours	2 hours/participant (intake) 36 hours (training) 2 hours/participant (aftercare) 4 hours (return day)
Roles	1 GM facilitator, 3-7 players	1 GM facilitator, 4 players, 2-4 observers	1 facilitator, 2-3 players + 1-15 observers/scene	2 GM facilitators, 2 executive coaches, 4-6 actors, 8-12 players
Setting	Feudal Japan	Modern-day organizations	Modern-day organization	Modern-day organization
Situation	Defending the village from bandits and the Emperor's army	Group meeting to come to a solution for that problem	Playset-based, dyadic advisor-manager situations	Company retreat of Move On, a fictional travel company
Characters	Peasants pretending to be samurai	Board members of a company, pensioners, and workers	Managers in an organization	The management team of Move On

Source: Hartyándi and van Bilsen (2024).

III.4.1 Case 1: 7 Samurai (7Samurai), an Assessment Center larp

Concept

In medieval Japan, a handful of desperate peasants pretend to be samurai to save their village both from rebel bandits and a greedy emperor. Influenced by Akira Kurosawa's *Seven Samurai* (1954), in this edu-larp, 5-7 players go through eight diegetic challenges as part of a four-hour-long assessment center (AC), where as a result, the assessors choose one of the candidates for the proposed job.

Aim

The design attempts to gamify AC processes to help participants display their leadership potential fully, as the roles and the overarching narrative that connects the tasks create an *alibi* (Montola 2010) to play outside of one comfort zone. Also, the variety of challenges in the immersive narrative makes it more difficult for the candidates to "look nice" as they have less time to think and behave manipulatively, thus leading to more transparent and accessible behavior.

Results

This larp was run during the "Gamification in HR" conference in Ljubljana, Slovenia, in 2015 for HR professionals. One designer mentioned that during the conference run, against a dominant participant who was gradually losing ground, a quiet player slowly gained influence during the tasks, and for the last task, the other players elected him as a representative without external pressure. Thus, the structure and pace of the larp helped natural leadership to emerge.

Based on anecdotal feedback from the participating HR specialists (Branc, 2018), the design reached its goal; job candidates behaved much more relaxed as they forgot that they were assessed. This provided significantly deeper insight into their hidden side and personality than standard AC. However, the facilitation workload proved to be very high and complex. In return, the design was adjusted to decrease the facilitator workload, and fit development center needs as well.

Process analysis

After a short AC briefing, the larp starts with what farmers do best, building a defensive wall, but the challenges gradually become more strategic in nature. The facilitator enters the game in non-player-character (NPC) roles *("an errand boy, a delivery servant, a lonesome wanderer, the chieftain of the rebel army,"* Branc, 2018: 135) to deliver new tasks and instructions in a diegetic way, without breaking the flow of the story. Tasks could be set according to the purpose of the AC. During the larp's demo run, each of the eight tasks aligned with a particular leadership skill based on Belbin's (2012) team roles theory. After each task, the lights dim for three minutes during a "good night" phase to allow participants to rest a bit or write a self-reflective journal, and assessors have time to make their evaluations. The final task is a negotiation with one party chosen by the players: the rebels or the emperor's army. The designers state that there is one correct answer here. They argue that choosing the rebels is the right decision because emperors do not bargain with peasants. Standard AC debriefing closes the event.

Layer analysis

On the social layer, individuals might want to participate in this AC larp to get hired or to get familiar with the larpified AC process as an HR recruiter. On the game layer there is an undefined but existing win-state, so players might be competing with each

other to be the "winner" in the eye of the assessors, thus getting hired. On the diegetic layer, the characters are Japanese peasants who must cooperate against external threats.

Larping analysis

Based on Harvianen's (2011) criteria of larping, we see that characters are presented to the players as societal roles, distinguished only by simple Japanese names. This is done on purpose, to give each player the same clean sheet to work with. While players might develop a specific character out of these prompts, the goal of these design decisions is to let the personality of the participant shine through the roleplay and reveal the "real" character of the job candidate in the AC (Branc, 2018).

The shared reality (a village in medieval Japan) is present too. It is slightly but occasionally broken by design, with the "good night" rule, to encourage self-reflection. However, this is presented as a diegetic phase, which makes the break relatively light.

The third criterion is unequivocally present. While there were external observers to the larp, all the players were physically present as their characters.

III.4.2 Case 2: Apple Pie Factory, Housing Association, and Launch Party (SPGR), short larps for the Norwegian Navy

Concept

- An apple pie factory is on the brink of bankruptcy and a crisis team of four or five board members meet to discuss what to do.
- Seven or eight pensioners of a housing association are gathering to settle a huge problem: children are playing loudly and making too much noise!
- An alternative medicine company is launching a new product and four to five employees are planning the launch party.

These three short larps are based on the Spin Theory of teamwork and team leadership (Sjøvold, 2007), centered around decision-making and group processes, and were played by the same groups over five sessions.

Aim

These larp sessions served to help cadets of the Royal Norwegian Naval Academy (RNNA) develop role flexibility and were part of the master thesis research of their designer. The plot and setting for all three larps are intentionally simple, with a funny twist, for the characters to be more accessible to the players. It puts the focus on the characters and their interactions.

Observing is used as the main part of the design. Learning to look for certain dynamics and behaviors is also valuable to learning, as is playing. For the apple pie factory and housing association half of the group observed and the other half played.

Results

To test the usefulness of larp as a learning method for leadership development training, the results measure three hypotheses (Kolseth Jensen, 2021):

- **Hypothesis 1:** "The cadets will become more role flexible after completing five larp sessions" was partially accepted, as the participants had a positive development, which did not differ significantly from the control group.
- **Hypothesis 2:** "The cadets who are positively inclined towards the larp sessions and choose to play characters that challenge them will have the greatest development in their spectrum of behaviours" was fully accepted.
- **Hypothesis 3:** "The cadets who are positively inclined towards the larp sessions will have the greatest development in their ability to observe situations and select an appropriate behaviour" was fully accepted.

Process analysis

During the sessions, three different larps were played, with two larps being played twice. Each session lasted just over an hour and consisted of an introduction, a workshop (20 minutes), the roleplay itself (30 minutes), and a debrief (20 minutes). The workshops were designed to include a warm-up exercise (such as stretching or improvisational theater exercises to train spontaneity), and character building, where players got to know their own and each other's characters and build relationships between the characters. Finally, meta-techniques and the structure of the larp were explained.

During play, the game master was present at the beginning but then announced they would leave and return in 25 minutes, leaving the participants room to roleplay amongst themselves. The debrief made use of both structured and open discussion, with specific attention being paid to the distinction between the player and the character and the learning points of the player. Role flexibility was the main topic of the structured part of the debrief, with questions from the theoretical framework of the larp.

Layer analysis

On the social layer, individuals joined the larp as RNNA cadets for personal and team development, especially role flexibility. On the game layer, players must cooperate in finding a solution to a problem in a short time. On the diegetic layer, characters are from the same community or organization and they are competing and collaborating at the same time to reach some consensus or compromise.

Larping analysis

In the case of SPGR all three criteria of larping (Harviainen, 2011) were met. Participants played individual characters, which all held similar societal roles, but differed in their outlook on the problem. The character sheets included names, titles, SPGR categories, typical behaviors, personal goals, relationships, and suggested actions, providing rich instructions and strong affordances (Gibson, 1977) to enact complex characters.

During playtime, the fiction was not broken in two of three designs. In the short larp called *The Launch Party* there was a meta-technique where players could say their inner thoughts out loud. In a sense, this can be seen as breaking the fiction, as these monologues could be heard by the players, but not their characters. Not breaking the fiction was relatively easy as the playtime was short (around 30 minutes) and sandwiched between reflective exercises

Finally, although in some sessions half of the participants were observers instead of players, all characters were physically present during play.

III.4.3 Case 3: Groundhog Leadership Experiment (Groundhog)

Concept

A difficult and tense conversation has just come to a standstill between a decision-maker and an advisor when suddenly, time jumps back to their original starting sentence. Realizing what just happened, this time, their exchange might be different! The duo must revisit the same situation at least five times to break from the time loop.

The *Groundhog Leadership Experiment* (Hartyándi, 2022c) is a leadership development roleplaying game used in training and education contexts. The game design originates from a hybrid roleplaying game scenario, *Memento Morrison* (Hartyándi, 2020), that ran for the Otto award in 2021 at the Fastaval scenario competition in Hobro, Denmark. It borrows heavily from the movie *Groundhog Day* (1993), and dramatic techniques invented by Jacob L. Moreno (Lippitt, 1943). The current, professional version has been used five times up to date.

Aim

Participants are invited to observe and interact with different dyadic leader-follower situations, revisiting intense interpersonal encounters multiple times, and utilizing the process of rapid improv prototyping. Because they replay short scenes at least five times in a row, they can witness how their decisions and word choice impact the outcomes. This creates a brave laboratory space for behavior experimentation, aiming to exploit experiential learning and foster change readiness, mastery learning, and role creation. While the two active roleplayers negotiate the problem, the observers collect punchy statements and one-liners that might summarize the leadership situation succinctly. The group is collectively responsible for finding a shared lesson learned or motto after each scene.

Results

This larp has positive, but mostly anecdotal results so far. First, it had a successful demo at a well-established Hungarian consulting firm, making it into the organization's L&D portfolio and being utilized during a leadership training intervention for mid-level managers in 2023. It was also invited to be part of the "Project Leadership & Management 2" course at Széchenyi István University, Hungary, where at its first run, students anonymously rated it high, however, the low number (n=4) of participants severely limited the validity of these results. These

suggest that while participants were engaged, felt safe, and learned both about leadership and themselves, however, they were not warmed up enough for truly transformative experiences, so the intervention could be fine-tuned in this direction. The game was further tested and evaluated by gaming simulation researchers and experts at the ISAGA 2023 conference, who praised its elegant design, the way the simple and easy-to-understand game elements create "a variety of options," unfolding complexity, and how it allows both passive and active learning while the whole experiential learning cycle is utilized.

Process analysis

The briefing consists of a short introduction and warming up sequence by sociometric techniques, and a formal onboarding to the game's concepts, goals, and rules. The participants shift between leader, follower, and observer roles in every scene. When a participant becomes a protagonist, he takes the role of the advisor and chooses an archetypical leadership scene to explore and another participant to play the decision-maker. Others are observers looking for catchy spoken sentences that could well represent the scene. The leader-follower duo replays the scene five times, the opening line from the follower being fixed, each replay consisting of exactly five sentences.

Between replays, the leader can use "lifeline" cards to change the rules of the next replay. This way, a third role can sometimes enter play. After five replays the observers share the best lines and the group collectively chooses one as their motto for the scene. After playing enough scenes, each participant merges the mottos to create a personal moral or lesson about leadership. The debriefing contains two phases: a sharing of personal experiences by sociometric techniques and semi-structured questions, and a short expert evaluation session using the Critical Response Process developed by Liz Lerman and John Borstel (2003).

Layer analysis

On the social layer, individuals join the larp for personal development, but sometimes in a compulsory way. On the game layer, players are cooperating to extract punchy statements from the scenes on the subject of leadership and then work individually to construct their own personal takeaways from these. On the diegetic layer, the protagonist advisor attempts to influence the antagonist decision-maker to make a consensual decision.

Larping analysis

Groundhog Leadership Experiment does not meet two out of three criteria of larping (Harviainen, 2011). First, roles are not referred to by name, but by position, and participants rotate between them, similarly to sociodrama (Galgóczi et al., 2021). The role descriptions are attitude spectrums with references to well-known advisors and consultants at the extremes of the scale, to foster behavior experimentation. It is debatable to what extent the role rotation and the short role instructions push participants to go beyond social roles.

Groundhog is deliberately designed to break the fiction multiple times in short intervals, by changing the rules between each replay of the scene, and to achieve meaningful, substantive dialogues.

While all active players are present physically in their roles, which formally fits the third criterion, two or three players are usually a minority compared to a large number of involved observers.

III.4.4 Case 4: MoveOn (MoveOn), a two-day self-contained Leadership development training

Concept

The management team of *MoveOn*, a struggling contemporary travel organization, goes on a two-day company retreat to solve their problems and become profitable again. However, each member comes with their personal plans and goals. Will they manage to reconcile them? This larp for leadership development is a personalized learning experience for individual managers and directors. Their learning goals were individually collected and roles were written specifically for them, based on those stated goals.

Aim

This larp aims to help the participants broaden their repertoire of leadership skills and work on their individual learning goals. The trainers designed the larp to be an intense experience that uses bleed as a deliberate learning tool. Hugaas (2022) defines bleed as *"The RPG concept bleed describes the spillover of physical states, mental states, physicality, values, opinions, and other similar concepts from player to character and*

vice versa." Individual learning goals included things like learning to state boundaries, dealing with backhanded, political behavior, or positively using hierarchical power.

Results

While data was collected about the larp at three points after the larp, the authors are awaiting ethical review. Therefore, we reserve sharing these results for future work.

Process analysis

In the months leading up to the training, participants had one intake to determine their leadership goals and one intake to work on these goals with their coaches. They also had two possibilities of reacting to their role as written to propose changes. On arrival, the participants were asked to change into the costumes of their characters. A half-hour in-game session where the actors took the brunt of the interaction on their shoulders showed the participants how the larp would work. After that, there were 5 hours of workshops, focused on learning to roleplay, getting to know each other, and getting familiar with their character.

Time in-game lasted for 17 hours, with 1 hour of group reflection on the morning of the second day. In the meantime, all participants had at least one 1-on-1 session with their coach and could ask their coach for feedback during the larp. At the close of the two-day session, we had 3 hours of debriefing. Later, the participants could reflect with their coach and they had an evaluation session with the trainers. A follow-up session was planned 6 months afterward, to refresh the learning points.

Layer analysis

On the social layer, individuals sign up to the larp for personal development. On the game layer, players cooperate and attempt to lift each other (Vejdemo, 2018). On the diegetic layer, characters are organization members who are competing and collaborating in an intra-group conflict.

Larping analysis

MoveOn uses fleshed-out, individual characters tailored to participant needs and learning goals. For most of the playtime, the fiction is not broken. However, during runtime, there are several moments where the fiction is deliberately broken to allow for reflection on the fiction. This is both done collectively and individually. Beforehand, the design was to keep the fiction intact, except for these reflection

moments. However, during play, both participants and actors (NPCs) asked for replays of scenes that involved just one or two players, so that these players could get more learning potential from these scenes.

All played characters were physically present during the game. Thus *MoveOn* met two criteria of larping out of three (Harviainen, 2011).

III.5. Discussion

III.5.1 Differences and Similarities

This section outlines the design differences and similarities between our cases, four leadership development (LD) larps. While the leadership development theories, goal structures, the framing of gameplay, and the depth of character design show striking discrepancies, recurring patterns among cases are the usage of real-life settings without props, thin game layers, high replayability or variability, and utilizing urgency and/or VUCA aspects. Common aspects in all cases constitute the ideal of the versatile leader, relatively low hierarchy, the structural support of the experiential learning cycle, and observer roles.

Leadership development theories

While there are similarities between the aims and underlying concepts of the leadership development theories behind the cases, all larps utilized different models. Case 1 (*7Samurai*) is based on the HR institution of assessment centers and Belbin's team roles theory (2012). Belbin's role theory identifies nine team roles, categorized into action-oriented, people-oriented, and thought-oriented roles, each essential for effective team performance. Case 2 (SPGR) uses Systematizing Person-Group Relations (SPGR) theory. SPGR is a framework that analyzes interpersonal dynamics and role behavior in groups, focusing on systematizing relationships to understand group functioning and development. (Sjøvold, 2007). Case 3 (*Groundhog*) is based on Ronald Lippitt's concept for dramatic leadership development. Lippitt's dramatic leadership development emphasizes stages of group development and leadership styles, highlighting how leaders can adapt to group needs and dynamics for effective management (Lippitt, 1943). This, in turn, is based on Jacob L. Moreno's role theory that explores how individuals assume and perform different roles within various social contexts, using roleplaying as a method to study and improve social interactions and personal development (Moreno, 1962). Case 4 (*MoveOn*) utilizes the core quality

quadrant model (Ofman, 2006) to develop situational leadership (Hersey and Blanchard, 1977). Just as there are many different leadership theories, there are many different leadership edu-larps.

Goal structure

We found the most significant diversity among the cases in terms of their (latent) goal structures (see Table 7). On the *social layer, the personal purpose* of participants in Case 1 (*7Samurai*) might be to get hired as a result, or, for an HR staff, to experience the edu-larp intervention as participants first, to utilize it later as an assessment center. In the other cases, the purpose is personal (and in Case 2 (SPGR), as a navy crew also a real-life team-level) leadership development.

There are more differences in the *game layer*. In Case 1 (*7Samurai*) players compete with each other to win a real-life job, making it a player versus player (PvP) larp. In Case 2 (SPGR), players attempt to create a common goal and become a team. Case 3 (*Groundhog*) aims to foster behavior experimentation through repetition, trying out new approaches, finding new solutions to archetypical problems, and summarizing the experiences into statements about leadership through projective techniques. The *object of the game* (Baker 2013) in Case 4 (*MoveOn*) is learning together and for this, the larp utilizes workshops to help players collaborate in playing to lift (Vejdemo, 2018).

On the *diegetic layer,* we discuss *character goals.* Case 1 (*7Samurai*) is exceptional again in the sense that it is an intergroup conflict between the characters versus an unseen threat, making it a Character vs Environment (CvE) situation. They are told that they win or lose as a group. This case is also special because the designers think that there is an optimal final choice and thus, a secret winning condition. In the last task, when the samurai have to negotiate with one of the threats, designers think that it is best to choose the rebels and try to make them an ally, as emperors never negotiate. These are in striking contrast with the other layers and their goal structure. Case 2 (SPGR) and Case 4 (*MoveOn*) are intragroup conflicts plot wise. In Case 2 (SPGR) characters pursue their own goals, however, this does not necessarily lead to competition with others. Instead, usually a mix of cooperation and competition, in other words, co-opetition happens during the negotiation process. This is also true for Case 4 (*MoveOn*) but on a more complex level. Here character goals are designed to fit participants' personal developmental goals, and around 50% of these goals are

attainable during the game, the others are process goals. Character goals are aligned in a way that every character can feel that they are gaining something. The two-day game time offers many opportunities to pursue personal agendas and make meaningful decisions about cooperation or competition. Case 3 (*Groundhog*) is also an outlier. Here, there is only one protagonist in every scene, and the whole situation centers around their interpersonal relationship with the antagonist, sometimes supplemented with a third, supporting character. There seem to be countless possible variations of layers and goals.

Table 7: The goal structure of the cases in the three-layer model.

Case	**1 (*7Samurai*)**	**2 (SPGR)**	**3 (*Groundhog*)**	**4 (*MoveOn*)**
Social layer	get hired/learn the process by experience	personal and team development	personal development	personal development
Game layer	hidden competition to win (PvP)	cooperation in finding a solution	cooperation in exploration & summarization	cooperation in playing to lift
Diegetic layer	cooperation in an inter-group conflict (CvE)	co-opetition in an intra-group conflict	co-opetition in the protagonist plays	co-opetition in intra group conflict

Source: Hartyándi and van Bilsen (2024).

Gameplay framing

There is also much diversity along the dimension of framing the gameplay. Case 1 (*7Samurai*) is a short, continuous larp with several tasks framed softly by the facilitator in a diegetic role. The assessment tasks or scenes are separated by "nights," the dimming of lights, when assessors can take notes and participants can freely reflect. Case 2 (SPGR) larps are also short and continuous, however, two of them are repeated twice. They lack the inner structure as they are more like uninterrupted long scenes. Case 3 (*Groundhog*) uses hard scene framing techniques, and each scene is replayed with possibly different outcomes at least five times in a row. The gameplay phase of Case 4 (*MoveOn*) is one unstructured continuous play; however, the corporate setting makes it possible to insert scenes diegetically as meetings.

In terms of creative freedom and player agency, as Case 1 (*7Samurai*) is an assessment center (AC), it limits the creative freedom and agency of players on a situational level, meaning that they can influence the action in progress, but not the assessment center

process. Case 2 (SPGR) larps were 70 minutes, one scene larps, they allowed much less room for players to go off track. Within the confines (set location and two-day time period) of Case 4 (*MoveOn*), players had a large amount of creative freedom. They were allowed to come up with new relevant facts as long as they did not contradict established ones. They could alter the structure of the larp (for example, they decided to fire the diegetic facilitator and change the proposed timing of several items on the agenda. This led to a high level of agency experience for the players. However, game masters still had the final say on what happened on a larger scale, as the players could only affect their characters and not create outside events. While Case 3 (*Groundhog*) was much shorter in time and scope, it allowed a lot of creative freedom within the confines of the short scenes as players had to replay them at least five times, nudging them toward experimentation and trying out different approaches.

Real-life setting without props

Only Case 1 (*7Samurai*) is not set in a present-day, real-life, organization-based situation. It is set in medieval Japan, and players play Japanese peasants who pretend to be samurai to protect their village. This feature distracts the participants from the fact that they are evaluated in an assessment center, connects the various assessment tasks into a diegetic narrative with an arc, and also provides an alibi to deviate from everyday behavior. In terms of stage setting and props, Case 4 (*MoveOn*) is the outstanding one. All the other cases could be played nearly anywhere, as they do not use props and place little thought toward the stage setting. Case 1 (*7Samurai*) uses tools as game material, but they are symbolic. Building a "wall" with stone bricks is not building a wall. By contrast, Case 4 (*MoveOn*) makes use of an environment that is the same diegetically as in the real world (a holiday home where the company retreat is being held) enhancing spatial involvement (Calleja, 2011) or environmental immersion (Bowman, 2024). *MoveOn* also uses props that are diegetically present, such as the company website, yearly reports, and different clothing for the characters.

High replayability or variability

Case 4 (*MoveOn*) is not easy to replay with different people, as the characters are tailor-made to the participants' leadership development goals and the game takes two full days plus intake and follow-up. All the other cases are on the opposite side of the replayability spectrum. Case 1 (*7Samurai*) as an assessment center larp is not intended

to be replayed by the same participants; however, the possible assessment tasks can be chosen from a pool to correspond with the assessed competencies. Case 2 (SPGR) larps are very short, around 70 minutes each, and easy to play with other groups. It is interesting to note that while two of the three scenarios were repeated twice during the research, participants gave the feedback that they would like to play five different scenarios. Contrary to this, Case 3 (*Groundhog*) is designed around replayability both in the sense that the same participants should enjoy and learn from revisiting scenes multiple times, and also in the scene, that while the default starting sentences of the scenes make it easy for any group to start playing, these scenes can be easily changed to fit the development goal of the participants, as it was shown in the refitting of the consultant protagonist role to engineer in the university setup. Case 1 (*7Samurai*), Case 3 (*Groundhog*), and Case 1 (*7Samurai*) are both around 4-hour-long including briefing and debriefing, thus can be easily fit into a half-day slot.

Urgency & VUCA aspects

The different cases make use of a diegetic crisis or the feeling of urgency to drive the game. Case 1 (*7Samurai*) does this most explicitly, with enemy forces about to attack the player character's village. In Case 4 (*MoveOn*), the larp starts with a meeting where the boss says it is not going well and she will step back if the character can reach trust within the short period of the two-day company retreat. This urgency is heightened during the larp with a deadline, as a hostile takeover bid is introduced. Case 2 (SPGR) uses three larps, one of which is about a factory in crisis, on the brink of going bankrupt. The second larp is more whimsical, with pensioners facing a crisis of children making too much noise while playing. The final larp is about a launch party for a product, which is not a crisis, but has a high sense of urgency. In Case 3 (*Groundhog*), all standard scenes have complex, moderately high stakes (firing employees, restructuring organizations, etc.), however, the feeling of urgency is reduced due to the constant replaying of scenes.

To enhance the feeling of crisis, most of the cases have elements of the VUCA world (Lawrence 2013). Case 1 (*7Samurai*) is the most *volatile* and chaotic, as it is placed in a warlike situation. Due to its length, Case 4 (*MoveOn*) has the most *complexity* and *ambiguity*, because of the large creative freedom and player agency. *Uncertainty* is present in all cases, moreover, the goal of Case 3 (*Groundhog*) could be interpreted as offering a remedy to uncertainty by reducing it through replay.

Thin game layer

Larps often do not contain the equivalent of tabletop RPG character mechanics and have only a few game procedures (Harviainen et al., 2018). This is true for all of our cases as they have a very thin, close-to-zero game layer. Except for a simple token voting system in Case 1 (*7Samurai*), an inner monolog meta-technique in Case 2 (SPGR), and the special cards in Case 3 (*Groundhog*) that can be used to influence the replay of the scenes, we found no game mechanics. However, these special cards are used between replays by the protagonist and have no diegetic equivalent (like a latex sword prop would have a diegetic equivalent of a steel sword in a fantasy larp). Thus they do not belong to the character; they are used purely as a game mechanic.

Low hierarchy

In all cases, the main focus is on leadership within a relatively low hierarchy. Case 1 (*7Samurai*) and Case 2 (SPGR) are about groups of equals with minor differences. In Case 3 (*Groundhog*) while the antagonist role (by default, the manager) is always in power, the protagonist role is an advisory one (an external consultant by default). Even in cases where the protagonist plays a subordinate (e.g., as in the engineer's playbook), their trusted advisory role as experts puts them close to the manager in terms of power distance. Case 4 (*MoveOn*) does have scenes with subordinates as well, but the main focus is on a group of senior managers with minor hierarchical differences.

Structural support for the experiential learning cycle

All leadership developmental larps utilize the experiential learning cycle (Kolb, 2015). They start with briefing and workshops, thinking about learning goals, and conceptualization of the setting and characters. Within the larp, active experimentation and concrete experimentation are combined. All larps have a debrief or reflective observation (either during or after the larp, or both). Finally, the experience is conceptualized into real life again. This final step was present in all cases explicitly.

Developing a versatile leader

All analyzed larps share the underlying assumptions that successful leaders have to be versatile in their behavior and that this could be achieved by developing (or evaluating) role flexibility and expanding the repertoire of roles the participants can enact. In Case 1 (*7Samurai*), players have to show their different sides in a wide range of challenges to be selected from the candidates for the job in the assessment center. In Case 2

(SPGR), characters are designed to mirror group functions borrowed from the SPGR theory (Sjøvold, 2007) which posits that group functions need to circulate or "spin" between the participants to have a developing effect. Case 3 (*Groundhog*) actively pushes players toward behavior experimentation to try out different approaches and leadership styles. This is achieved by two-sided roles with behavior spectrums and through the mandatory replaying of scenes. Case 4 (*MoveOn*) is based on situational leadership theory (Hersey and Blanchard, 1977) that posits different employees are better led through different leadership styles (directing, coaching, supporting, or delegating) and a leader benefits from using these different styles, depending on the environment they are in.

Observer roles

There is a strong common theme of utilizing observer roles to evaluate or summarize player behavior among the analyzed larps. As Case 1 (*7Samurai*) is an Assessment Center, it has observer roles by default. In Case 2 (SPGR), for every active character role, there is also an observer role with an equally complex observer sheet, containing tasks and goals about observing and evaluating a particular player. In Case 3 (*Groundhog*), the character design for the observer role follows the same structure as for player roles but their goal is quite different. Observers here are tasked with collecting and writing down spoken lines that could summarize the meaning or moral of the situation. Case 4 (*MoveOn*) has two hired executive coaches in the staff who observe the situation in non-diegetic roles, meanwhile, the five organizers do the same but usually in diegetic roles. The lack of an observer role might be a great loss in terms of learning outcomes.

Requiring and promoting larping

The cases vary a lot in terms of meeting or supporting to meet the criteria of larping (Harviainen, 2011). For example, in character design, Case 1 (*7Samurai*) uses only social roles but states that game duration and immersion support players in developing their characters. Using "tabula rasa" characters that have only names and no psychological depth is crucial here, as it provides an equal chance to each candidate in the assessment center. Case 3 (*Groundhog*) presents roles not as fleshed out, specific characters, but as nameless behavior spectrums with a position and a specific goal. While this character framework is more nuanced and specific than a social role, it is

debatable whether Case 3 meets the character criteria for larping, especially because the roles shift between participants in every scene. Case 4 (*MoveOn*) uses premade, fully-fledged characters based on the player's learning goals, leadership style, and personality matrix, and the character's names, positions, and associated tasks, goals, personality, background history, and relationships that are based on participants casting choices. Case 2 (SPGR) is similar, as their character sheets have names, titles, SPGR categories, typical behaviors, personal goals, relationships, and suggested actions, however, these are not tailor-made to fit participants' needs.

The last aspect, the suggested specific actions, are very similar to Powered by the Apocalypse *moves*. "[M]*oves give structure and a certain order to the players' conversations*"; they "*represent qualities that all the characters share, that we can use to compare them, and the basic moves are how the characters express them*" (Baker, 2020). These action lists offer perceivable possibilities for action, or in other words, affordances to play (Gibson, 1977). This feature distinguishes Case 2 (SPGR) from general roleplaying training situations where having names, ages, positions, goals, and relationships is the norm (Rudas, 2007).

In all cases, at least some of the characters were physically present, so in this aspect, the researched cases can be called larps and vary from other forms, such as tabletop roleplaying games. However, every case had at least a small way of breaking the fiction. In SPGR this was only done in one session with a meta-technique and the other three cases all deliberately included a breaking of the fiction to increase reflection by the participants and therefore enlarge the potential learning effect of the intervention.

Overall, none of the four cases met the larping criteria fully, strengthening Harviainen's (2011) original observation about this trend in educational larps. The cases might be called edu-larps, but the majority of them do not promote larping in the strict definition we used. This also means that despite the label, brand appeal, and strong identity of larps, when analyzed in design terms, our cases do not look fundamentally different from other leadership development interventions that contain some form of roleplaying. This raises the question of whether the term "edu-larp" means anything in terms of specific design and methodology compared to educational roleplaying, other than signaling a designer's background? This points to the need of a more defined differentiation between those concepts.

Larping and learning

The previous topic also brings up another issue, the added value of larping compared to other forms of roleplaying, both in LD and in general education. Considering the third criterion, the "physical presence of at least some of the players as their" roles (Harviainen, 2011, p. 176) is strong in all cases. Recent theoretical studies have suggested that the levels of physical embodiment and cognitive engagement might lead to a higher degree of immersion (Kapitany et al., 2022), and possibly transformative experiences (Bowman and Hugaas, 2019; 2021). However, physically embodied roleplaying is true to nearly all types of mentioned roleplaying LDIs; thus this criterion can only delineate tabletop and computer RPGs, not other types.

On the other hand, our cases raise the question of whether the other criteria, the depth of the role and the integrity of the fiction have a significant beneficial effect on learning, or are these just the cornerstones of the autotelic leisure activity of larping? Further empirical research must show evidence on how and in what ways larping supports education and development, otherwise outsiders might jump to the conclusion that larping is relatively ineffective (or even detrimental) to learning compared to other roleplaying methods.

III.5.2. Limitations

The notions of games, simulations, and roleplaying are still hazy and often used as synonyms, even among academics (Crookall and Saunders, 1989; Feinstein et al. 2002; Hallinger and Wang 2020). The recent appearance of RPG and larp studies in international research further complicates this situation. Limiting our case study to activities that define themselves as educational larps about leadership might seem artificial, as there are many leisure larps about leadership and also, many leadership development interventions that contain some kind of roleplaying. To repeat our research question, we wanted to explore how leadership development larps attempt to develop leadership through their design.

Unfortunately, we found no analytic way to delineate larps from other forms of roleplaying better than self-titling. One candidate, the notion of larping (Harviainen 2011) can be characterized as a "behavioral-psychological mode of engagement" (Deterding, 2016, p. 104) that can happen in non-larp game framings as well (Harviainen, 2011, p. 185). We found this phenomenon to be challenging to directly

observe as the difference between a social role and a fully-fledged personality is highly subjective and in reality, moves on a spectrum. The criterion of (not) breaking the fiction is subjective as well, as sometimes breaking the fiction happens unobtrusively or deliberately, as part of the larp. Including these as criteria is more useful for studies that research player behavior and experience instead of game design.

Also, there are various drawbacks to using multiple case studies. First, the generalizability of the findings may be limited because of the small sample size, making it difficult to make broad inferences. We attempted to minimize case selection bias that may impair the representativeness of the chosen cases with transparent selection criteria, and counterbalance subjective interpretation and potential researcher bias during data analysis with co-author cross-analysis, but blindspots might still undermine the study's objectivity and trustworthiness. Our multiple-case study relied mainly on qualitative data, which can be interpreted and may lack the statistical rigor associated with quantitative research. Moreover, the absence of control over external factors makes establishing causal linkages hypothetical. Overall, we feel that our multiple-case study provided useful insights about designing and applying larps for leadership development, but the limitations listed should be taken into account when evaluating our conclusions and contributions.

III.5.3. Recommendations and further directions

As our article analyzed its subject from a design perspective, future designers can benefit from its findings, whether they are designing a larp or some other leadership development intervention with roleplaying in it. From our analysis, we gathered the following recommendations for the design of larps for leadership development:

- **Goals:** Larps can be used for a wide variety of goals: organizational gain (*7Samurai*), personal development (*Groundhog*, *MoveOn*), and team development (SPGR). Based on the analyzed cases, we hypothesize that it could be beneficial to have a contradiction between different layers of the design (e.g., cooperating as players to play competing characters) as it builds creative tension (see Harviainen et al., 2014). Designers and empirical research should explore this space.
- **Gameplay framing:** The most influential dimensions to the player agency could be: the duration of the larp and framing. To enhance the experience of agency, we

recommend mixing longer duration with less rigid framing (*MoveOn*) or utilizing repetition (SPGR, *Groundhog*).

- **"Larping:"** Character roles were not always needed to reach the aim of the larp (*Groundhog*, *7Samurai*) and usually, breaking the fiction to include more reflection was seen as good design (*MoveOn*, *Groundhog*, *7Samurai*). Suggested specific action lists (SPGR) or behavioral spectrums (*Groundhog*) create affordances to develop for players.
- **Setting & props:** Real-life settings were generally used to make the larps recognizable and accessible to players. One of the advantages of real-life organizational settings is that they support soft scene framing with diegetic schedules and meetings (*MoveOn*).
- **Replayability:** Tailoring to participants (*MoveOn*) inhibits replayability and should only be done if enough resources are available for this. Otherwise, high replayability might be beneficial, especially to enhance mastery learning and transference to real-world situations.
- **Thin game layer**: Larps do not need a heavy game layer with a lot of mechanics. This might be of added value compared to other forms of (serious) games that are used in learning contexts, as it makes the design more accessible to people who are less motivated by game elements (such as points or winning).
- **Urgency:** Crisis (SPGR, *7Samurai*), turbulent VUCA environments, radical uncertainty (*MoveOn*), or just high stakes (*Groundhog*) create urgency, drive the larp forward, and heighten the tension in larps, drawing the players out of their comfort zone. This makes for more intense learning situations. The explorative and rehearsing aspects of roleplaying can also prepare participants to face these challenges more effectively in real life.
- **Low hierarchy:** Having a low (*Groundhog*) or zero (*7Samurai*) hierarchy between player characters means that players will have a more equal chance to practice leadership skills. This way leadership can emerge through organic play. Developing through a pure follower role in leadership competencies is a complicated issue that needs further research.
- **Experiential learning cycle:** We recommend going through all stages of the learning circle when using larp for leadership development.

- **Leadership style:** Based on the cases, the larp medium seems to be particularly suited to teach versatility in behavioral styles. In return, a flexible and versatile leadership behavior repertoire is especially beneficial in turbulent, VUCA environments.
- **Observer roles:** We recommend observing the larp, either by the game master (*MoveOn*), designated observers (*7Samurai*, SPGR), or participants who (temporarily) fill the observer role (*Groundhog*). This adds to the learning of both the participants being observed and the observers themselves.

Our recommendations for future research are:

- **Overall:** Further study could also evaluate if new sliders from the current work should be added to the Mixing Desk of Edu-Larp (Bowman, 2018). The Mixing Desk of Edu-Larp is a design frame that uses metaphor of a mixing desk to show different design choices that can be made for Edu-Larp, presented in dichotomies, such as, transparant vs secret for the element "openness".
- **Cross-reference:** Systematic comparisons with roleplaying interventions that do not label themselves as larp might lead to more crystallized phenomenons (Richardson, 2000), and a clearer understanding of which roleplaying tradition offers what advantages over the others in which aspect.
- **Terminology:** Harviainen's (2011) definition of larping refers to a complex yet specific type of embodied roleplaying behavior that is common both during larps and non-larp events. We suggest that *etic* umbrella terms (Harris, 1976) should be as neutral and analytic as possible to minimize linguistic one-sidedness and gain a more widespread acceptance in academia. Thus, we suggest using a different term, especially when investigating this phenomenon in non-larp contexts.
- **Role vs. character:** We need more empirical data about the mediating effect of role-depth plays in development. In other words, whether playing a fully-fledged character instead of a social role has a significant impact on learning, and in what sense?
- **Integrity of fiction:** We also need more empirical data on how continuous roleplay, unbroken fiction, and immersion might mediate learning and development. In other words, what are the benefits of playing something uninterrupted, without dual cognition as opposed to other methods that purposefully break the fiction for reflection or calibration?

III.6. Conclusions

Many leadership development (LD) interventions contain some form of roleplaying and a lot of leisure live-action roleplaying games or larps deal with leadership topics explicitly or implicitly. However, there are not many leadership development edu-larps, meaning larps that were designed to be educational in their gameplay from the get-go and were utilized as formal or non-formal leadership development interventions.

This study successfully identified four such cases, and in a multiple case study that combined several typologies of both the leadership development research field and the field of edu-larp, applied drama, and simulation to form a comparative framework, examined how these leadership development larps attempt to develop leadership through their design.

Results found that while robust empirical results are still the weakness of roleplaying game studies, the cases showed remarkable diversity in terms of conceptual leadership development frameworks, goal structures, the framing of gameplay, and the depth of character design. Common things among the cases were the usage of real-life settings without props, thin game layers, high replayability or variability, utilization of urgency, and failure to meet all criteria of larping (Harviainen, 2011). All cases shared the ideal of the versatile leader, relatively low hierarchy, the structural support for experiential learning, and observer roles.

The limitations of this research focused on the small number of cases and a discussion on "what is larp(ing)." Recommendations were made towards future designers making their larps for leadership development and for future research, to look at terminology, other types of interventions, and more empirical data for the mediating effect of role-depth and fiction integrity.

IV. DISTRUST & DISILLUSIONMENT TOWARD GENERATIVE ARTIFICIAL INTELLIGENCE: PSYCHODRAMATIC EXPLORATION OF EMPLOYEE TRUST IN ORGANIZATIONAL TECHNOLOGY ACCEPTANCE[6]

Abstract

Millions have adopted tools like ChatGPT in recent years, yet indifference and resistance among employees remain. This qualitative study employs monodramatic projective techniques to explore employees' hidden assumptions and unconscious beliefs in a division attempting to integrate Generative Artificial Intelligence (AI, GAI). Through pretensive work, soliloquy, symbolic representation, modeling with intermediate objects, concretization, and role reversal techniques, the interviewees' internal representations of GAI and trust were materialized in physical artifacts, such as a ball of straw or a potted plant. The study identified three principal themes: GAI's appearance as a Janus-faced presence, unmet performance promises, and avoided proximity. Findings highlight ambiguities in acceptance and show that adoption was driven more by industry hype and normative pressures than genuine organizational needs, leading to disorganized implementation dependent on individual employee characteristics, mistrust, and disenchantment. The study's main contribution lies in refining human-robot interaction (HRI) models and psychodrama methods for GAI, emphasizing the significance of physicality and embodiment in technology-mediated relationships, identifying trust as a complex phenomenon with potential reciprocal causation, and emphasizing the importance of affective attitudes, illustrating how adoption projects can falter despite cognitive openness – all insights crucial for understanding self-driven, bottom-up GAI adaptation in an organizational context.

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IV.1. Introduction

Organizational change is often met with resistance or confusion (Bao, 2009; Nilsen et al., 2016; Choi et al., 2020; Kateb et al., 2022; Kalmus and Nikiforova, 2024). As more and more companies are starting to use algorithmic, machine learning, or artificial intelligence-based solutions, businesses that adopt and utilize externally developed technology in their operations face similar challenges of technology adoption as customer end-users, including integration issues (Familoni and Onyebuchi, 2024), lack of adequate training (Pinski and Benlian, 2024), and security and privacy concerns (Yao et al., 2024).

Over the last few years, millions of employees have learned to use various Generative Artificial Intelligence (GAI) tools like ChatGPT. These technologies involve computational methods that use training data to produce seemingly original, meaningful output, such as writing, pictures, or audio (Feuerriegel et al., 2024).

This study aims to explore and understand employees' hidden assumptions and unconscious beliefs toward GAI, focusing on their trust in the technology.

IV.2. Background

Quantitative methodology has long dominated technology acceptance research, often focusing on latent attitudes measured indirectly through structured surveys and statistical models (Lee and Baskerville, 2003). Despite the minority role, some qualitative studies have investigated the impact of leadership (Kavanagh and Ashkanasy, 2006), personality (Ouadahi, 2008), age (Renaud and Van Biljon, 2008), tool anthropomorphism (Gursoy et al., 2019), emotions (Gkinko and Elbanna, 2022), and trustworthiness-emphasizing organizational tactics (Hasija and Esper, 2022) on technology acceptance.

A recent systematic review (Kelly et al., 2023) reviewed 60 studies on AI acceptance and showed that intention, willingness, and use behavior of AI were positively predicted by perceived usefulness, performance expectancy, attitudes, trust, and effort expectancy across multiple industries. This paper seeks only to review the most relevant studies on Generative AI (GAI) adoption.

IV.2.1. AI in Widespread Models

The Diffusion of Innovation (DOI, Rogers, 1962; 1983) model describes how social systems adopt technology through stages of awareness, persuasion, decision, implementation, and confirmation, progressing from learning about the technology to evaluating its effectiveness for continued use. To highlight recent trends, various studies underline that trust dynamics within social networks significantly influence the diffusion of innovations (Fujii, 2022; Leon et al., 2022).

Technology Acceptance Model (TAM) explains why technology is accepted and used. Its original version focuses on perceived usefulness (PU) and perceived ease of use (PEOU) as key drivers of behavioral intention and actual usage (Davis et al., 1989). TAM 2 expands on these with factors like subjective norm, job relevance, and result demonstrability (Venkatesh and Davis, 2000), while TAM 3 further details the influence on PEOU, such as computer self-efficacy, anxiety, and enjoyment (Venkatesh and Bala, 2008). Renowned for its simplicity and clarity, TAM remains a foundational framework, recently expanded to include trust and transparency in intelligent systems like AI and robots (Vorm and Combs, 2022).

The Unified Theory of Acceptance and Use of Technology (UTAUT) synthesizes multiple acceptance theories, including TAM and DOI (Venkatesh et al., 2003). Its latest version applies to both consumer and employer settings, identifying eleven variables influencing behavioral intention and use behavior, including performance expectancy, effort expectancy, social influence, price value, hedonic motivation, and habit, among others, offering high explanatory power but significant complexity (Blunt et al., 2022). Recently, trust emerged as a key potential component in adapting UTAUT to AI (Chatterjee et al., 2023).

IV.2.2. The AI Device Use Acceptance Model

While these widely used models have integrated (G)AI and emphasized the critical role of trust and transparency in its acceptance and use, they were not designed explicitly for GAI. Recently, an AI-specific AI device use acceptance (AIDUA) model was proposed by Dogan Gursoy and his colleagues (2019) and further expanded by Xiaoyue Ma and Yudi Huo (2023). While this model focuses on customer acceptance, particularly chatbots in customer services, it incorporates the unique features of AI technologies, including the specific characteristics of perceived usefulness and ease of

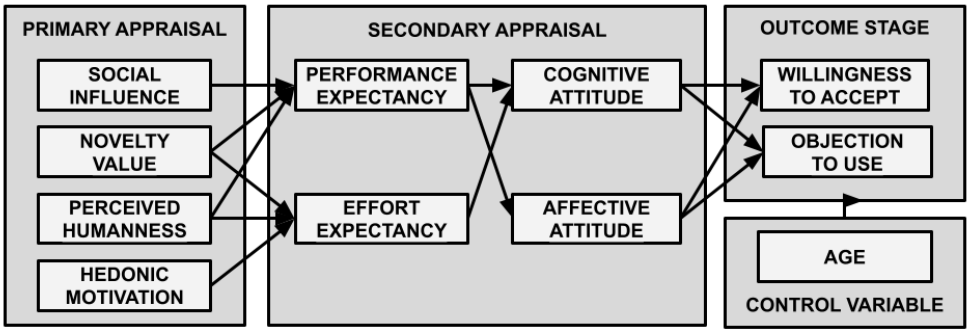
use in GAI technologies (Lu et al., 2019). Therefore, it offers valuable insights for better understanding of employee acceptance.

AIDUA is founded on the Cognitive Dissonance Theory and the Cognitive Appraisal Theory. Cognitive Dissonance Theory (Festinger, 1962) posits that individuals experience psychological discomfort (dissonance) when holding two or more contradictory beliefs or attitudes, leading them to alter their cognitions or behaviors to reduce the dissonance. Cognitive Appraisal Theory (Lazarus, 1991a; Lazarus, 1991b) suggests that emotional responses are triggered by an individual's cognitive evaluation (appraisal) of a situation, determining whether it is perceived as a threat or challenge and influencing the resulting emotional and behavioral responses. Based on these theories, AIDUA theorizes that users go through several stages of appraisals when making decisions (Figure 10). First, they assess the importance of the stimulus (primary appraisal), then examine their behavioral options (secondary appraisal), and finally form emotions toward the stimulus that leads to actual behavior (outcome stage). Primary appraisal consists of:

- **Social influence:** The extent to which a person thinks influential others think they should use new technology (see UTAUT; Venkatesh et al., 2003).
- **Hedonic motivation:** See UTAUT 2 (Venkatesh et al., 2012).
- **Novelty value:** The degree to which a product's freshness and originality make it stand out from competitors (Im et al., 2015).
- **Perceived humanness:** The extent to which technology has human characteristics, such as appearance, self-awareness, and mood (Kim and McGill, 2018).

These variables impact performance and effort expectancy, influencing users' cognitive and affective attitudes toward a willingness or objection to use GAI technology. This outcome stage is further significantly impacted by the control variable of age, which negatively influences the willingness to reject ChatGPT, indicating that younger users are less likely to abandon it and demonstrate greater openness to new technology (Ma and Huo, 2023).

Figure 8: The AI Device Use Acceptance (AIDUA) model.



Source: Author's own compilation, based on Ma and Huo (2023).

IV.2.3. TOE

Rather than conducting an isolated examination of technology, some authors suggest viewing GAI as a component of a socio-technical system (Cooper and Foster, 1971) made up of diverse technological, economic, and political structures, all of which can only be understood by additionally accounting for macro level consequences (Bengel, 2020; Saetra, 2021). By looking at three crucial factors, the Technology-Organization-Environment (TOE) framework, originally developed by Louis G. Tornatzky and his colleagues (1990) but further enhanced (Baker, 2012; Awa et al., 2017), can be utilized to successfully define how employees are accepting of GAI technology in organizations (Smit et al., 2024).

- **Technology:** The acceptance of GAI technology depends on its perceived simplicity, compatibility with existing systems, and the expectation of enhancing task performance and productivity.
- **Organization:** Employee adoption of GAI is affected by management support, the enterprise's size, and the scope of its operations.
- **Environment:** Normative and mimetic pressures, such as industry trends and competitor initiatives, drive GAI adoption, with employees more likely to accept it when they perceive it as essential for staying competitive.

Although TOE is only a general framework, it draws attention to the fact that organizational processes differ from individual consumer acceptance. For example, one study (Awa et al., 2017) found that the role of hedonic motivation in employee acceptance is generally insignificant, and adoption is more driven by TOE factors than by individual ones. The TOE framework's applicability to the research of AI adoption

is also supported by another study (Radhakrishnan et al., 2022) that discovered organizational elements affecting the adoption of AI, including corporate culture, strategic roadmaps, senior management support, and the availability of trained personnel. Other findings show that organizational culture, personal habits, and job insecurity influence employees' intention to use AI (Dabbous et al., 2022). They found that the relationship between job insecurity and intention to use is fully mediated by perceived self-image and perceived usefulness, and the relationship between habit and intention to use is partially mediated by them.

IV.2.4. Human-Robot Interaction

Finally, reviewing a few relevant studies from a parallel corner of human-machine interaction research, the human-robot interactions (HRI) field may be valuable. Over the last century, from being just tools, robots have developed into cooperative companions in several industries, including manufacturing and health (Baker et al. 2018). AI requires an interface to interact with its environment, often relying on embodied agents, for example, physical robots that enable software to engage with their surroundings (Duan et al., 2022). Bojan Obrenovic and his colleagues (2024) further highlight the convergence between GAI tools and robots, emphasizing their shared capacity for human-like interaction. GAI mirrors HRI's collaborative and intuitive dynamics with its conversational style, adaptive learning, and context recognition. Both domains leverage anthropomorphism, enabling systems to mimic social and emotional intelligence and fostering trust and engagement. These factors blur the distinction between physical robots and digital AI tools, extending the relevance of HRI models in AI acceptance research.

Several authors have identified trust as a crucial prerequisite for HRI (Sanders et al., 2011; Hancock et al., 2011). Based on previous research (Billings et al., 2012) that identified the appearance, performance, and proximity of robots as the key aspects of trust in them, Olga Simon and her colleagues (2020) asked participants to use Lego bricks to visualize dimensions of trust toward robots, constructing representations of their internal models. They have concluded that trust-relevant robot appearance could be broken down into aspects of color, gender, shape, and size. At the same time, multifunctionality, predictability, and control are the aspects of the performance dimension. They operationalized proximity as the robot's mobility plus interconnectivity between robots and humans. For a summary, see Table 8.

Table 8: Key aspects of trust in human-robot interactions.

Dimensions	Aspects
Appearance	Color, Gender, Shape, Size
Performance	Multifunctionality, Predictability & Control
Proximity	Mobility, Interconnectivity

Source: Author's own compilation, based on Simon et al. 2020.

Many GAI applications are well-suited for assistive and interlocutor roles, leading users to anthropomorphize them and perceive their outputs as akin to human intelligence (Gursoy et al., 2019). Whether viewed as teammates or tools, trust toward GAI is also critically important in its acceptance. It became one of the most frequently included variables in recent AI acceptance studies (Kelly et al., 2023). Trust was identified as a significant predictor of behavioral intentions in the extended TAM and was found to influence use behavior when considering other UTAUT model variables. In the eyes of the public, trustworthiness is one of the critical issues determining whether AI is treated as humanity's boon or bane (Gerlich, 2023). For this reason, it may be worthwhile to utilize the results of HRI research as a lens to investigate the aspect of trust in GAI.

IV.3. Research design

To gain a deeper understanding of employees' hidden assumptions and unconscious beliefs toward Generative AI (GAI), this study investigates how employees (co-)construct the notion of GAI related to work. In particular, the research seeks to qualitatively explore this topic through the perspective of trust in GAI technology among employees.

IV.3.1. Research methodology

The limitations of self-administered questionnaire surveys and qualitative methods based on self-report (in-depth interviews and focus groups) have long been recognized (Alvesson, 2003; De Leeuw, 2008; Gauntlett, 2007)**.** The complexity of human-machine interaction, especially trust in GAI, is imbued with many underlying tensions and paradoxes, making it a sensitive topic to address (Liamputtong, 2007). A methodology was needed that allowed participants to explore the topic safely.

To counter these challenges, this study has chosen a projective qualitative research methodology (Donoghue, 2000). Projective techniques assume that their indirective nature encourages respondents to get beyond good-sounding or unconsidered answers and reveal unconscious parts of their personality in response to stimuli (Will et al., 1996; Steinman, 2009). Among projective techniques, expressive ones are especially suitable for exploring the respondent's inner world (Krugman, 1960; Donoghue, 2000). These building or modeling techniques (Lane, 1999) are getting popular in research. For example, a rising number of articles utilized Lego Serious Play® in connection with business, management, and organization studies (Schwabenland and Kofinas, 2003). Another expressive projective method, namely psychodrama, has been successfully used in various fields for a long time, including marketing (Dichter, 1943) and leadership development (Lippitt, 1943). These methods are all founded on an extended version of constructivist learning theory (Piaget, 1955) claiming "everything [is] understood by being constructed" (Papert and Harel, 1991, p. 3.) and the evolutionary capability of humans to imagine (co-)pretended realities (Kapitany et al., 2022).

The psychodramatic method, rooted in the works of Jacob L. Moreno (1934; 1949), employs pretensive work to uncover hidden assumptions and unconscious beliefs, representing or modeling them within the dramatic space or surplus reality (Moreno et al., 2000). While psychodrama was initially developed as a group format, its monodramatic version (Sacks and Fonseca, 2004; Giacomucci and Giacomucci, 2021) is highly suitable for individual processes such as (executive) coaching (Schaller, 2022). Consequently, this study could utilize it as a monodramatic, expressive, and projective qualitative technique. Relevant psychodrama techniques include (Cruz et al., 2018):

- **Soliloquy or Monologue:** Thinking out loud to express thoughts, feelings, and intentions.
- **Symbolic representation:** Depicting complex situations and relationships in an emotionally authentic way.
- **Intermediate objects:** Using physical items to symbolically model internal objects, such as emotions, relationships, or aspects of the self.
- **Concretization:** Representing abstract concepts or bodily sensations as external forms through props or roleplaying.

- **Role reversal:** Physically and psychologically placing oneself in the position of another element in the dramatic space, thereby adopting a different perspective.

As participants' internal representations become visible, tangible, and plastic in the dramatic space, this partially physical and partially (co-)pretended model of inner reality can be studied independently and regarded as an artifact output. For specific examples, see Appendices 2 and 4.

The psychodrama director's techniques help participants shift their focus from the formalities of the interview to a more introspective exploration. The interview situation gradually transforms into a self-awareness opportunity as they warm up. Instead of merely articulating self-confessed opinions, interviewees confront their hidden assumptions and unconscious beliefs, often bringing unarticulated thoughts and repressed emotions to the surface.

Although the psychodramatic method is inherently diagnostic and interventionist, this study specifically employed it to uncover the interviewees' unconscious internal models of GAI. By prioritizing this exploratory aspect, the research aimed to reveal deep-seated perspectives that might not emerge through conventional qualitative methods.

IV.3.2. Data collection and sample

Our employed theoretical sampling approach is combined as we sought a case that is typical, normal, and average yet can serve as a critical case, enabling potential transferability and applicability to other cases – as it is possible to generalize from a single case (Flyvbjerg, 2006). The following criteria were established:

1. Completeness Criterion: The research must encompass an entire organizational unit or a cohesive working group.
2. Content Criteria:
    a. The organizational unit must be technologically competent and regularly utilize digital tools in its work processes.
    b. The unit should not be involved in developing GAI or similar tools, ensuring it does not consist of data scientists or AI professionals.
    c. The unit should experiment with integrating GAI tools without management directives, forced implementation, or "hard" system rollouts, facing similar

technology adoption challenges as customer end-users, making its members comparable to them.

Opportunistic and convenience considerations also influenced the final selection of the organization, as the research was conducted in the first organization that met these primary criteria.

Data was collected from a small Hungarian organization with 55-60 employees, positioned at the boundary between small and medium-sized enterprises, operating within the professional service (tertiary) sector, offering consulting services. Without significant mimetic pressures from their competitors, one of their divisions decided to experiment with integrating GAI tools by setting up a small project team to test them, fitting all the content criteria. Their project team experimented with tasks such as text generation and transformation, image creation, and presentation production, utilizing tools like OpenAI (ChatGPT, DALL-E), Designs.ai, Gamma, and Canva, and shared their lessons with the division. This typical, non-specialist organizational unit, engaging in self-driven, bottom-up, organic GAI exploration, seemed highly relevant as a critical case for deriving insights into organizational technology adoption challenges, particularly those resembling the experiences of customer end-users.

Contact was established through professional relationships. Nine one-hour interviews were conducted between December of 2023 and July of 2024, covering all eight full-time members of a divisional team and one other member of their GAI project team. It was unclear whether the research had reached theoretical saturation (Klenke, 2008), as the data collection included every member of the targeted division and other involved stakeholders like Interviewee #4 (see Table 9). The final three interviews were scheduled after the organization conducted internal GAI workshops for three key reasons. First, the research aimed to better understand employees' experiences and evolving relationships with GAI rather than merely capturing a snapshot of the division. Second, it enabled an assessment of the impacts of in-house learning and development interventions. Third, this approach facilitated the collection of more informed and experience-based mental representations from the remaining participants, addressing the limited GAI familiarity and motivation observed in earlier interviews.

The interviewees are presented in the order of their interviews (see Table 9) and categorized by generation, professional experience, gender, GAI maturity, and other relevant information.

- **Generation:** Interviewees span across Generation X (born 1965–1980), Generation Y (1981–1996), and Generation Z (1997–2012).
- **Experience levels:** Seniors have over ten years of industry experience, juniors have a maximum of a few years, and mediors fall between these extremes. Interviewee #4 was an assistant from another support division.
- **Gender distribution:** Seven interviewees identified as women, and two as men.
- **GAI maturity** (self-reported, retrospectively categorized):
  - *Negligible:* (Close to) zero experience with GAI.
  - *Theoretical Knowledge:* Minimal practical experience but considerable subject knowledge.
  - *Some:* Basic knowledge with limited experimentation.
  - *Moderate:* Intermediate-level experience beyond the basics.
  - *Significant:* Advanced knowledge, wide-ranging tools, and daily use routines.
- **Other:** Interviewees #2–4 comprised the organization's GAI project team. Only #7 and #8 participated in the in-house GAI workshops from the final three interviews, and #9 did not.

Table 9: Interviewee data.

Order	Generation	Experience	Gender	Self-declared AI maturity	At the time of the interview
#1	Z	Junior	Woman	Negligible experience	-
#2	X	Senior	Man	Theoretical knowledge	GAI project members
#3	Z	Junior	Woman	Some experience	
#4	Z	Assistant	Woman	Moderate experience	
#5	X	Senior	Woman	Negligible experience	-
#6	X	Senior	Woman	Moderate experience	-
#7	Z	Junior	Woman	Some experience	participated in the GAI workshop
#8	Y	Medior	Woman	Significant experience	
#9	Y	Medior	Man	Negligible experience	-

Source: Author's own work.

The study used the expertise of a psychodrama-trained director who conducted the interviews while the researcher could concentrate on making observations and taking notes.

IV.3.3. Monodramatic interview structure

While projective qualitative methods are often understood as unstructured (Steinman, 2009), psychodramatic processes follow specific guidelines. For interview questions, see Appendix 3. Before the monodramatic exploration started, as a warm-up, the interviewer asked interviewees about their expectations for the interview and their personal understanding of GAI, encouraging them to define it in their own terms.

The monodramatic interview followed the general outline of a short psychodrama session (Moreno, 1949). Interviewees were asked to visualize things in the dramatic space using themselves, furniture, or objects available in the room and to voice their feelings and thoughts. If the interviewees had placed something in the dramatic space, they were not only asked to talk about it but also to reverse roles and speak from the point of view of that party or thing (Cruz et al., 2018).

1. The interviewees started by representing themselves in their work environment. Some participants took up a specific position in the interview room; others used intermediate objects to model their professional position or identity.
2. GAI technology was then positioned within the dramatic space, represented by a selected intermediate object chosen to symbolize it.
3. The third step examined the relationship between the interviewee's position and the GAI.
4. Finally, the broader organizational and sociopolitical context could also be represented in the dramatic space if the interviewee independently indicated them as subjectively relevant actors. For instance, if they mentioned specific stakeholders or external socio-economic forces influencing their GAI relationship, they materialized these parties using intermediate objects.

At the end of the interview, the interviewer asked the interviewee to reflect on the monodramatic interview experience briefly and allowed comments beyond dramatic exploration.

IV.3.4. Data analysis

To build up a data corpus, photographs of the intermediate objects were converted into summary visual diagrams (see Appendix 2), observations of the interviewees' behavior were compiled into a separate database, and the audio recordings of the interviews were transcribed into text using the AlRite program, with manual corrections and the addition of verbal gestures such as laughter (see Appendix 4).

Since this research examines the interviewees' internal representations rather than their perceived opinions, the data analysis focused primarily on the created artifacts. These externalized internal models, comprising physical intermediate objects, behavioral cues, and verbal expressions, were interpreted using information from behavioral observation records and interview transcripts, thus reaching methodological triangulation (Denzin 1989).

To have a manageable amount, the data corpus was reduced to a research-relevant data set using the method of meaning compression (Kvale, 1996). The data set was then analyzed using the thematic analysis method (Holloway and Todres, 2003), which allows patterns and themes to be searched for, analyzed, and interpreted in the entire data set. The deductive or top-down form of the method (theoretic thematic analysis, TTA) allows the data to be coded to a pre-existing theoretical framework (Braun and Clarke, 2006) to conduct a detailed analysis of the externalized representations of the interviewees. Thematic coding strategy is structurally related to the open-axis-selective steps of Strauss and Corbin (1990) but is more general and easier to fit into theoretical frameworks.

The process of externalization during the monodramatic interviews gave digital GAI a visible, tangible, machine-like presence. This trend, coupled with the mentioned convergence between GAI and robotics (Obrenovic et al., 2024), blurred the distinction between digital GAI tools and physical robots. Consequently, the "trust in robots" model (Simon et al., 2020; Table 8) emerged as a fitting theoretical framework for this study, particularly as it aligned with our constructivist approach.

In the first step of coding, a pre-defined codebook based on the theoretical framework was developed and applied to the dataset following the TTA approach (see Appendix 5). It was observed that gender, an aspect of Appearance, had no relevant data in the data set. Moreover, a significant portion of uncoded data could be summarized as the

aspect of distance. During the intermediate axial coding phase, the code of gender was removed. The new code of distance merged data on physical distances between symbolic objects with expressed emotional distances.

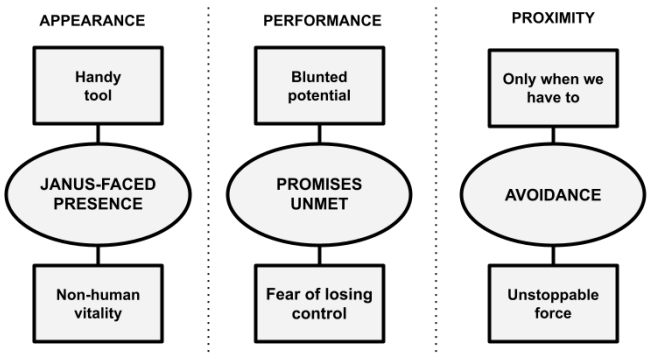
In the third round, codes were grouped into themes, and a thematic map was created to illustrate the alignment between the theoretical framework and the data. The results from these rounds were iteratively reviewed and refined, with the final themes labeled to emphasize how they support, refine, or challenge the dimensions in the theoretical framework.

Significant effort was invested in reporting the data in an analytical manner that does not conceal inconsistencies to assure reliability and gain a comprehensive understanding. This involved immersing in the data, repeatedly reading the transcripts, and comparing them with other data sources. To further ensure reliability, the study paid particular attention to the latent layers of meaning in the data set (Boyatzis, 1998). For example, the Appearance dimension contains not only codes related to the color, shape, and size of the intermediate objects used but also codes derived from information physically or verbally expressed by the interviewees, providing a more precise depiction of their mental representations (e.g., "Small then very large," #1a). Combining three data sources to cross-verify findings strengthened the study's validity. For member checking, participants were consulted to verify the accuracy of the interpreted data, ensuring that their experiences were authentically represented (Thomas, 2016).

IV.4. Findings

Figure 11 summarizes the thematic map of the theoretical thematic analysis.

Figure 9: Thematic map of trust toward Generative AI (GAI).



Source: Author's own work.

IV.4.1. Appearance

The appearance of internal models materialized in the artifacts seems to be contradictory. One notable characteristic is that, while the term Generative AI (GAI) implies a form of intelligence, it was never depicted as human-like within the dramatic space. Participants represented GAI as a *Non-human vitality*: Devoid of any genderedness in all interviews, challenging to define in shape (#1a), held together by walls (1b) while expanding (#2; #5), "small then very large" (#1a), and capable of penetration (#7) and multiplication (#8).

GAI was often represented by non-figurative decorative objects (#1a; #1b; #5) or larger pot plants (#2; #8; #9). Representing GAI with a plant may be an oxymoron, but it also needs proper nurturing (data, training, and fine-tuning) to thrive. Just as a plant enhances its environment when well-maintained, properly integrated GAI can significantly boost productivity and creativity. Without adequate care, both can fail to reach their full potential.

Except for houseplants, all intermediate objects were of a manageable size and easy to handle by hand. Most of these served practical purposes, such as writing, like a pen (#3) or a board marker (#6), or opening things as they rotate, like a can opener (#4) or a pinecone reinterpreted as a drill head (#7). This pattern highlights another recurring theme: the portrayal of GAI as a *Handy tool*.

The appearance of GAI can be summarized as a *Janus-faced presence* for the division under study. A clear example of this duality is Interviewee #1, who, without any prior instruction, immediately distinguished between two meanings of GAI: *"On a feeling level, it's behind me. Like, I can't see it, I can't even see what it's like. It's distant. But in reality, I think about it as something… somewhere over there."* (#1; see Appendix 4 for context). These themes showcase the distinct conceptual framing of GAI as inherently non-human.

IV.4.2. Performance

The "multifaceted" (#7) nature of GAI is widely acknowledged in the interviews, with metaphors such as "has many branches" (#7; #8) and "can be opened in thirty different ways" (#4) reflecting its perceived versatility. GAI is described as "full of possibilities" (#1b) and "features" (#3), yet there is uncertainty, as "It's not known what it really knows" (#5). Its capacity is compared to the full potential of the human

brain (#6) or to “unfathomable depths” (#1b). However, users express disappointment when the outputs fall short of expectations, being merely “usable” (#3) or “rough” (#4). As one user commented, “I have to touch it to make it work!” (#1b). GAI proves valuable only when integrated with human effort." This *Blunted potential* is evident in at least two areas: the functions are often seen as “gimmicks” with “no solid business use case yet” (#2), and while they enhance tasks “I don’t like to do” (#9), there is little interest in learning to use them.

Interviewees expressed a mix of cautious optimism and significant concerns regarding GAI’s predictability and control. On the one hand, GAI was described as “relatively credible, reliable” (#8), reflecting a degree of trust and alignment with user needs in its current capabilities, as “for now, [GAI is] at the service of the people” (#6). However, many participants emphasized that it is “unsolvable” (#1a), “opaque” (#1b), and challenging to manage, being “too fast” (#1b) and “uncontrollable” (#1b), which elicited uncertainty (#2) and concern (#5). The greatest fear was that as an independent force, it “makes way for itself” (#7), “we cannot precisely control its development” (#9), as “the powerful own and control it” (#3), and leading to unease and *Fear of losing control* over its trajectory and ultimate impact. While GAI’s current state generated more disappointment than optimism among the group, the wild potential and lack of control fostered distrust, highlighting *Unmet promises* about the performance of GAI.

IV.4.3. Proximity

None of the interviewees placed the intermediate object representing GAI close to their professional selves. It was consistently positioned behind their back (#1a; #5), on the periphery (#2; #4), far away (#6; #7; #9), hidden (#3), or at best visible but not easily reachable (#1b). This distancing was particularly evident in their roles as employees (#8), with GAI described as “outside the world of work” (#9) and rarely used by even experienced users outside of private life (#6). This reflects a sense of professional disinterest, an attitude of *Only when we have to*, which is surprising, especially for the project team. As one member summarized, “*I could go there, but as long as I have a pen, what for?*” (#3).

The group’s passivity and detachment become even more pronounced when contrasted with GAI’s perceived interconnectivity, mobility, and dynamism. It was described as

an *unstoppable force* connected to everything (#1a), "slowly entwines everything" (#2), and "always hits a wall, but drills through every obstacle." (#7). While some interviewees adopted a wait-and-see approach (#7), delaying integration but expecting GAI to reach them eventually, others expressed concern, keeping a watchful eye on it even from a distance (#2), indicating conscious and unconscious *Avoidance*. These themes highlight a growing tension between GAI's rapid expansion and employees' hesitant, reserved attitude and emotional detachment, revealing a disconnect between technological advancement and human readiness to engage with it.

IV.5. Discussion

The emerging themes describe why and how the observed organization's technology exploration and acceptance process was plagued with multiple issues. Our research study also confirms and nuances many of the findings of previous studies.

All three dimensions of trust in robots (Billings et al., 2012) appeared relevant for Generative AI (GAI), confirming the model's relevance and applicability. The most significant aspect of Appearance was the GAI representation's shape, followed by its size. However, the relevance and impact of color and gender on trust need further research. Performance was confirmed as a key dimension influencing trust in GAI. Results suggest that the self-managed emotional and physical distance between GAI and the self may be a new Proximity aspect (Simon et al., 2020). In line with previous studies (Fujii, 2022; Leon et al., 2022; Vorm and Combs, 2022; Chatterjee et al., 2023; Kelly et al., 2023), this study shows that for successful workplace implementation, employees need to perceive AI as an opportunity and not a threat (Bhargava et al., 2021). Analyzing human–GAI interactions through an HRI framework with monodramatic techniques also revealed the significance of physicality and embodiment in technology-mediated relationships.

The two distinct GAI representations in Interview #1, and more broadly, GAI's *Janus-faced presence*, exemplify the psychological defense mechanism of splitting as described in Melanie Klein's (1996) object relations theory. Splitting involves mentally dividing objects or experiences into extreme components to manage conflicting emotions, often leading to polarized perceptions. Klein posits that the subject (individual) develops their psyche and relationships based on early interactions with significant others (objects), where the quality of these early relationships

profoundly shapes the subject's internal world and their capacity to form and maintain relationships throughout life. Object-relations theory has been utilized to explore problematic digital behavior in the workplace (Whitty and Carr, 2006). Its close relative, attachment theory (Bowlby, 1982), demonstrates that attachment style can be used to predict how people feel about AI, as attachment anxiety is associated with less trust in AI (Gillath et al., 2021). Although the latter research was based on hypothetical AI scenarios, it remains relevant, as two of its three studies focused on applications (AI-based medical diagnostic aids and personal relationship aids) that GAI tools, such as ChatGPT, can also produce from available data. These further reinforce the conclusions of other studies (Greiner et al., 2021), emphasizing the importance of emotional factors.

Regarding acceptance models, the central theme of *Unmet performance promises* indicates low perceived usefulness, performance expectation, job relevance, and a lack of result demonstrability in the division's work-related tasks, all relevant factors in TAM 2 (Venkatesh and Davis, 2000). GAI-experienced interviewee's preference to use it in private life emphasizes compatibility issues, mirroring the extension of UTAUT (Blunt et al., 2022). They felt that while GAI cannot currently replace humans at work, its rapid development and unpredictability raise concerns, touching on job insecurity (Dabbous et al., 2022). These support a study where the top three reasons against using GAI tools were perceived risk, language barrier, and technological anxiety (Pillai et al., 2024).

In AIDUA terms, while the *Handy tool* theme suggests high-performance expectancy combined with low effort expectancy, GAI's conceptualization as a *Non-human vitality* severely impacted perceived humanness (Ma and Huo, 2023). Only Interviewee #4 mentioned that using GAI is somewhat fun and exciting, showing low hedonic motivation and limited novelty value in the division (Im et al., 2015). Social influence also remained weak as the management was encouraging but not prescribing GAI usage. All these factors lead to a very limited primary appraisal that negatively influences behavioral options (secondary appraisal), reducing the chances of developing a habit of using GAI for work (Blunt et al., 2022; Dabbous et al., 2022).

Contrary to the AIDUA model, while age and seniority did not appear to impact GAI adoption directly, male interviewees (#2; #9) heavily criticized GAI's usefulness, aligning with findings that gender influences users' willingness to reject ChatGPT (Ma

and Huo, 2023). While the AIDUA model operationalizes trust as the result of a primary appraisal, the findings, in line with Object-Relations Theory and Attachment Theory, suggest that trust in GAI is a complex phenomenon involving both prior and posterior phases, likely with bidirectional causality. These indicate that a more nuanced AIDUA model is needed.

The findings also highlight that hedonic motivation often holds little significance in organizational contexts, and successful adoption requires that the scope of operations significantly benefit from GAI use (Awa et al., 2017). The lack of organizational pressure and drive further hindered progress. "Soft" management efforts, such as forming a GAI project team or hosting in-house workshops, may be necessary but insufficient (Radhakrishnan et al., 2022). These results indirectly confirm previous research suggesting that contextual factors like technological, organizational, and environmental aspects (Awa et al., 2017; Radhakrishnan et al., 2022) are often more relevant for organizational technology adoption than traditional customer-based models.

While the hype around GAI might create high normative pressure to adopt (Leaver and Srdarov, 2023), the low mimetic (competitor) pressure in their industry diminished its impact. This was likely one of the primary explanations for the entire undertaking. Not wanting to miss out on the GAI hype, the division tested its implementation. However, the initiative remained disorganized due to a lack of clear organizational needs and goals, as well as a lack of internal and external pressure. Thus, adoption depended almost entirely on the characteristics of individual employees and their respective teams.

The division showed a distinct, avoidant affective attitude toward GAI, exemplified by the unenthusiastic GAI project team, where the most eager member was an assistant temporarily assigned from a different division (Interviewee #4). Though cognitively open to GAI, the division's strong distrust and disillusionment at the affective level illustrate why and how a technology adoption project can be ineffective, even when stakeholders appear open and optimistic at a cognitive level. This might be transferable to many other cases.

Despite the study's focus on a relatively small firm in the professional service sector, with only 55–60 employees, the findings may also apply to other industries and

medium- and large-sized enterprises in cases where the technology adoption attempt involves voluntary, self-driven, bottom-up, organic GAI exploration and adaptation within a smaller unit, such as the observed division of eight full-time members. New management models for GAI adoption should address these situations and challenges, particularly in the SME sector. Additionally, organizations can utilize the results of this research to enhance their GAI implementation process.

IV.6. Conclusions

This qualitative study examined the internal representations of employees from a Hungarian organizational division in the professional service sector that attempted to integrate Generative AI (GAI) technologies from various providers, including OpenAI (ChatGPT, DALL-E), Designs.ai, Gamma, and Canva, for functions such as text generation and transformation, image creation, and presentation creation. The interviewee's internal models about GAI and trust were externalized by deploying monodramatic projective techniques taken from psychodrama, like soliloquy, symbolic representation, concretization, intermediate objects, and role reversal (Cruz et al., 2018). These revealed hidden assumptions and unconscious beliefs in a tangible format, offering insights into employee perspectives on organizational technology acceptance.

The thematic codes of this research, the appearance of GAI as a *Janus-faced presence* (simultaneously a *Handy tool* and a *Non-human vitality*), the *Unmet promises* of its performance (marked by *Blunted potential* yet coupled with *Fear of losing control*), and its *Avoided* proximity (characterized by a reluctance to engage unless necessary, contrasted with the perception of GAI as an *Unstoppable force*) highlight an inherent ambiguity toward GAI, reflecting organizational acceptance gone awry.

The study's key contributions include fine-tuning HRI models and monodramatic methods for GAI, highlighting the significance of physicality and embodiment in technology-mediated relationships. It identifies trust in GAI as a complex phenomenon with potential reciprocal causality and emphasizes the importance of affective attitudes over cognitive acceptance. Additionally, it confirms the relevance of contextual factors over traditional customer-based models in organizational technology acceptance and illustrates how adoption projects can fail despite cognitive openness.

While the hype around GAI might have driven many companies to attempt GAI integration, gradual, “organic” organizational adaptation strategies face many hurdles. Without a clear strategy and strong management support, the individual characteristics of employees, particularly perceived trust, become the key determinants of adoption.

Results imply that technological change management should prioritize organizational factors and emotional dynamics to achieve a smoother and more humane adoption of new technologies. Organizations must establish precise business needs and strategic goals to align employee efforts and maintain relevance. To address concerns about reliability and perceived lack of control, decision-makers should implement transparent policies, provide targeted training, and establish open channels for employee feedback. Additionally, identifying and supporting early adopters within the organization can help them serve as role models and advocates, fostering greater acceptance and effective use of GAI technologies.

The study’s limitation as a single, albeit critical, case study conducted in a Hungarian organization’s division highlights the need for further research. Future studies should explore the complex nature of trust in GAI, particularly its reciprocal causality, and how contextual and socio-technical factors interact in different organizational settings. Management perspectives, affective dimensions of technology acceptance, and longitudinal approaches can reveal how trust, usability, and GAI integration evolve over time. A follow-up study could investigate how monodramatic interviewing fosters individual and organizational change through heightened awareness, offering more profound insights into the role of embodiment in employee attitudes. Additionally, examining GAI’s impact on work identities, role definitions, and team dynamics could provide a broader understanding of its influence. The innovative application of Morenian dramatic techniques (Cruz et al., 2018) demonstrates this methodology’s potential for uncovering hidden assumptions and unconscious beliefs, offering valuable insights for research and practice in other contexts.

V. SUMMARY OF RESEARCH FINDINGS

In my paper-based doctoral dissertation, I presented three papers from three different disciplines, all lying at the intersection of human resource development (HRD), game and play studies, and design sciences, and all utilizing our evolutionary trait of pretense to co-construct fictional organizational realities to crystallize this fragmented phenomenon and diverse scene better.

While initially focused on video games, the first study made a significant contribution by demonstrating how both digital and analog games, particularly gaming simulations, enhance management and organizational learning. By improving decision-making, strategic thinking, and team-based problem-solving, these games were shown to be valuable tools in corporate training and leadership development. The study also introduced a comprehensive evaluation framework applicable to serious and leisure games, offering a structured approach to assessing their educational impact on HRD.

The second article advanced the field by critically examining edu-larps (educational live-action roleplaying games), a recent trend in applied roleplaying, to determine their distinctiveness from previous forms. Through an analysis of leadership development larps, it explored how these games are designed to cultivate leadership skills, providing insights into their educational effectiveness.

The final article contributed methodologically by applying a psychodrama-based monodrama approach within a projective research framework. This study revealed hidden assumptions and unconscious beliefs about technology acceptance in an organizational division, emphasizing trust and demonstrating the efficacy of pretensive action methods in qualitative research.

In the following sections, I summarize the contributions of each paper included in my dissertation (V.1.), present the answers to the research questions (V.2.), outline their limitations (V.3.), critically reflect on the organizational conditions, limitations, and contraindications of pretensive action methods (V.4.), and discuss practical implications (V.5.), the status of my research goals (V.6.), and directions for future research (V.7.). By synthesizing my research and recording new and novel research

findings, I aim to provide a comprehensive overview of the results and the impact of my PhD dissertation.

V.1. Contributions

Overall, this dissertation advanced the interdisciplinary field of management & organization studies by consolidating fragmented strands of research on pretensive action methods, namely gaming simulations, educational roleplaying games and larps, and psychodrama, into a more coherent conceptual framework. It extended theoretical understanding by mapping these diverse practices, establishing comparative frameworks, and situating them within learning theory, design science, and leadership development discourse. Through literature reviews, multi-case analysis, and methodological innovation, it redefined the analytical boundaries of activities traditionally seen as leisure, framing them as legitimate educational and developmental interventions, revealing their long-standing position in management practice and research. It also enriched technology acceptance research by adapting a human-robot interaction model to generative AI and embedding it in a constructionist, embodied perspective, thus linking organizational diagnostics with experiential, imagination-driven methods.

V.1.1, Contributions of **Chapter** *II, a paper on gaming simulations about informal and nonformal learning*

In this study, I explored the evolving societal perception of computer games, discussing the persistent ambivalence towards gaming despite the decline of cultural panic surrounding video games. I delved into the potential educational benefits of leisure computer games, using Minecraft as a case study to question whether such games can effectively contribute to learning.

I examined the intersection of game studies, education, learning theories, and design sciences to determine if the rigorous criteria applied to educational simulations can also be relevant to leisure games. I provided a broad overview of the literature on simulation-based learning, focusing on its application in management & organization studies, and discussed the mechanisms by which simulations facilitate experiential learning through isomorphic models of reality.

The study also addressed the concept of serious games and educational simulations designed with didactic purposes and evaluated their effectiveness compared to entertainment games. Furthermore, I investigated how multiplayer games can foster informal learning and collaborative skills, drawing parallels with organizational learning facilitated by simulation-based methods.

Overall, this first study served as a gateway, helping to assess the richness of the fragmented subject area while crystallizing the phenomenon of gaming simulations as established pretensive action methods in the nonformal educational spaces of L&D interventions.

V.1.2. Contributions of Chapter III, a multiple case study on leadership development larp design

This paper made several contributions to leadership development and live-action roleplaying game (larp) studies. First, it also developed a comparative framework incorporating multiple theoretical perspectives to categorize and contrast different roleplaying interventions. Then, it established educational larps as a legitimate leadership development intervention and systematically reviewed all available literature. Furthermore, it demonstrated why the term “larp” and its traditional definitions are insufficient for analytically delineating the recent trend of educational larps within a formally diverse roleplaying application domain.

The study identified common patterns across Leadership Development Larps, including a focus on developing versatility as a leadership trait, the use of experiential learning cycles, reinforced by structured debriefing, the presence of observer roles, facilitating reflection and meta-learning, the strategic use of urgency and uncertainty (VUCA elements) to enhance learning, and relatively low hierarchy among player characters, encouraging collaborative decision-making. However, the four examined larps varied significantly in:

- *Setting*: Ranging from business simulations to feudal Japan
- *Character design*: From predefined psychological profiles to loosely defined roles that evolve through gameplay
- *Game mechanics*: Some rely on replayability, while others use continuous roleplaying with immersive character development

- *Framing and structure*: Ranging from short sessions to a continuous 36-hour experience
- *Application of leadership theories*: Each larp is aligned with different leadership frameworks

From a dissertation perspective, this paper demonstrated the educational value of an activity originating from a leisure hobby, highlighting the richness of design possibilities of larps in contrast to other pretensive action methods in leadership development.

V.1.3. Contributions of Chapter IV, an inquiry into organizational AI acceptance utilizing psychodramatic techniques

This study offered several key contributions to integrating generative Artificial Intelligence (GAI) in organizational settings. First, the research utilized an existing human-robot interaction (HRI) model and successfully applied it to the study of GAI, extending its applicability. Moreover, it positioned psychodramatic techniques within a constructionist framework, offering innovative tools for exploring and modeling complex organizational phenomena, thus connecting psychodrama techniques to organizational diagnostics.

Findings indicated that emotional responses to GAI play a more critical role in adoption decisions than previously recognized. This suggests that strategies emphasizing positive affective attitudes over purely cognitive ones may enhance acceptance. Furthermore, the study provided evidence that even when employees intellectually understand and acknowledge the benefits of technology, emotional reservations and contextual misalignments can hinder successful implementation. Trust in GAI emerged as a complex phenomenon with potential reciprocal causality. As a multifaceted construct, it influences and is shaped by interactions with GAI, suggesting a bidirectional relationship that affects technology acceptance and integration.

The study also highlighted how physical representations and embodied experiences shape employees' perceptions and acceptance of GAI, highlighting the importance of embodiment in technology adoption strategies. The research demonstrated that organizational context, including culture, normative pressure, and specific operational

needs, is more influential in GAI adoption than models based solely on customer behavior, advocating for context-specific approaches.

Additionally, as part of the broader dissertation, the research validated psychodramatic techniques, such as role reversal, as an effective qualitative research approach for uncovering deep-seated beliefs and assumptions in organizational contexts, successfully demonstrating the power of pretensive action methods.

V.2. Answers to the Research Questions

Since the answers to the research questions are presented in this segment, the structure used earlier (I.7.) is reversed, with answers following the questions.

V.2.1. Reaching an initial understanding of the field

RQ1 What are the well-established forms of roleplaying and other pretensive action methods in an organizational context?

I learned that gaming simulations, serious games, situational exercises, and other similar activities have been heavily used in business and management since at least the 1970s (Faria, 1976), gaining ground in the 1950s (Corsini et al., 1961), with some earlier precursors (Lippitt, 1943), like the early innovations of Marie Mironova Beerstein / Birshtein in the Soviet Union (Wolfe and Crookall, 1993). Today, they form a significant topic in management education (Hallinger and Wang, 2020; see Figure 4 in I.3. Research problem and relevance of Research).

I also learned about the gaming simulation scene, represented by the International Simulation and Gaming Association (ISAGA) and the *Simulation & Gaming* journal. I found it highly significant in my subject area, especially regarding management & organization studies.

RQ2 How do we learn while playing?

In this study, I connected game-based learning and simulation-based learning (Hallinger and Wang, 2020) with experiential learning, highlighting the role of tacit knowledge acquisition through these playful learning processes (van Haaften et al., 2021). The sources also convinced me that gaming simulations can elicit learning at the individual, group, and organizational levels (Wenzler and Chartier, 1999; Tsuchiya, 2011), by providing safe laboratory environments for experimentation and

enhancing system thinking, mental models, personal mastery, shared vision, and team learning, the five disciplines of a learning organization (Senge, 1990).

RQ3 Regarding their educational value, is there a radical difference between leisure and serious games?

I learned from Klabbers (2018) that games and social systems are structurally related. Thus, the real question is whether and how the game represents some consensus reality aspects (Klabbers, 2009). This also means we can create universal criteria to assess the educational value of both leisure and serious games, leading to the following question.

RQ4 How can we assess the learning potential of a (video) game?

I compiled an evaluation framework consisting of thirteen criteria from relevant sources (Wenzler and Chartier, 1999; Tsuchiya, 2011; de Caluwé et al., 2012) that can be used to assess the educational potential of any game, namely: experience sharing, expansion of interpretative framework, broadening of learning horizon, risk-free laboratory environment, learning acceleration, replication, systematic variations of conditions, eliminating sources of variance, simplified situation, time compression, feedback, and evolution, interaction density, openness, and finally, social and psychological realism. This framework is broader than the previous ones (Bedwell et al., 2012) and can also be extended to evaluate not just games but all pretensive action methods, forming an important practical step forward from the point of view of design sciences (Kuchinke, 2013), and being the most significant result of my study.

RQ5 What can be learned from *Minecraft*?

My finding was that while *Minecraft* can foster many general competencies, it provides few direct lessons that can be applied one-to-one in real-life contexts (Hartyándi, 2021b).

All this reinforced my belief that, from a human resource development perspective, it is not enough to influence and shape the mindset of participants with pretensive action methods; it is also necessary to provide them with toolsets and practical principles that can be translated into organizational reality, thereby improving their competencies and skill sets (Lukosch et al. 2013.; Bolles, 2021). From a design science perspective, a leadership development intervention should transparently and systematically

demonstrate what kind of practical know-how it offers to participants, what knowledge it is based on, and how it seeks to achieve its developmental goals.

V.2.2. Drilling deeper into a specific topic

RQ6 What has been said about leadership development and roleplaying in the past?

A comprehensive literature review, though not systematic, encompassed all available sources on Google Scholar and Scopus. This effort proved quite significant, as it consolidated scattered insights from various disciplines. However, the findings revealed that roleplaying games had long been used in leadership development (Lippitt, 1943), raising the question of what made larps distinct. To address this, I formulated the next question:

RQ7 How do larps differ from other forms of roleplaying in leadership development?

Updating Fine's (1983) three-layered approach to roleplaying games (1983), and using Harviainen's (2011) criteria for larping, we developed a new conceptual framework to crystallize the phenomenon of leadership development larps and distinguish them from other leadership development methodologies, visualized as a Venn diagram of three set of concentric circles (Figure 9). The diversity of cases suggested that the term "larp" overlaps with other forms of roleplaying, indicating that the field's boundaries may be unclear (Hallinger and Wang, 2020; Hartyándi and van Bilsen, 2024).

RQ8 What kind of leadership development larps exist?

Together with my co-author, we compiled relevant designs, including those developed by him, myself, and Maria Kolseth Jensen (2020). However, despite extensive internet research and leveraging professional networks, we identified only one additional case that met our conceptual framework's criteria: Blaž Branc's (2018) work. The cases showed a high degree of diversity in their type: one was a one-and-a-half-day management retreat larp, another a multi-phase assessment center larp, while two others were much shorter, one with more traditional, fixed structure, while the other was agile, with iterative design elements (Hartyándi and van Bilsen, 2024). Given the scarcity of well-documented leadership development larps, we prioritized analytical depth over breadth, maintaining strict inclusion criteria to ensure meaningful comparisons.

RQ9 How do larps aim to develop leadership through their design?
RQ10 How can we design better leadership development larp interventions?

We identified thirteen relevant design dimensions in the four identified leadership development larps, with four aspects shared among the cases, four others with quite common patterns, and high diversity in five aspects (Hartyándi and van Bilsen, 2024). The striking diversity raised critical questions about the legitimacy of the term "larp" itself. Each case deviated from traditional definitions of larping in some way, suggesting that the field still lacks clear methodological boundaries. However, this ambiguity had a favorable implication: the design principles uncovered in this study are not exclusive to larps but are broadly applicable to any pretensive (leadership development) intervention. This finding expanded the theoretical landscape of applied RPGs in HRD and highlighted the need for a more systematic and comparative analysis of roleplaying methodologies in leadership training. From the analysis, we also drew eleven practical design recommendations, while voicing five academic directions for future research.

V.2.3. Applying action methods to solve practical problems

RQ11 What is common between constructionist modeling practices and Morenian (psycho)drama?

I found that both constructionist modeling practices and Morenian psychodrama emphasize the externalization of intangible forces and processes (Cruz et al., 2018; Schwabenland and Kofinas, 2023). In psychodrama, role reversal and concretization allow individuals to project their inner experiences into physical forms or roles. Similarly, constructionist modeling involves creating tangible representations of abstract concepts or systems, enabling individuals to engage with and reflect upon these constructs effectively (Lane, 1999; Simon et al., 2020). However, while constructionist modeling focuses primarily on system-level abstraction, psychodrama engages personal and emotional dimensions, an intersection that remains unexamined mainly in leadership development studies. I knew monodrama (one-on-one psychodrama) was often mixed with modeling in individual coaching (Sacks and Fonseca, 2004; Giacomucci and Giacomucci, 2021). This suggested that psychodrama could be an effective qualitative technique for data collection, even if its application in organizational research remains limited.

RQ12 How do people relate to an intangible entity like an AI tool?

Key aspects of trust in human-robot interactions (HRI), namely appearance, performance, and proximity (Billings et al., 2012), revealed by projective psychodramatic techniques, proved to be well-fitted to describe how people relate to GAI tools. While digital algorithms and tools have only indirect tangible aspects (Duan et al., 2022), the study showed that the way people imagine and represent GAI's metaphorical shape and size reflects their core understanding. The central role of perceived performance was strengthened, and self-managed emotional and physical distance between the self and GAI emerged as a new proximity aspect (Simon et al., 2020). In summary, the study refined the original HRI model for human–AI interaction.

RQ13 How can we best describe AI technology acceptance in organizations?

Research indicates that AI technology acceptance in organizations is a multifaceted process influenced by external pressures and internal dynamics (Ma and Huo, 2023). While traditional client-oriented acceptance models often focus on user perceptions and individual benefits, organizational acceptance encompasses broader factors such as industry trends, normative pressures, and strategic objectives (Smit et al., 2024). However, mainstream models often fail to account for the role of employee trust and emotional engagement (Kelly et al., 2023), aspects that surfaced in my psychodramatic research. My findings reinforced the institutionalist assumption that adoption can sometimes be driven more by external hype and the perceived necessity to conform than by genuine organizational needs (Leaver and Srdarov, 2023).

RQ14 How does this division relate to using generative AI in the workplace?

Based on emergent themes, participants perceived generative AI as a dual-faced presence that failed to meet its expected performance standards. Consequently, they distanced themselves from its use. AI adoption became fragmented without a clear organizational direction, leading to disorganized implementation that relied heavily on individual employee characteristics. Mistrust and disenchantment were particularly evident, reinforcing that AI adoption failure is not merely a technical issue but also a socio-organizational phenomenon requiring deeper psychological insights.

Ultimately, I used roleplaying and other pretensive action methods to surface the hidden resistance beneath employees' seemingly open and inclusive stance toward AI.

This approach demonstrated the diagnostic potential of psychodramatic methods, beyond their traditional training applications in human resource development (HRD). My findings suggest that psychodramatic techniques can reveal deeper, unspoken tensions in the adoption process. This indicates an uncharted intersection between pretensive action methodologies and AI adaptation, opening new avenues for HRD practitioners and researchers to explore alternative assessment techniques beyond self-reported measures.

V.3. Limitations of the Research

This dissertation is only the beginning of a journey, but if we examine it on its own right, we find that, because it dealt with a phenomenon that is difficult to crystallize, there are serious limitations. Clarifying the theoretical framework and exploring the intricacies of the topic prevented more in-depth, quantitative analyses. The qualitative case study methodology is a limitation in terms of generalizability, although it has a different position and status within design sciences.

Summarizing the relevant segments of the studies, the biggest limitation of **Chapter II** is that the evaluative framework was only applied to a single case. **Chapter III** dealt exclusively with cases that defined themselves as leadership (development) larps, which can also be interpreted as a significant limitation due to the lack of conceptual clarity. It should also be mentioned that this research focused on design and only briefly discussed the results of the applications themselves. **Chapter IV** also examined a single organizational division over a relatively short period of time (approximately half a year).

The scope of this dissertation was deliberately exploratory and practice- and design-oriented, focusing on clarifying the conceptual foundations, mapping a complex, hard-to-define phenomenon for academics and practitioners, creating useful artifacts for evaluation, and applying pretensive action methods as research methodology to solve organizational challenges. As such, this thesis does not claim broad empirical generalizability, which was beyond its paradigm and objectives.

Despite efforts to clarify the conceptual landscape, the ongoing terminological fragmentation of the field limits the immediate unification of perspectives across disciplines. While the dissertation's scope constrained the breadth of empirical testing, this foundational work provides a strong conceptual and methodological platform for

future studies to build on and expand. Overall, the dissertation represents a significant advance compared to the current fragmented state of this interdisciplinary field of science, as evidenced by its contributions (V.1.).

V.4. Critical Reflection on the Organizational Conditions, Limitations, and Contraindications of Pretensive Methods

V.4.1. Pretensive Methods in Organization Development

Pretensive action methods are evidently not a cure-all. I have discussed the limitations and doubts regarding their educational potential, particularly in the case of tabletop roleplaying games (Hartyándi, 2024a; Hartyándi, 2025c). Chapter II also outlined key limitations of game-based and simulation-based learning (Hartyándi, 2021b).

Pretensive action methods are best understood as technologies, organized applications of knowledge for practical purposes (Isman, 2012). Specifically, they utilize our pretensive capabilities for learning and therefore depend on (organizational) technology acceptance. This topic could easily warrant several separate dissertations. Here, I will only reflect briefly on the conditions, limitations, and contraindications of using pretensive methods in human resource development (HRD).

What image of people and organizations permeates this dissertation? I believe a person working with pretensive methods is committed and open-minded, motivated to develop, and willing to apply available tools. At the same time, their organization provides both the intention and the mutual trust necessary for these tools to work. This image is not significantly different from the ideal participant in organization development (OD) interventions. As András Gelei (2025) summarized, the ideal OD client:

- Does not expect ready-made solutions and systems to be delivered on a plate
- Thinks in terms of real solutions, not superficial ones
- Believes in uncovering deeper underlying forces and in complex treatment
- Is interested in calling things by their name and in straightforward communication
- Does not expect the consultant to always “know the answer”
- Sees themselves as part of the problem (does not blame others)
- Believes in involving colleagues, and relies on them as partners

- Plus, what I think follows from these: they take responsibility for their own development and work on themselves.

From this perspective, the organizational application of pretensive methods requires nothing fundamentally different from other OD interventions. Their acceptance, conditions, and limitations are comparable. OD interventions operate within a humanistic framework, built on core values such as participation, partnership, acceptance of differences, clear communication, constructive conflict management, continuous development, striving for excellence, and so forth. Beginning with the creation of psychological safety (Edmondson, 1999), they seek to build trust and collaboration, foster an open, solution-focused climate, and enhance the self-control of organizational members, thereby aligning human well-being with production objectives (Cummings and Worley, 2009; French and Bell, 1999). Where these foundations are lacking, developmental interventions cannot function (Szathmári and Kiss, 2024).

V.4.2. Lessons from Simulation Research

It is worth revisiting Anthony Faria's pioneering work to understand what this means in practice. One of the most cited authors in simulation-based learning (Hallinger and Wang, 2020), Faria researched for over four decades the acceptance, perceived usefulness, and popularity of business simulation gaming (Nguyen and Hallinger, 2020), a method that has long divided educators.

As early as the 1970s, business school students rated simulations higher than lectures and case studies in terms of generating interest, enhancing learning, and preparing for jobs (Faria, 1976). By the mid-1980s, simulations had achieved a breakthrough in corporate environments sooner than in universities: half of large multinational firms were already using them, while roughly 70% of business professors had never tried them in class (Faria, 1987).

Surveys in 1987 and 1998 revealed a stark divide: professors who used simulations rated them the best teaching method, while non-users considered them among the worst, comparable to textbook learning (Faria, 1998). Supporters emphasized realism, experiential learning, decision-making practice, and opportunities for applying theory (Faria and Wellington, 2004; Mitev, 2022). Former users abandoned them primarily because they required excessive time relative to learning benefits (28%) or were

dissatisfied with model quality (11.8%). Never-users cited lack of preparation time (35.7%), absence of relevant simulations (34.4%), and insufficient information (29.9%). Many simply did not know which simulations to use, lacked resources to prepare them, or had too little time to integrate them.

My experience aligns with this trend. After 2020, I observed at Corvinus University that simulation games and roleplaying exercises became integral to the educational repertoire in many courses, some relying on them entirely. However, most instructors did not use them frequently. In large multinational companies, the situation is even more advanced. Training programs are required to follow experiential learning principles and include simulation or practice exercises. HR departments often prefer training providers who do not deliver theory-heavy lectures but instead engage the whole person. As I previously noted:

"The successful application of simulations requires that they model, in a complex and authentic way, the aspects of reality that are relevant from an organizational perspective. However, this requirement also leads to their main disadvantage: a simulation tailored to a specific organization is difficult to generalize, and therefore has low cost-effectiveness. Despite their limitations in terms of competitiveness, game-based simulations represent one of the most effective forms of promoting individual and organizational learning." (Hartyándi, 2021a, p. 74)

Although demand for multi-day simulations in Hungary remains low, shorter interventions such as 90-minute roleplaying exercises or half-day simulations are now standard in small-group corporate training. Requests for roleplaying and simulation-based exercises are common, and resistance is rare.

V.4.3. Organizational Prerequisites and Participation Challenges

This favorable situation, however, conceals several prerequisites. Organizational requirements can be divided into "hard" and "soft" factors, comparable to McKinsey's 7S model (Channon and Caldart, 2015). Hard prerequisites include:

- An HR strategy with a clear HRD component, including goals, projects, tasks, and relevant performance indicators.
- Structural flexibility that allows members to attend small-group, day-long training sessions

- Administrative and learning systems to support and measure L&D activities,

Softer prerequisites include:

- Participants' proficiency in using pretensive methods
- Leadership support: In practice, this often comes from HR managers at the employee and middle management levels; executive support becomes critical when senior leadership or the entire organization is involved

All of these are ultimately grounded in the organizational culture, values, and norms of the participants.

HR strategy plays a particularly enabling role. Headquarters often centrally regulate L&D in multinationals, providing a stable foundation for local adaptation. In smaller organizations, conditions vary widely.

Another important issue is willingness to participate (Hartyándi, 2025c). Pretensive and playful methods can appear at odds with corporate programs, which are often mandatory, performance-oriented, and perceived as "part of the job" (Hartyándi, 2021b). Participants frequently report being "sent," suggesting limited intrinsic motivation. Even in voluntary contexts, roleplay expectations can provoke resistance or reluctance (Carnes, 2014). To address this, facilitators warm up participants to secure buy-in (Hartyándi, 2025c). Facilitators must continuously assess readiness, provide alternatives (e.g., observation), and intervene flexibly, easing or increasing the pressure depending on the group process and objectives. Their goal is to link and translate the insights and lessons of co-constructed pretensive realities into the purposes, goals, tasks, and challenges of everyday organizational reality (Lukosch et al., 2013)

V.4.4. The Design–Facilitation Dilemma and Reality Content

This raises a fundamental industry dilemma: the relationship between design and facilitation (Kriz, 2008; Hartyándi, 2025c). Which matters more? The quality of the design or the professionalism and flexibility of facilitation? In practice, both are critical. Design issues arise when elements feel strange and distract participants (Hartyándi, 2021b), are too shallow (Lieberoth, 2015), or are too entertaining, diverting attention from learning content (Imlig-Iten and Petko, 2018). The "design

and/or facilitation dilemma" remains among the most debated issues at ISAGA, the International Simulation and Gaming Association.

Finally, the reality content of pretensive action methods poses metaethical questions. In co-constructed pretensive realities, the quasi-reality can be argued to be either "very real" or "illusory." This invites a further inquiry into how the epistemic status of such realities differs from other forms of constructed projections, for example, financial forecasts. This duality highlights the paradoxical strength of pretensive action methods. By blurring the boundaries between reality and fiction, they generate unique opportunities for deep learning and organizational transformation while demanding careful reflection on their limitations and responsible use.

V.5. Practical Implications

Highlighting the practical implications of separate chapters, the practical contribution of **Chapter II** is educational, culminating in a theoretical evaluative framework with thirteen factors. It can be applied to determine the extent to which an L&D intervention advances employee, team, and organizational learning. In design science terms, it supports design methodology development and artifact evaluation. **Chapter III** had more balanced educational and managerial implications, identifying thirteen relevant design dimensions and, based on that, proposing eleven practical design recommendations for HR managers, L&D specialists, and larp designers to create more effective and more efficient leadership development interventions. **Chapter IV** had a practical contribution that, in addition to supporting the applicability of psychodramatic methods in research methodology, was primarily managerial. It demonstrates that effective technological change management should focus on organizational alignment, emotional engagement, and trust-building through clear goals, transparent policies, targeted training, open feedback, and empowered early adopters to ensure smoother and more effective adoption of new technologies.

The PhD research provided tools and insights directly applicable to HRD, L&D, and organizational change practice. It offered evaluative and comparative frameworks to guide the design and assessment of pretensive interventions, design checklists for leadership development larps, and evidence on the strategic use of urgency, uncertainty, and debriefing to maximize learning impact. For technology adoption, it highlighted the need to address emotional factors, build trust through embodied

experiences, and tailor interventions to the organizational context rather than relying on customer-oriented models. Across all studies, it validated pretensive action methods, whether in decision-making, leadership training, or technology integration, as powerful vehicles for engagement, reflection, and systemic change, equipping practitioners with structured approaches to bridge theory and practice. As a practice-oriented PhD thesis (Weatherall, 2019), I hope that my work will be a valuable tool for professionals who design and facilitate pretensive interventions.

V.6. Status of Research Goals

The introductory chapter detailed my personal, intellectual, and practical goals for my PhD dissertation (I.2.). Here, I will only reflect on them in light of the contributions, findings, and limitations.

Personal goals – Finding meaning in life

Helping is my vocation. Within that, efficiency is key, enabling me to "lift" individuals, groups, and organizations higher while standing on the shoulders of giants rather than reinventing the wheel. I joined Corvinus to become a lecturer, researcher, and consultant scholar-practitioner who integrates theory and practice. By transitioning to adult learning through my PhD, I found greater impact and recognition in leadership development as an HRD–OD intervention field.

Intellectual goals – Creating a grand history

In mapping the various pretensive practices relevant to management & organization studies, I uncovered disciplinary silos, highlighted their similarities and differences, developed a conceptual framework, located their stable yet alternative position within management & organization studies, and traced their origins (Hartyándi, 2024a). These steps form the essential foundation for writing the "grand history" of pretensive action methods and have already culminated in two accepted book chapters (Hartyándi, 2025c; Hartyándi, forthcoming).

Practical goals – The added value of a scholar-practitioner

I strive to improve research, design, and practice by scientifically studying and refining pretensive practices in HRD. To this end, I compiled an evaluative framework to assess the educational potential of L&D interventions, created a comparative framework and design consideration checklist for pretensive leadership development

intervention designers, and successfully applied psychodramatic techniques to address a tangible organizational issue (AI adoption), thereby fulfilling my bridging role between theory and practice.

V.7. Directions for Future Research

Considering my research findings, I have collected possible directions for further studies on each of the three subjects I addressed in my PhD dissertation. **Chapter II** could be further developed in the following directions based on my recent research:

- In-depth examination of existing action methodologies within management & organization studies to identify their theoretical and practical contributions.
- Comprehensive, systematic literature review of co-constructed pretensive action methodologies, mapping and categorizing the various synonymous terms used across disciplines.
- Applying the developed evaluation framework to assess human resource and leadership development interventions, ensuring its applicability in professional practice.

The results in **Chapter III** prompt the following initiatives:

- Exploring whether additional design dimensions identified in this study should be incorporated into Bowman's (2018) *Mixing Desk of Edu-Larp* framework, further enhancing its applicability for edu-larp design.
- Utilizing the comparative framework to analyze and evaluate non-larp leadership development interventions.
- Systematically comparing larp-based and non-larp roleplaying interventions, clarifying their conceptual boundaries, and distinguishing their unique strengths and limitations for different educational and developmental applications.
- Investigating the impact of role depth on learning, specifically, whether fully developed characters (with backstories and personality traits) enhance learning more than generic social roles. Additionally, research should explore how continuous, uninterrupted roleplay fosters learning compared to approaches that intentionally disrupt fiction (e.g., through structured reflection or calibration).

Regarding the study in **Chapter IV**, the following directions could serve as fruitful continuations:

- Repeating the research in several organizations, elaborating the picture.
- Analyzing how GAI affects role definitions, team collaboration, and workplace dynamics.
- Exploring how management attitudes and strategies influence the acceptance and integration of GAI.
- Investigating how the absence of structured AI governance shapes workplace adoption and trust dynamics.
- Longitudinal studies examining how trust, usability, and GAI integration evolve over time in various organizational contexts.
- Studying the role of emotions in shaping trust, usability, and long-term adoption of GAI.
- Investigating the reciprocal causality of trust and how contextual and socio-technical factors interact in different organizational settings.
- Exploring how psychodramatic techniques as *action research* methods can foster individual and organizational change by increasing awareness of embodiment and employee attitudes.
- Further examining the potential of psychodramatic techniques as a projective qualitative methodology for uncovering hidden assumptions and unconscious beliefs in organizations and other research contexts.

My ultimate research agenda is to write a "grand history" of pretensive action methods, grounding them in our cognitive, affective, and behavioral pretensive capabilities and embedding them more thoroughly within human resource development theory and practice. Achieving this will require extensive inquiry and collaboration, providing ample opportunities for further scholarly exploration.

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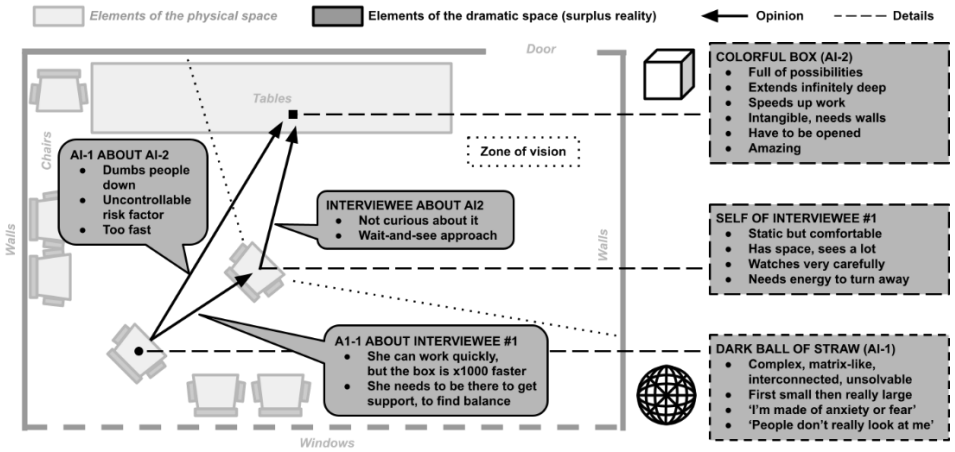
APPENDICES

Appendix 1: Leisure larps from the last decade that deal with leadership topics.

Year	Title	Organizer / *Publisher* / (Authors)
2013	*The Climb*	*Bully Pulpit Games*
2013	*Witchwood Larp*	Red Feather Roleplaying
2014	*Anything for N*	Turbolarp
2015	*Legion: Siberian Story*	Rolling
2018	*Cult*	Obscurus
2018	*Suffragette!*	(Susanne Vejdemo, Siri Sandqvist, and Rosalind Göthberg)
2018	*Wing And A Prayer*	Allied Games
2019	*Perfection*	*Bully Pulpit Games*
2021	*Lord of Lies*	Atropos Studios
2022	*A Meeting of Monarchs*	Charmed Plume Productions
2022	*Three Kingdoms*	(Jake Cyriax)
2023	*The Seekers*	(Juno Herman Langland)

Source: Hartyándi and van Bilsen (2024).

Appendix 2: Example artifact of interviewee #1.



Source: Author's own work.

Appendix 3: Interview questions.

The psychodramatic technique incorporates various directorial instructions to guide the process. The semi-structured interview focused on the following key areas:

I. Warming up

- Icebreaker: What are your thoughts about this interview at the moment?
- Orientation: What does GAI mean to you?

II. Dramatic Exploration

1. Self-Placement:
   - Where would you place yourself in this dramatic space? Why?
   - How could you express your professional position here? Why like this?
   - *[Follow-up questions, if necessary]*
2. Symbolizing elements:
   - What could symbolize the element [*first element: GAI*] for you? Why?
   - Where would you position it in this space? Why?
   - *[Follow-up questions, if necessary]*
3. Exploring Relationships:
   - How do you feel about this element?
   - *[After role reversal with the element]* How does he/she feel about you, [element]? What is your message to them?
   - *[Follow-up questions, if necessary]*
4. Broader Context:
   - Do you consider any other actors—within the company or from the broader socio-political sphere—important to include?
   - *[If yes, the element is named, and steps 2 and 3 are repeated.]*

III. Integration

- Affective reflection: How do you feel right now?
- Cognitive reflection: What are your thoughts about the interview?

Appendix 4: Interview excerpt.

This is a continuous English transcription of the first half of Interviewee #1's dramatic exploration, illustrating the monodrama working method and psychodrama techniques, such as using intermediate objects or role reversal. It also highlights how interviewee #1 distinguished between two meanings of AI. *The director's text is in italics,* while the interviewee's is in standard font.

Self-placement

- *Come on, let's stand up, okay? We'll work here in this space. Let's pull this back or push that away. Everything that exists or not will appear here. (Laughs) Find your own place here, alright? So, this is your living space at work. Let's call the stage like this, okay? Just as you are here at work. Whatever that means.*
- What can I do?
- *You can do anything. Where are you? How are you? (The interviewee brings in a chair, and the director comments on the action) Pulling a chair over. (The interviewee sits down.) And you're sitting there? Very good. Aha! So now you're sitting like that. Just start reflecting on how you feel about work. Kind of like, what does working mean to you?*
- Just in general?
- *In general, totally in general right now.*
- (Pause.) What comes to mind now as I pulled this chair here is that I see a lot of things. And there are things I don't see. Or that the act of turning around to get that information or to see it takes extra energy. Maybe I don't even see it because it's so far behind me. But there's more that I see and perceive. And I feel like I have space, I have room to move. So, I feel like it's something static, that I'm sitting in a chair, but I don't feel constrained—I know I can stand up anytime and change places. (The interviewee expresses their feelings and experiences using the concretization technique.)
- *Aha, okay. Earlier, your legs were stretched out, and now you've pulled them back, so what was that? When you sat down, you were like… (The interviewee crosses their legs.) And now they're crossed! Give me a sentence for that. How are you here?*
- What comes to mind now is that this is comfortable, cozy. And when I really pay attention, I need to come out of this position. And it's comfortable for me to lean forward a little too, yes. But why I did this now (points to crossed legs), I don't know. But somehow this feels comfortable, and then I have to change it at some point.
- *Okay. So, is this readiness? Or what is it?*
- Hmm, no, no.
- *Attention.*
- No, I'm just watching very carefully.
- *(Repeats the interviewee) Watching very carefully, very carefully.*
- But I don't feel any action.
- *Okay, fine...*

Symbolizing Artificial Intelligence

- *... Ahem, so earlier you said you don't use AI, artificial intelligence. But now, if it had to somehow appear in your work world… where would it be?*
- (Pause.) Hmm, what comes to mind is the difference between reality and feeling. On a feeling level, it's behind me. Like, I can't see it, I can't even see what it's like. It's distant. But in reality, I think about it as something… somewhere over there. (Points to a table opposite, a bit far away.)

Where the table is, about that distance. I can see it—it's not too close, not right in front of me, but I know it's there, I see its existence. Interestingly, on an emotional level, I immediately feel like it's right here behind me.

- *Good, great. First, you talked about how emotionally it's behind you, and you can't see it. (Director introduces the intermediate object technique:) Pick something to represent how AI exists inside you on an emotional level. Place it there, okay? You can rearrange the chairs or anything, because it's about what you perceive and how you're here.*
- So, should I represent how it's behind me here?
- *Yes, represent artificial intelligence with some object in the space. It can be anything; you can even rummage through the drawers.*
- I'm really drawn to those things (points to objects on the table), so I don't want to… Can I use this? (Points to a ball of straw.)
- *Of course, of course, go ahead!*
- Hmm. Ahem. (Places the ball of straw on a chair behind them.) This. And if I'm sitting here, it's directly behind me. (A symbolic representation of the relationship.)
- *(Repeats the interviewee) Directly behind me.*
- Yes. And I chose this because I feel like it's this matrix-like thing. Like, it's unsolvable. Everything is interconnected. I also see in this little sphere that it might be small at first, but then it can grow really large—it's very complex.
- *Aha, okay. Now pick something to represent the practical aspect of artificial intelligence—how you see, hear, and perceive it in a functional way.*
- Yes, yes. (Pause.) This is hard. (Sighs) I think it's also like that (points to the ball of straw).
- *Mm-hmm.*
- Looking around now, another thing that comes to mind is a box, some kind of box.
- *Okay, a box.*
- Like this. (Picks up a small paper box) Yes. Okay, this.
- *What's this box like?*
- The word that comes to mind is "full of possibilities." I feel like it's very deep.
- *Mm-hmm.*
- Yes.
- *What kind of possibilities are inside? Or what is it like?*
- (Pause.) I think it can show things that not only don't occur to you but that you can't even think of. Like, it brings possibilities into play. Then, aside from the possibilities, I also think about how it speeds up work. I'm more focused on how it amazes me. Like, even with my existing resources, I wouldn't know how to search for certain things, but AI just throws it at me, and I'm like, "Wow! That exists too, how cool."
- *Aha. What's this box like?*
- You mean emotionally or?

- *Anything that comes to mind about the box. This box contains these possibilities—possibilities you don't even know exist. What's it like?*
- (Pause.) I feel like this box has an unfathomable depth. The first image in my head is that it's something very deep. But if I imagine it in reality, I think it's much deeper than I can comprehend. Also, as a symbol, this box represents something I can't immediately see into. It needs its walls. Hmm. It's like it hides things because the whole thing can't just appear as one—it needs something to hold all this information and stuff, especially since I feel it's very deep.
- *Mm-hmm, mm-hmm. Does it have strong walls, or…?*
- Yes, very, very strong. But I don't feel like it's harsh or anything. It just represents the intangibility of the box—that something is needed to gather all this together.
- *Mm-hmm. (Summarizes) So this box has an intangibility to it. It has an unfathomable depth.*
- Yes.
- *And you said you need to do something about it for…?*
- Well, for all that's inside—now I also see the box as an opening, but it doesn't go downward—it extends infinitely deep. But for it to truly offer possibilities, I need to reach for it.
- *(Repeats) I need to reach for it.*
- Coming back to the image of me sitting here, nothing will happen if I stay here. The box will just stay on the table. But if I open it and look inside, then maybe anything is possible. I don't know...

[Exploring Relationships]

- *Hmm. Alright, come back here now.*
- (Returns to her self-position) Yes.
- *Now just tune into the idea that there's this tangled, complex ball of straw behind you.*
- Mm-hmm.
- *A little dark in color, a bit knotty at the edges. And you say that's how it feels emotionally.*
- Yes.
- *It's where you can't see it. And then there's this other thing you know exists—it's this box with infinite possibilities and depth. A box you'd need to open or move closer to.*
- Yes.
- *Which one are you more tuned into now?*
- Hmmm. The one behind me feels stronger. (Gestures backward)
- *Alright, then focus on that. Just say whatever comes to you from there as you sit here. (Director inviting interviewee for a monologue.)*
- I've been thinking for several minutes now about whether its presence behind me stems from fear.
- *Mm-hmm.*
- Or if it's just completely fine that this topic genuinely doesn't excite me, or that I'm not curious about it. So that's what I'm exploring now.
- *Okay.*
- Also, there's this strong idea in my mind—will I just wait until I'm forced to approach the box and engage with it? Until it feels less good? Like I said earlier, I don't see the box as harsh, so

emotionally, it's not harsh either. This matrix-like complexity and its depth feel positive to me right now, so I'm surprised I'm not curious. Anyway, I somehow wait for the point where it becomes a necessity. Or until this good feeling lasts. I wonder if I'll take the step only when I stand up and do something with it? Because I'm sure that sooner or later, the moment will come when I simply have to deal with it and look inside the box. Which is interesting, because despite that, the ball of straw and this "I can't see it" feeling will probably still be there.

- *Mm-hmm. Okay. Come over to this ball of straw. (Instruction for role reversal) Now become this ball of straw, okay? You can touch it, hold it, or just connect with it in a way that allows you to become it. (The interviewee picks it up.) You exist at this distance from [the interviewee's name], alright? You are the ball of straw.*
- Can I sit down? (Referring to the chair the ball of straw is on.)
- *Sure, you can do anything.*
- (Physically sits in the chair.) Ready.
- *Yes, just be what you are, okay? Whatever that is, it's fine if you don't have a name.*
- Alright.
- *Good? What's the world like from here?*
- Hmm. Well, it's very interesting because from here, I can see much more. (Laughs.)
- *Right now, you are the ball of straw.*
- Okay. Well… I feel like I'm made of anxiety or fear. And that's why I'm in this slightly cast-off state, where people don't really look at me. I'm far from what I'm supposed to be connected to. So, if there's this ball-of-straw existence and then there's box existence, they're actually the same thing, just appearing in completely different ways.
- *Listen, ball of straw. Can you see the box?*
- Very clearly, yes.
- *Very clearly! How do you perceive it?*
- Hmm. From here, it makes me curious. Like… hmm.
- *It makes you curious?*
- Yes, yes.
- *And what does that box do to the world?*
- (Pause.) Well, my feelings aren't as positive about that, I think. (Laughs.) What comes to mind is that, over time, it dumbs people down. And I have this concern, this fear, that if it falls into the wrong hands, it could end very badly.
- *Like what, for example?*
- (Pause.) What strikes me most, coming back to it, is the "dumbing down." I feel like there are more and more situations where we want to avoid effort. So, we use artificial intelligence, and as a result, we forget how to think. Then there's another extreme, where I see very smart people, and with that comes another fear for society. That society will develop a huge gap between those who can't use it at all—this would be the "dumbing down" group—and those who use it so masterfully that it becomes a weapon in any situation, leading to abuse. So, I feel a risk factor. But what just occurred

to me is interesting because I think my hypothesis about the box, about artificial intelligence, might be independent of this. It's like my fear is more about the relationship with it rather than the box itself. Because I mostly see the box existence as something deep or full of possibilities.

- *Mm-hmm.*
- It's just that how we use it becomes more interesting.
- *It's like various types of people in the world appear here.*
- Yes.
- *People for whom this gives something into their hands…*
- Yes, which can be an opportunity, something very, very good. Right now, I'm reminded of when I stood by the box and said how amazing it is, how it inspires me by showing me something I hadn't thought of. So, I see and feel a positive side, but then there's also the other side, which isn't.
- (*Pause.) Okay. Ahem. Just express yourself to it, okay? (Points to the box.) And now you can say anything you couldn't say in this abandoned state before.*
- Hmm. One moment, sorry. (Pause.) I have a question: Can I ask the box directly?
- *Yes, yes.*
- How learnable are you? Or how controllable are you? That's my question. I feel like your complexity is so overwhelming that, very quickly—even before the end of a thought process—I reach a point of "I don't understand." I lose the thread. I can't even see your depth. So, it's all so opaque, which raises questions for me about controllability and learnability. And in terms of tangibility, I feel uncertainty or doubt. There's also a strong sense of awe in me about how much you hold that can make life easier for us—how you could evolve to open up things that were unimaginable before. But at the same time, there's a very strong anxiety running parallel. Hmm. That fundamental values, and maybe even basic instincts, could be lost because of your existence. And when I think about you, alongside your opportunities, there's also a pressing question mark about whether this speed is viable.
- *You're too fast for…?*
- You're too fast for us to keep up, as humans. I mean, most of us. Some people can keep pace with you, I think. And I include myself in that. There are many of us who can't even comprehend what's happening. You're too fast. And honestly, I feel sorry about that because I think it takes away from what you could be or what you are. But this speed doesn't even give us a chance to delve into the positive aspects, to understand or learn them.
- *Mm-hmm. So you're uncontrollable.*
- Very much so! Yes! You're unfathomable, uncontrollable. Unpredictable?
- *(Pause.) Listen, ball of straw, you spoke about what this box does to humanity. Look over there—that's [the interviewee]. She talked about her workplace, how it feels good, how she enjoys their work. She is on a path with lots of learning and growth. What do you think the box does to her?*
- (Pause.) Well, I'm struck by a kind of concern. If she doesn't learn how to handle this box properly, she might fall behind or miss out. She might miss out on information. (Pause.) It's also very interesting to me because we're talking about a very fast-paced person, and my gut reaction would be to say she'll be fine—she can work quickly. But the box is a thousand times faster. And then I

feel concern because even though [the interviewee] is fast, at some point, it won't be enough. She'll need support. And I'm glad I found this word because that's how I see it—as a supporting role. So, this person needs to be there to truly harness the box at the level of possibilities.

– *So you're saying to [the interviewee] that they'll fall short if…*
– If they don't start keeping up with it.
– *If you don't start keeping up with it.*
– Yes, yes.
– *What else?*
– I also feel a kind of encouragement. It's not something to be too afraid of, because the time saved by the box can be a really good thing in the long run. It frees up time, which can be invested elsewhere, used as inspiration. Hmm. And I don't worry about [the interviewee] becoming dumber. That's not in me at all. What I do feel is that you might need to find a good balance so this becomes a mutually supportive relationship. While also dealing with the strong speed, unpredictability, and unfathomable depth of the box—carrying that weight or embracing its quality.

Appendix 5: Initial codes and typical quotes according to the theoretical framework.

	Appearance				Performance		Proximity	
Interview	Color	Shape	Size	Gender	Multifunctionality	Predictability & control	Interconnectivity	Mobility
#1a	dark	ball of straw	fits in a palm; "Small then huge"	-	"Inextricable"	"Uncontrollable"	"It's connected to everything!"	-
#1b	colorful	covered by a box	fits in a hand	-	"Full of possibilities"	"I have to touch it to make it work!"	in front of	-
#2	green	potted plant	chest-high, heavy	-	does not see a real business use case	uncertain	"Slowly entwines everything"	spreading; "It's coming"
#3	blue	pen	fits in a hand	-	"Many feature"; "Has two ends" [input + some "usable" output]	the powerful own and control it	"I could go there, but as long as I have a pen, what for?"	-
#4	aluminum	can opener	fits in a hand	-	"Can be opened in thirty different ways"	Outputs are "rough"; human participation is needed to be useful	"Out of reach"	-
#5	light	ball of straw	fits in a hand	-	"It's not known what it really knows"	concerns	turns her back	spreads
#6	red	marker (felt pen)	fits in a hand	-	"My capacity ~ The potential of the human brain"	"For now, I am at the service of the people"	"I rarely use it"	huge potential
#7	brown	pinecone ~ drill head	fits in a hand	-	multifaceted; with many branches	"Makes way for itself"	"Waiting for you to reach me"	"It always hits a wall, but it drills through every obstacle."
#8	green	potted plant	chest-high, heavy	-	"Has many branches"	"Relatively credible, reliable"	"Come or not, not important to me"	spreads by multiplying itself
#9	green	potted plant	chest-high, heavy	-	many functions; "Thing I don't like to do"	"We influence but we cannot precisely control its development"	"I don't care"	"Not easy to move it"

Source: Author's own work, based on Simon et al., 2020.

Interviewee #1 has two rows as she independently distinguished between two meanings of Generative AI (GAI), explaining that her feelings about GAI differ from its reality, leading her to delineate two distinct AI concepts without any prior instruction.

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For this paper-based PhD dissertation, I used the following three papers:

1. Hartyándi, M. (2021b) Videójátékok, szimulációk és a tapasztalati tanulás kapcsolata: avagy, Lehetséges Minecraftot játszva tanulni? [The Relationship Between Video Games, Simulations, And Experiential Learning. Is it possible to learn by playing Minecraft?] *In Medias Res*, 10(1), 39–55. https://inmediasresfolyoirat.hu/imr/article/view/221

2. Hartyándi, M., and van Bilsen, G. (2024): Playing with Leadership. A Multiple Case Study of Leadership Development Larps. *International Journal of Role-playing*, 17(15), 142–177. https://doi.org/10.33063/ijrp.vi15.327

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