



# **PLAYFUL PARTICIPATION IN SOCIAL GAMES**

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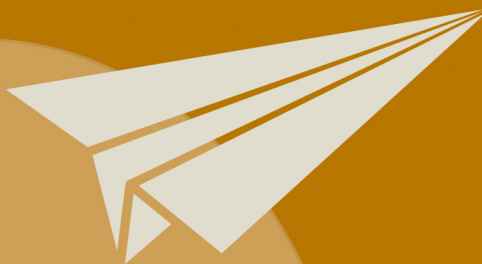
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# KEYWORDS

SOCIAL GAMES; PLAY THEORY; GAME-BASED DESIGN; PARTICIPATORY ART THEORY; PARTICIPATORY CULTURE

# ABSTRACT

IN THIS PAPER WE INTRODUCE SOCIAL GAMES AS A NEW TERRAIN FOR STUDIES IN PARTICIPATORY CULTURE. SOCIAL GAMES DEFY EASY CLASSIFICATION AND CANNOT BE APPROPRIATELY UNDERSTOOD FROM EXISTING RESEARCH PERSPECTIVES. INITIALLY, WE THEREFORE ATTEMPT TO DEFINE SOCIAL GAMES BY COMPARING THE GENRE WITH RELATED GAME GENRES, NOTABLY SERIOUS GAMES AND HEALTH GAMES. TO FURTHER INCREASE KNOWLEDGE OF SOCIAL GAMES, WE INTRODUCE A TYPOLOGY OF PLAYFUL PARTICIPATION IN SOCIAL GAMES. THE TYPOLOGY IS CONSTRUCTED BY USING FORMAL CONCEPTS FROM THEORIES OF PARTICIPATORY ART. ITS RANGE OF APPLICATION IS THEN DEMONSTRATED THROUGH AN EMPIRICAL ANALYSIS OF EIGHT SOCIAL GAME PROTOTYPES THAT ARE DESIGNED AS PART OF AN ON-GOING THREE-YEAR RESEARCH PROJECT CALLED "SOCIAL GAMES AGAINST CRIME". THE PURPOSE OF THIS PROJECT IS TO DEVELOP SOCIAL GAMES THAT CAN HELP CHILDREN BUILD RESILIENCE TOWARDS MANY OF THE PERSONAL AND SOCIAL PROBLEMS THEY EXPERIENCE AS A RESULT OF PARENTAL INCARCERATION.





## Introduction

Play theorists and game scholars widely appreciate that play and games offer rich possibilities for players to explore processes of socialization, alternate identities, and personal dilemmas. As play theorist Sutton-Smith (1997) has argued, building on the work of Huizinga (1939) and Caillois (1961), this is why play and games are vital for human learning and development. By playfully participating in games and play, people can thus “attain new levels of skills, knowledge and value commitment” (Henricks, 2008, p. 172). Interestingly, these claims point towards an *effect* that is somehow transferred from playful participation in a game to the ordinary life of the players.

The effects that play and games have been designed to evoke in players are numerous. Often special kinds of game effects are used as classification criteria to distinguish between different play and game genres. Thus, so-called *serious games* are games that have as their ultimate goal to train and educate (see e.g. Michael & Chen, 2006; Shaffer, 2006; Squire, 2005). For instance, serious games are designed to help children learn a language or math, surgeons to operate, or train pilots in navigating an airplane. *Health games* are games that are designed to improve the well-being of the players; for instance, to reduce anxiety in children after their parents’ divorce (e.g. w), to cope with pain from burns (e.g. *SnowWorld*), or to help veterans suffering from Post Traumatic Stress Disorder (Helms & Rahbek, 2012). *Pervasive games* or *Ubiquitous games* turn life in an urban setting into playful participation and are sometimes used in the promotion of the ludic city or ‘creative city’ (Borries, Walz, & Böttger, 2007). But games can also be used as means for increasing citizen participation in the solving of conflicts and policy-making (e.g. Intel’s *Water Wars*) or the democratization of urban planning. Moreover, various social movements and art activists have explored playful participation as a tactic to resist and disrupt systems of power and control (Shepard, 2012). Following from this, Flanagan (2009, pp. 6–13) suggests the term *activist games and critical play* for games that raise critical awareness of “issues of gender, racial, ethnic, language and class inequities and imbalances”.

In this paper, we introduce *social games* as a new terrain for studies in playful participation and participatory culture. Social games are games or playful activities that are designed to increase resilience in the players by reconfiguring the social relationship between them. As such, social games raise three fundamental matters of concern. First of all, since the reconfiguration of social relations is an essential game goal for social games, there is a need to increase understanding of the sociability of these games. Games are often claimed to be social per definition. But, clearly, there is a difference between just being together, because you are playing a game with someone else, and this *being togetherness* which is challenged and changed through play. How playful participation may lead to the redistribution of social relations, roles of identity, control, power, and so on, deserves careful attention. Secondly, social games require a detailed understanding of resilience as a game effect. Basically, resilience has to do with the ability to cope with a life crisis, but this ability may take various forms depending on the type of crisis, and can be effectuated on the level of the individual, family, or community. Thirdly, progress in studies in social games is contingent upon our ability to document and evaluate whether playful participation in a social game actually results in increased resilience. Such a task raises questions of research study design, methods of inquiry, and the working out of valid evaluation criteria.

Here we shall focus only on the first set of questions pertaining to the sociability of social games. Our aim is thus to lay firm conceptual foundations for understanding the nature of playful participation in social games. To set the scene, we start out by accounting for what social games are and how they differ from related game genres, notably serious games and health games. Subsequently, we introduce a typology using formal concepts from theories of participatory art to formulate twelve categories. This typology has been developed empirically on the basis of an examination of more than 25 social game prototypes that are part of an on-going three-year research project. In the research project, which we will present below, the overall aim is to design social games to be played during visiting hours in top-security Danish prisons in order to help children and teenagers cope with some of the problems they experience due to parental incarceration. Pivotal for the success of the project is the collaboration between researchers representing a wide range of disciplines from design, psychology, criminology, sociology, and social work.

## From serious games to social games

Social games can easily be mistaken for serious games and health games. A core characteristic, which they have in common, is that gaming is used instrumentally to effect a real change in the ordinary life of the players. However, there are a number

of reasons for conceiving social games as a genre of its own and to wrist it out of a too tight coupling with the closely related “sister arts”. In this section, we account for how social games differ from serious games and health games in order to provide a better understanding of why social games need a broader research perspective founded upon social design, sociology, and theories of play and participatory culture.

Serious games and health games are based on a narrow focus on gaming and have been the subject of study primarily by game scholars, psychologist, and educational researchers. Typically, serious games are designed to train and educate players in solving problems, acquiring new skills, or knowledge (Michael & Chen, 2006; Shaffer, 2006; Squire, 2005; Westera, Nadolski, Hummel, & Wopereis, 2008). The majority of serious games use simulations of a concrete learning situation represented virtually on a computer screen: pilots navigate virtual cockpits, surgeons operate virtual brains, soldiers fight enemies in virtual combat zones, and so on. The game experience is made as close-to-reality as possible.

Increasingly, computer and video games have been used also in child psychotherapy and for health improvement (Assigana et al., 2014; Baranowski et al., 2011; Brezinka, 2008; Kato, Cole, Bradlyn, & Pollock, 2008; Rahmani & Boren, 2012). In their extensive study, Rahmani and Boren (2012) examined 45 articles reporting on the positive effects of using video games for health improvement. Among these effects are pain and stress reduction, patient rehabilitation, and patient behavioral change.

Social games, on the other hand, entail a broader conception informed not only by the aforementioned disciplines, but also by social design, sociology, play theory, and aesthetics. The primary objective of social games is neither learning (as in serious games) nor health improvement (as in health games), but to alter or ultimately strengthen the social relation between people playing the game. This means that social development at an interpersonal level is the central game goal, and there is a need for a nuanced understanding of how gaming and play may be constitutive of social relations outside the game play. The existing definitions and approaches to serious games and health games seem not to provide a very satisfying account of this, which becomes evident if we examine some recent contributions most relevant to our discussion.

Within serious games studies, Mitgutsch (2011) has made interesting attempts to come up with a more nuanced understanding of serious games and their capability of fostering social change; attempts which, on the surface, seem to be aligned with our claim. Mitgutsch introduces the term ‘serious learning’ thereby referring to how playing serious games may result in ‘transformative learning processes’, where the “players’ concept of themselves, others and the world changes fundamentally” (Mitgutsch, 2011, p. 51). Significantly, the altering and strengthening of social relationships – the central game goal of social games – often rely on changing one’s perspective on oneself and others. Hence, Mitgutsch’s notion of ‘serious learning’ would seem to go against our claim that making a distinction between social and serious games is preferable. However, there are two reasons why Mitgutsch’s notion of serious learning is inconsistent with our definition of social games. First of all, by basing his account of serious learning on Bateson’s cybernetic conception of learning (ibid. 2011, p. 51), learning is reduced to a computational cognitive process of building bits of data and information, step by step, into ever more complex structures of knowledge.

This is reflected in Mitgutsch’s dividing the learning process into three levels, i.e. learning *in*, *through* and *beyond* serious games. At the first level – learning *in* serious games – the players merely receive information in the game, “memorize it and react to it without reflecting the context or reasons” (ibid. 2011, p. 48). At the second level – learning *through* serious games – the players frame and contextualize the content and actions of the game (cf. ibid. 2011, p. 49). And at the third level – learning *beyond* serious games – “the perceived and achieved learning *in* the game and the contextualized and framed learning experiences made *through* playing the game are transferred” (ibid. 2011, p. 51), eventually leading to a fundamental reconfiguring of “frames of reference in the player’s body of experience” – almost like a hard drive having its existing storage overwritten and updated.

Our conception of the transfer process relies on a situated and embodied understanding of the game experience, which differs significantly from Mitgutsch’s computational view (for a critique of the computationalist view in human-computer interaction and cognitive science, see e.g. Anderson, 2003; Dourish, 2004; Hutchins, 2000; Robbins & Aydede, 2009; Suchman, 2007; Varela, Thompson, & Rosch, 1991; Wilson & Clark, 2005). On this account, the effects of changing perspective on oneself and others cannot be reduced to insights gained by cognitively processing neutral and de-contextualized data according to cultural schemas and frames of reference. It must also fundamentally involve a new affective way of inhabiting the world and being together. The ability to understand other people’s thoughts, feelings, and behavior is generally considered to be a defining constituent of sociability. If we assume that games are somehow capable of increasing players’ understanding of

sociability, then it seems wise, as Barak et al. (1987) have suggested, to accept that this game effect involves both a cognitive and an affective base.

Another limitation, as we see it, inherent in Mitgutsch's account is that he focuses only on single player experiences. The learning that takes place in *Global Conflicts: Sweatshops* (2008) – the case example used by Mitgutsch to illustrate the three levels – is primarily a matter of an individual player learning about the game elements and game world. The player finds herself arriving in Bangladesh to investigate a case of child labor in a tannery. Throughout the investigation, the player becomes critically aware of how production and manufacturing are profoundly dependent upon child labor. But rather than simply rejecting child labor on moral grounds, the game throws the player into a series of dilemmas not easily decided upon. For instance, at a certain point the player learns that the father of one of the children is sick and his family is dependent on his daughter's work. Should the family send the girl to school and thereby lose their income? Or should she continue to work at the tannery? In this sense, *Global Conflicts: Sweatshops* encourages the player to think critically about the forceful power relationship between working children, their families, poverty, and the inhuman face of capitalism (Mitgutsch, 2011, p. 50).

While learning about social injustice may certainly be foregrounded in social games, the game effect to be evaluated concerns primarily how the game play alters or changes the relationship between two (or more) players who play the game together. This is a small, yet central difference between serious games and social games.

Like Mitgutsch, Klimmt (2009) also argues for the ability of serious games to promote social change. But unlike Mitgutsch, Klimmt makes explicit that 'learning' is not the most appropriate term for capturing this game effect: "Social change, in contrast to learning and development, typically refers to much broader, multicomponent phenomena closely connected to people's daily lives, often in conjunction with others in the family and community" (ibid., p. 248). Furthermore, in Klimmt's account, social change may be distinguished on three levels. On a *macro-level*, social change manifests itself at the level of society, as when "substantial portions of a society's members" adjust their behavior (e.g. quit using tobacco, change energy consumption behaviors, etc.). Social change may also be identified on a *meso-level*, which is at the level of organizations and subcultural groups (ibid.). An example of this is when homosexuals fight for same-sex marriages or when a community of immigrants is encouraged to alter "traditional social behaviour, such as arranged marriages of young girls" (ibid.). Finally, social change may occur on a *micro-level*, which is the "level of individual cognition and behaviour" (ibid.).

Klimmt then offers a framework of no less than fifteen 'effect mechanisms' that can be "active in serious games' effects on social change" on the individual micro-level (pp. 253-254). Basically, the fifteen mechanisms can be sorted into three general 'effect categories': (i) motivation to elaborate on content of desired social change; (ii) knowledge acquisition/comprehension; and (iii) persuasion (ibid.). The emphasis on these three categories clearly reflects Klimmt's overall focus on serious games used for campaigning purposes. Games with campaign content are the result of a sender seeking a specific outcome. Questions of interest will then be: are we motivated for playing a game with campaign content that may challenge our existing values and attitudes? Do we understand what we are 'told' through playing the game? And are we persuaded to go out afterwards in the real world and behave according to this novel comprehension?

While we find many of Klimmt's effect mechanisms valuable for facilitating an understanding of how *playfulness* can act as a mechanism that motivates players to engage with campaign content, we find that his framework is still too limited to fully answer the research questions we set out to explore. Remember that, in the beginning of this article, we stated that our aim is to increase understanding of *how our being together with another person can be challenged and changed through playing a game? How playful participation through a social game may lead to the redistribution of our social relations?* Klimmt convincingly argues, for instance, that "entertainment capacity increases likelihood" of the player selecting change-related message (mechanism 1); that "play situations can reduce" a player's resistance to being confronted with change-related messages (mechanism 2); that "enjoyment can generate attention and interest" (mechanism 3); that "game narrative may contribute to persuasion" (mechanism 10); and so on. Here entertainment, play situations, enjoyment, and game narrative say a great deal about 'playful participation' understood as a form of interactivity between the player and the game content (selecting a change-related message, lowering one's resistance towards it, attending to it, being persuaded by it, etc.). However, what we are interested in is how existing social relations between the players can be redistributed following the players' playful participation in the game.

Researchers working within the field of multiplayer online games have dedicated much attention to finding out the positive and negative social exchanges that may take place between players in online game environments (such as *World of Warcraft*)

and in their offline social life. Following from this, it seems beyond doubt not only that players do form new social relationships when playing online games, but also – and more importantly – that some of these relationships are extended into offline social relationships (see e.g. Cole & Griffiths, 2007). Much of this work is driven by an urge to prove that the enormous amount of time players spend inhabiting virtual online worlds is not so bad after all and that online games are not escapist media for introvert people with low social skills and competences. If this is one's research agenda it becomes relevant to know whether players make new acquaintances online, if they meet in real life to extend friendships, and so on (see e.g. Uz & Cagiltay, 2015). Such observations will then be held up against the work of other researchers who have demonstrated the negative outcomes of online gaming. Orleans and Laney (2000), for instance, show that online gaming entails a risk of isolation, and Kraut et al. (1998) demonstrate that online gaming might eventually lead to the erosion of offline friendships.

However, this is not adding to the point we want to make. The effects of social games that we are addressing cannot be captured as an (positive or negative) exchange between the virtual and the real, online and offline. Instead, our question implies insight into the nature of social relationships and the qualitative changes that such relationships may undergo through gaming. It is not a matter of counting the number of new acquaintances made online and whether or not meetings take place in real life (cf. Uz & Cagiltay, 2015), but of realizing how weak or strong the social ties are between the players and ultimately whether a game may be designed to help transform weak or fragile social ties into strong and maintained social relationships.

Interestingly, Trepte et al. (2012) make some progress along this line of questioning. Hence, the authors introduce a valuable distinction between a game that fosters either the *bridging* or *bonding* of social capital: "Bridging social capital refers to weak social ties in which people feel informed and inspired by each other. Bonding social capital refers to strong social ties delivering emotional support and understanding" (ibid. 2012, p. 832).

Social games may be better understood according to either one of these effects. Many of today's popular multiplayer online games – games that are actually referred to as 'social games' in industry – have been shown to be able to increase the bridging of social ties. But it remains to be seen if social games can be designed to bond social capital offline. Huvila et al. (2010) have shown that online gaming may have a positive effect on bonding social capital online, but no or only weak influences on offline social support (cf. Steinkuehler & Williams, 2006; Trepte et al., 2012, p. 832).

When we talk about the redistribution or reordering of social relations, we are in fact addressing a game's ability to bond 'offline social capital', to use the terminology from Trepte et al. (2012). According to the authors, there are three factors valuable for describing relationship development: physical proximity, social proximity, and familiarity (Trepte et al., 2012, p. 833). However, it is worth noting that these factors are restricted to a particular form of relationship, namely 'friendship'. Friendship – the forming of a relation between two individuals not usually acquainted with one another – is certainly relevant for the author's study of the online gaming of e-sport players and their development of both online and offline friendships. But friendship seems not to be the appropriate term to apply when one is studying a social game designed for the sake of developing and maintaining a warm positive relationship between a child and her/his incarcerated father. Rather, what is at stake here is the development of emotional support, attachment, or empathy between the players. Examples of this will be presented in more detail below. For now, we will argue that, on the basis of Trepte et al.'s account, it seems reasonable to claim that social games should be maintained as a genre of its own. Moreover, it enables us to make an important distinction between social games with a weak effect (bridging) and strong effect (bonding).

To delve further into the bridging and bonding effects, one must acquire a more nuanced understanding of social relations and how the social may be the material for processes of playful participation beyond online gaming. This will be addressed in the following section. To conclude this section – and for the sake of clarity – we propose two lists along with some further clarifications in order to point out how playful participation in social games differs from participation in serious games.

Serious/Health games	Social games
Edutainment/Health improvement	Social growth
Solving problems	Exploring meanings
Training skills	Negotiating identities
Affirming hierarchies	Disrupting hierarchies
Simulation	Fictionalization
Screen-based	Beyond the screen
Rule-based	Free, open-ended, ill-structured

**Fig. 1**

Playful participation in social games is not directed towards learning or improving health, but social growth, exploring meanings, and negotiating roles of identity. In serious games and health games, the identity of the player is rarely questioned. Rather, playful participation is constrained by certain hierarchical orders and asymmetrical distributions of control: the surgeon plays the role of a surgeon operating on a patient, the pilot the role of a pilot, and so on. By sustaining these identities, serious games affirm the system of power and organization that they are designed for (the healthcare system, the air company, the army, etc.). In contrast, social games may disrupt such systems by letting people play imaginatively with alternate identities, forbidden identities, and even identity switching.

For the same reason, social games often use fictionalization rather than simulation. In fictional game worlds there is a larger degree of freedom for experimenting with power structures, identities, and control. Note, however, that by claiming this we are not forfeiting the idea of social games being separated from reality by a clearly defined 'magic circle'. Rather, we argue that fictionalization can be a way to enhance ambiguous qualities of games and play that encourage players to negotiate rules and boundaries between games, play, and ordinary life (cf. Copier, 2009, p. 160).

Social games also differ from serious and health games insofar as they are not restricted to computer and video games. In many instances, the design of social games for face-to-face engagement requires a focus on practices of play outside the realm of computers, and in some social game contexts the use of digital technology is inappropriate or even prohibited. In making this defining criterion, we also want to emphasize that social games are not identical with massive multiplayer online role-playing games (MMORPGs). Social games can be designed for play in physical social spaces and is not restricted to digital network cultures.

Serious games and health games are typically rule-based, while social games may be free, open-ended, and ill-structured. In such instances, social games become more akin to social play or playful toolkits that facilitate social engagement. Social games must thus be seen as a subset of the broader category: social play. According to Sutton-Smith (1997), social play is when forms of play are used to form social bonds, feelings of belonging to a social group, or work out social and cultural norms.

Finally, the design of serious games and health games has been rightly criticized for being expert-driven (Magnussen & Sørensen, 2011). Typically, users are not involved until late in the game development phase – in testing and evaluation. This means that the needs and wishes of the players are not reflected in the resulting game concept. In contrast, social games rely on a participatory social design approach where the players participate in the entire process of research and game development – from early idea generation, co-design, testing, and implementation. This is to secure that as many reflections and concerns from different stakeholders are included in a process of "continuous cycles of design, enactment, analysis, and redesign" (Ibid., p. 48).

The effort we have invested in defining and positioning social games vis-à-vis serious games and health games was made in order to show that there is a need for studying social effects beyond what is often denoted by the term "social change" found in

related work. Thus, the social effects we have identified are not to be conflated with a ‘change of attitude’, ‘learning’, or ‘health improvement’, but suggest a transformation of interpersonal relations taking place between the people playing the game. This raises the question of how the social can enter the process of playful participation. Next, we shall therefore be introducing a typology that enables us to see various ways in which social relations may figure in the game play of social games.

## A typology of playful participation in social games

In the development of our typology, we have primarily drawn upon theories of participatory art as well as insights gained from our empirical examination of social game prototypes. The choice of participatory art theories is motivated by our wish to secure a range of application broader than that of social games and play. At the same time, we recognize that game-like instructions and playful participation figure as constitutive parts of many participatory art works (see e.g. Flanagan, 2009; Shepard, 2012). What also warrants this shared theoretical framework is that both participatory art and social games exploit participation as means for exploring different forms of inter-human relations and inventing alternate models of sociability (cf. Bourriaud, 2002).

	Encounter	Collaboration	Connection	Conflict	Exchange	Negotiation	Co-Design
Contract							
Rituals							
Everyday Routines & Habits							
Norms & Rules							
Laws & Acts							

**Fig. 2**

As can be seen from Fig. 2, the typology is organized around two axes. On the horizontal axis, we have divided social interaction into seven basic categories (the number being non-exhaustive): Encounters, Collaboration, Connections, Conflicts, Negotiation, Exchange, and Co-design. To a great extent, this list of categories has been informed by the typology of participatory art, which Bourriaud’s introduces in *Relational Aesthetics*. Bourriaud suggests that participatory art projects can be grouped according to the inter-subjective relation they foreground. For instance, some participatory art projects, says Bourriaud (2002, p. 30), operate “like a machine provoking and managing individual and group encounters” (our italics). An example of this would be Jens Haaning’s *Turkish Jokes* (1994), where funny stories, told in Turkish and transmitted through loudspeakers in a Copenhagen square, bring together immigrants through collective laughter (ibid., p. 17). Other artists explore various forms of *collaboration* as a central theme, as in Rirkrit Tiravanija’s *Fear Eats the Soup* (2011), where visitors in Gavin Brown Gallery



in New York collaborate in the cooking of a Thai soup. By grouping together art works in this way, Bourriaud ends up with the following: “connections and meetings”, “conviviality and encounters”, “collaboration and contracts”, “professional relation: clienteles”, and “how to occupy a gallery”. We have taken the liberty to add “co-design” as a category and to trim and reorganize Bourriaud’s list, because it is too restricted by the art works it is inductively derived from. “Professional relations” are basically always ruled by “contracts”, but are placed as another separate category. “How to occupy a gallery” says nothing about the type of social relation. “Encounters” do not necessarily involve “conviviality”. Why are “meetings” and “encounters” placed under two different categories? And so on.

More importantly, however, Bourriaud’s relational aesthetics has been rightly criticized for relying on a too simplistic conception of participation (see e.g. Bishop, 2004, 2012; Downey, 2007). More specifically, Bourriaud conceives of the audience’s participation in art as being an innocent, symmetrical form of activity, where audience and artist share control and authorship, while neglecting that this can never be the case. As we have argued elsewhere, participation in art as in ordinary life is never symmetrical or equal; it will always rely on an asymmetrical distribution of control, one person having the power to share authorship and staging the conditions for participation (Knutz & Markussen, 2014). Artists like Santiago Sierra or Kristian von Hornsleth perhaps most vividly and provokingly address this in their work. For instance, in *The Hornsleth Village Project*, Hornsleth uses participatory art to problematize the dubious capitalistic and colonial politics underlying relief aid. And in “250 cm line tattooed on 6 paid people”, Sierra raises questions about the human body as a commodity and art performed as a capitalistic exploitation of people living in poverty. In order to grasp the political and ethical issues that are at stake in participation, inter-personal relations should not only be judged according to their type (as in *Relational Aesthetics*), but also according to how they comply with or challenge intrinsic power structures, ideologies, or constraints.

If we take the critique levelled against Bourriaud seriously and integrate these reflections into our theoretical framework, then we find it necessary to supplement our typology with five extra categories. Hence, on the vertical axis, we have listed Contract, Rituals, Everyday Routines & Habits, Norms & Rules, and Laws & Acts (see Fig. 2). What characterizes these categories is that they all represent different ways in which social interaction is typically conditioned or configured (again, the list is tentative). Briefly explained, contracts set expectation for social interaction, articulate roles of identity and how to behave. They may be formal, as between employer and employee, or informal, as when two close friends feel as if they are connected through a special bond that ties them together. Rituals – like a wedding, for example – condition social interaction by prescribing certain sequences of actions and events that might be determined by sociocultural or religious conventions. Everyday Routines & Habits – like brewing your morning coffee – are also often structured in certain sequential actions, but unlike rituals they are determined by subjective habits and idiosyncrasies. Norms & Rules have to do with moral, etiquette, and ethical values in a society regarding what is deemed appropriate and wrong. Laws & Acts are enacted by a state or nation and regulate social interaction with clearly defined boundaries of, for instance, freedoms of expression, property rights, etc. While the violation of Norms & Rules are usually met with indignation by the public, Laws & Acts are policed by authorities that have the power to prosecute and punish.

The explanatory strength of the typology results from uniting the categories from each axis into conceptual pairs, e.g. encounter/contract, collaboration/everyday routines and habits, conflict/laws and acts, and so forth. Sometimes it may even be necessary to combine three or more categories to capture the complexity of social games. In so doing, we end up with a valuable set of analytical tools, which enable us to examine how playful participation may enter into social games.

## Case project: Social games against crime

In this section we will be presenting a series of game prototypes designed as part of a specific case project entitled *Social Games against Crime*. In so doing, we want to provide further insight into how playful participation in social games may be used to explore novel forms of inter-subjective relations. Initially, though, we provide some background necessary for understanding the research context.

*Social Games against Crime* is a three-year research project dedicated to developing and implementing social games that are intended to be played by children and their incarcerated fathers during visiting hours in top security Danish prisons. More specifically, these games are designed with the purpose of helping these children to build resilience towards many of the personal and social problems they experience as a result of parental incarceration.

Today, around 4,500 children in Denmark have a parent in prison (Smith, 2010, p. 29). This may have a damaging effect on the children's development, as documented by Poehlmann & Eddy (2013). For instance, children of incarcerated parents have difficulties learning in school, building social relationships, and many suffer from insomnia, loss of appetite, mental health problems, depression, anxiety, and the experience of being stigmatized (cf. Det Kriminalpræventive råd, 2005; The Danish National Centre for Social Research, 2016).

Several reports and research on criminology and resilience in children have identified some of the key problems with this vulnerable group (Aaron & Dallaire, 2010; Beckmeyer & Arditti, 2014; Miller, 2006; Murray, Farrington, & Sekol, 2012). For instance, it has been pointed out that the social authorities, schools, and the prison and probation services lack tools for establishing dialogue and activities that enable inmates and their children to break down taboos and talk about the problems related to incarceration. Taboos, shame, and ignorance are reported to be key problems for these children (see e.g. Boswell & Wedge, 2007, p. 39).

By designing social games, this project aims at providing these children with an initiative that they can use to form attachment and empathy with their fathers despite that fact that they are living apart for years. This aim is based on the hypothesis that *by continuously sustaining and developing family relations with their incarcerated fathers, children are more likely to enhance resilience capabilities for tackling critical personal and social problems that they experience due to parental incarceration*. By 'resilience' we refer to a set of skills and coping strategies such as being able to communicate emotions and grieve, coping with sadness, anxiety and depression, regaining a sense of control, to mention but a few (see e.g. Bradley, Davis, Kaye, & Wingo, 2013; Hein, 2013; Mikulincer & Shaver, 2013).

Our research hypothesis is supported by empirical evidence in criminology, social research and child and adolescent psychology. In one study, Kampfner (1995) showed that a combination of parent-child separation and forced silence about the incarcerated parents due to shame increased trauma in children; 75 percent of the children in the study reported symptoms identified as trauma-related stress. In another study of the *Girl Scouts Beyond Bars Program*, an initiative offered in over 20 US states, it was documented that by facilitating contact between girls and their incarcerated mothers (64 percent versus 49 percent for the control group), caregivers indicated that daughters had improved self-esteem and decreased delinquency at school and at home (Block & Potthast, 1998). Similar evidence exists for the visitation program called *Living Interactive Family Education (LIFE)*, which succeeded in improving life skills of male inmates and their children while also improving the child's behavior and academic performance (Dunn & Arbuckle, 2002).

The Danish Prison and Probation Service has made a similar initiative called *The Child Responsible Program* to facilitate contact between children and their incarcerated parents. It offers prisoners the opportunity, for instance, to record bedtime stories and make books for their children. However, there is a dearth of empirical studies of its beneficial effects. The *Social Games against Crime* project is intended to deliver social games for *The Child Responsible Program*, which will be subjected to extensive research and effect studies in its final evaluation stage. At its current game development stage, a series of more than twenty-five explorative social game and play prototypes have been designed to involve children and their imprisoned fathers, prison officers, researchers, and social workers in a collaborative process of reflection on the most relevant age group, gender issues, ethical considerations, evaluation criteria, and so on. Additionally, field studies in Danish prisons have been conducted along with interviews with family therapists, prison officers, and inmates.


On the basis of this, we have found a lack of concern for children aged 11-18 and have chosen to focus on the child-father relation, as men account for most incarcerated parents by far. Visiting facilities are designed primarily for small children, and there are only few initiatives in place to help children in this age group to cope with parental incarceration. Moreover, we have received strong indications that unlike smaller children, children aged 11-18 lose contact with their incarcerated fathers, and this has been proved to have negative consequences for them (The Danish National Centre for Social Research, 2016). For this reason, there are two intermediate effects that social games should ideally evoke. First, social games should motivate the child to maintain or even increase the frequency of visits to the prison. Secondly, the games should use playful participation to strengthen attachment bonds between the child and the father.

As the games will be designed for visiting rooms in top secure Danish prisons, there are a number of contextual constraints to consider. The games cannot make use of the internet or mobile digital devices, since this is not allowed in visiting rooms. The time to play the games is limited to 1,5 hours, except when played in the visiting apartment where visits can be extended up to 48 hours. The games should be two-player games (to be played by the child and father), but should maintain the option of including more players, like other family members.


The game prototypes we will present in this paper have been developed in the very front-end of the research process in order to specify design criteria for this particular context and for early idea generation. Staff members from the Danish Prison and Probation Service as well as prison officers with special responsibility for children's visits in Danish prisons have taken part in this process and helped us understand how social games can be designed for the visiting hours (time constraints, matters of security, the family relations of inmates, and so on). Furthermore, social workers and family therapists who have experience with the problems that children and adolescents experience due to incarceration have taken part in evaluating proposals of game content, issues and themes, and their appropriateness concerning age groups and gender. For the researchers in the project, the game prototypes have served yet another purpose, namely to make inquiries into different forms of sociability within a game play and to study how playful participation can motivate different forms of social engagement between players. From a series of twenty-five social game and play prototypes, in total we have selected eight that deepen our notion of these issues considerably (notice, however, that none of them are designed for actual implementation):

- Prototype 1: Secret Club (social play for children, aged 8-11)
- Prototype 2: Dad's Escape (social game for children, aged 8-11)
- Prototype 3: Memory Garden (social play for girls, aged 8-11)
- Prototype 4: My Week (social game for girls, aged 8-11)
- Prototype 5: Crook Book (social play for boys, aged 12-18)
- Prototype 6: The Prison (social game for teenagers, aged 12-18)
- Prototype 7: Not relevant (social game for teenagers, aged 12-18)
- Prototype 8: Hagglng (social play for teenagers, aged 12-18)


These prototypes will be explained in more detail in the next section where they will serve as case material for exemplifying our typology of playful participation in social games. In what follows below we provide simply an image of each prototype as well as a brief description of the age group it is intended for, its game play, as well as the categories from the typology that figure in the game play:


Title:		
Secret Club	Gameplay	Prototype
<p>Social Play, for children aged 8-11</p> <p>Form of social relation: Encounter as well as Collaboration</p> <p>Configured through: A Contract</p>	<p>Secret Club starts with a letter that the child receives in his/her mailbox. This letter invites the child to take part in "a secret club" that takes place in the prison at a specific day and time. It is formed as a contract that the child (if the child wants to play the game) must sign and send back. When the child enters the visiting room in the prison, the Secret Club starts. The Secret Club is designed as a box with tools and materials (e.g. a robe, blanket, tape, strings, paper) and cards. Each card contains a suggestion of how to reorganize the visiting-room into fictional play worlds with titles such as "aircraft", "woodhouse", "jail cave", or "spider". The father and child can then build these worlds together and use them as "secret" meeting spots.</p> <p>The social interaction in Secret Club takes shape as an encounter and is configured through a contract. The game also enables collaboration.</p>	


Title: Dad's Escape	Gameplay	Prototype
<p>Social Game, for children aged 8-11.</p> <p>Form of social relation: Conflict as well as Co-design.</p> <p>Configured through: Laws &amp; acts</p>	<p>To start playing "Dad's Escape", the two players must discuss the events of the past week. They must then create "element cards" from these daily-life experiences using objects that symbolize things that have happened at home (child) or in the prison (father). The game consists of a "prisoner" and a "prison guard" placed inside a prison building. If the "prisoner" lands on a grey spot, he can make an "escape attempt" by combining the self-made element cards that enable the player to invent a fictitious "escape". Similarly, the guard can set up traps. A two-color dice decides if this attempt is successful or not.</p> <p>"Dad's Escape" throws the players into a conflict, which is centered on the violation of the law prohibiting escape from prison. Through humor, the gameplay touches upon the fact that the father is actually in prison, which for many children is a taboo. "Dad's Escape" also exploits co-design of the element cards, which is important for increasing conversation and communication between child and father.</p>	


Title: Memory Garden	Gameplay	Prototype
<p>Social Play &amp; game for girls aged 8-11.</p> <p>Form of social relation: Collaboration</p> <p>Configured through: Everyday routines &amp; habits</p>	<p>"Memory Garden" invites the two players to make a garden together. It has a play and a game part. The play part revolves around a gardening set (a bag of dirt, bags of seeds, pots, and tools) and the game part takes the shape of a memory game with 36 play cards that playfully obstruct or ease the process of sowing seeds. Every time the child visits the father, they can plant a new plant and observe the growing of previously planted trees and flowers. When the father is released from prison, they can continue to nurse the plants together, and the plants will "mark" the visiting hours and the time they have spent together.</p> <p>The social relation of "Memory Garden" relies on collaboration and is structured as an everyday routine: planting plants and nursing a garden together in a playful manner.</p>	




Title:	Gameplay	Prototype
<p>My Week</p> <p>Social Game, for girls, aged 8-11</p> <p>Form of social relation: Co-design</p> <p>Configured through: Everyday routines &amp; habits</p>	<p>"My Week" is a redesign of an existing game called "Labyrinth". The purpose of "My Week" is for the child to create his/her own game pieces based on the activity of the past weeks. For instance, if the child has been roller-skating or baking a cake at home, then the child can draw roller-skates or a cake and place these in the labyrinth. Subsequently, each player can reconstruct the labyrinth (by pushing game pieces back and fourth) and in that way construct a pathway towards the desired objects. The player, who has collected most objects, wins.</p> <p>"My Week" foregrounds co-design and is ruled by the everyday routines of the child. In that sense, the incarcerated parent is invited to participate in reconstructing the activities of the past week and the game can be a "ticket to talk".</p>	

Title:	Gameplay	Prototype
<p>Crook Book</p> <p>Social Play, for teenagers aged 12-18.</p> <p>Form of social relation: Collaboration</p> <p>Configured through: Everyday routines &amp; habits</p>	<p>The "Crook Book" offers playful activities designed to take place in the visiting apartment. It is a series of boxes containing recipes for dinner, breakfast, and lunch. The father can buy a "Crook Book" in the prison store before the actual weekend visit. It is constructed as a two-part cooking kit containing ingredients (vegetables, herbs, eggs, etc.) as well as a cartoon cookbook with recipes based on the lifestyle of infamous "crooks" (e.g. Al Capone, Jack the Ripper or Semion Mogilevich). "Crook Book" makes use of satire to comment on the world of criminals and mobsters by framing the recipes "as if" they were formulated by the "crooks" themselves.</p> <p>And because the players know this world, they can relate to it and they can laugh about it, while cooking food. The game increases social interaction through collaboration and is scripted through the everyday routine of cooking a meal.</p>	

Title: The Prison	Gameplay	Prototype
<p>Social Game, for teenagers age 12-18</p> <p>Form of social relation: Connection</p> <p>Configured through: Norms &amp; Rules</p>	<p>"The Prison" is an adaptation of the game "Monopoly". In "The Prison", the players do not land on a square in the city, but on a location in a prison (in a cell, the TV room, the yard, the toilet, the gym, etc.). You do not pay with money or build houses; you pay with respect points, and you build alliances to gain power. The first squares after START belongs to the "Thieves", and they are cheap to "own" in terms of respect points; the next squares belong to the "Psychopaths", they are more expensive. And so the game continues towards the "Immigrants", "Skinheads", "Hells Angels", and finally the "Management" of the Prison. The game uses caricature of each group visualized through individual characters. For instance, "Insane Ed" belongs to the "Psychopaths". From his card, we learn how much he is worth (in terms of respect) and learn about the rules he lives by.</p> <p>"The Prison" foregrounds connections among prisoners, social hierarchies, power, and unspoken norms and rules within the prison system. It allows the child to experience the prison as if behind the fences and walls.</p>	 <p>The prototype image shows a game board with various prison locations like 'TOILET', 'TV STUEN', 'GARDEN', 'KITCHEN', 'IMMIGRANT', 'PSYCHOPATH', and 'THIEVING'. A yellow pushpin is placed on the 'IMMIGRANT' square. Below the board are two character cards. The first card is for 'INSANE ED' (Psychopaths) with a respect value of 9. The second card is for 'INSANE ED' (Thieves) with a respect value of 10. Both cards include a caricature and text in Danish.</p>

Title: Not Relevant	Gameplay	Prototype
<p>Social game for children aged 12-18</p> <p>Form of social relation: Exchange</p> <p>Configured through: Everyday routines and habits</p>	<p>"Not Relevant" is a card game with illustrations of stories taken directly from the prison world and informed by prison officers. The player rolls the dice and can draw a card. Each card contains an illustration and a short text. For instance, a prison officer putting on a pair of plastic gloves with text: <i>The visitor had to leave the check-in with red ears and a sore bum.</i> The player must guess what the story is about (he gets three guesses). The opposite player (who knows the answer) must only answer "yes", "no", or "not relevant". If the player can guess the actual content of the story, he earns points (...a visitor was trying to smuggle in a mobile phone hidden inside his butt, but then the phone rang...).</p> <p>"Not Relevant" enables social interaction through the exchange of stories. The players get hints and must guess a story, but also delivers new stories that might be true or not. The situations in the game are literally shaped by everyday routines of the prisoners and the prison-staff.</p>	 <p>The prototype image shows a box labeled 'NOT RELEVANT' with a dice inside. Two cards are shown: one with a prison officer and a story about a visitor, and another with a prison officer and a story about a visitor. Both cards include a caricature and text in Danish.</p>

Title Haggling Game	Gameplay	Prototype
<p>Social Game, for teenagers aged 12-18</p> <p>Form of social relation: Negotiation</p> <p>Configured through: Norms &amp; rules</p>	<p>Haggling means bargaining. In the "Haggling Game" the players do not bargain about things or products, but about beliefs, values, or norms. The game is designed for a father and his son/daughter who do not share the same values anymore. Each player has a stack of empty cards. Each card weighs differently – it is either heavy or light. On these cards the players can write down beliefs or values formulated as a "command". For instance, the father can write, "read the Koran". The card must then be placed on a weight. The opposite player can either accept the "command" (by removing it) or respond to this with a new card, for instance by writing "eat pork meat". The players must keep the weight in balance; they can do this by negotiating what is placed on the weight (accept commands, remove them, or replace them). The players must end up with one "deal" ("if I do this, then you do that"). The "Haggling Game" enables social interaction through negotiation. This interaction facilitates the further exploration of norms and rules and personal beliefs of what is good or bad.</p>	

## Discussion

In this section, we apply our typology to the social game prototypes in order to discuss more thoroughly if it provides a coherent framework for explaining how social relations may be addressed and eventually remodeled through playful participation. Whereas Trepte et al. (2012) argue for describing relationship development in terms of physical proximity, social proximity, and familiarity, our framework suggests a different conceptual model. By breaking down social relations into seven basic forms (horizontal axis), we are able to see relationship development taking place through some kind of social activity in combination with how this is conditioned (vertical axes). This allows for making some fine-grained distinctions (Fig. 3):

	Encounter	Collaboration	Connection	Conflict	Exchange	Negotiation	Co-Design
Contract	<b>Secret Club</b>						
Rituals							
Everyday Routines & Habits		<b>CrookBook</b> <b>Memory Garden</b>					<b>My Week</b>
Rules & Norms			<b>The Prison</b>		<b>Not Relevant</b>	<b>Haggeling</b>	
Laws & Acts				<b>Dads Escape</b>			<b>Dads Escape</b>

**Fig. 3**

From Figure 3 we can see that *Secret Club*, *Crook Book*, and *Memory Garden* foreground *Collaboration* and *Everyday Routines* (building, cooking, or gardening together) as means of forming a social relation between the players. All three prototypes invite the two players to become involved during the visit as well as in the period of separation. For instance, in *Secret Club* the child receives a fictional “secret contract” that the child must agree on and sign before visiting the prison. In *Crook Book*, the father must choose what to cook and which version of the *Crook Book* to buy in the prison store before the child arrives. In *Memory Garden*, the father and child can decide what plants to take home and plant in the garden after the visit. All three prototypes extend the gameplay to include the time of separation and activities beyond the play experience itself.

Furthermore, the social togetherness in *Crook Book* is challenged especially by the fact that the father and child must not only cook a meal together; they must also follow a visual recipe that, in a satirical way, encourages them to engage in a critical reflection on the world of mobsters, crooks, and criminals. Playful participation and social growth in this case depends on how openly the father and teenager are able to talk and laugh about the world of crime.



*The Prison*, *Not Relevant*, and *Haggling* all require that the players together explore how *Norms & Rules* affect social interaction. At the same time, fictionalization is used in these game prototypes to blur the boundary between the character in the game and the actual players. For instance, *The Prison* invites the child to take the perspective of a fictional prisoner and to play with different identities of inmates, thereby getting to know about hierarchies and alliances inside prisons. What is foregrounded here is the establishing of a *Connection* by means of letting the child “step into” the fathers’ situation in the protected frame of the game world.

*Not Relevant* also addresses *Rules & Norms*, but here the playful participation is constituted through the *Exchange* of stories and guessing about absurd, hilarious and entertaining situations from the prison life. In the *Haggling* game, the players negotiate personal values and beliefs, thereby putting their own identities and norms at risk.

*Dad’s Escape* goes one step further, as it asks the players to play with breaking a law. The illegal action of planning and facilitating an escape from prison is a violation of the prison system, and the father and child must act out the roles of either guard or prisoner contesting each other. Hence, the game frames a *Conflict* in a fictional game world and by playing it out, it might make it easier for the players to talk about loss and their dreams of the father returning home. In *Crook Book*, *The Prison*, *Not Relevant*, and *Dad’s Escape*, a window is created giving the child a glimpse into the everyday life of the imprisoned father.

In both *Dad’s Escape* and *My Week*, the players must *Co-design* game content (cards, figures, and game pieces) based on their own personal lives and daily experiences. Both games will grow as time passes (since more and more game elements will be created) and both games use co-design in a playful way to socially engage the players (on this subject see also Knutz, Markussen, Desmet, & Visch, 2012). *My Week*, though, is different from *Dad’s Escape* in the sense that the game focuses on the child’s world, as it incorporates elements from the daughter’s life and her weekly activities, not the father’s.

Our typology provides a conceptual backdrop for understanding how playful participation can be a subtle way of exploring relationships in social games. The typology does not, like Klimmt’s “effect mechanisms” or Mitgutsch’s “three-level model of learning”, narrow its focus to the interaction between the player and game content. Nor does it assume motivation, knowledge, and persuasion to be the primary game effects. Instead, it places emphasis on how the players are brought together through the game (before, during, and after), and how playful participation can be used as means for letting the players take the perspective of one another, redistributing their roles of identity. More specifically, playful participation becomes vital for fostering and increasing empathy between the players, i.e. the ability to understand another individual’s situation, “thoughts and feelings from the individual’s point of view” (Barak, 1987, p. 458).

The games are thus attempting to address well-known problems, identified in social research and criminology, of children living with incarcerated fathers, namely that these children often get anxious, worried, and start building up distorted negative imaginations, simply because they are not able to talk about their father’s situation; or because they are not allowed to actually see where their father lives. That can indeed be a challenge in top security prisons. But social games can be a means for opening up that world for children and adolescents.

To sum up, the typology is preliminary and includes one category that does not apply to any of the prototypes we have studied, namely that of rituals. Yet, we believe – as Turner (1995) – that rituals are an important part of our society both in and outside the prison walls. For that reason, we are keeping this category in the typology, since some future work might explore this aspect within a social game context.

## Conclusion

With this paper we aimed at laying firmer conceptual foundations for understanding the nature of playful participation in social games. Now, what has been achieved? We have made a working definition of social games and shown how they are to be distinguished theoretically from related game genres. Furthermore, we have introduced a typology, which is intended to help researchers working in related areas to understand how playful participation can be used to address social relationships. However, much is still to be done. We hope that researchers will find our typology useful and will start continuously to add, criticize, and adjust it based on the insights and experiences they may have gained from research into and design of social games.

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## Bibliography

- Aaron, L., & Dallaire, D. H. (2010). Parental incarceration and multiple risk experiences: Effects on family dynamics and children's delinquency. *Journal of Youth and Adolescence*, 39(12), 1471–1484.
- Anderson, M. L. (2003). Embodied cognition: A field guide. *Artificial Intelligence*, 149(1), 91–130.
- Assigana, E., Chang, E., Cho, S., Kotecha, V., Liu, B., Turner, H., ... Stevens, S. M. (2014). TF-CBT triangle of life: a game to help with cognitive behavioral therapy. In *Proceedings of the first ACM SIGCHI annual symposium on Computer-human interaction in play* (pp. 9–16). ACM.
- Barak, A. (1987). Increasing the Level of Empathic Understanding by Means of a Game. *Simulation and Games*, 18(4), 458–70.
- Baranowski, T., Baranowski, J., Thompson, D., Buday, R., Jago, R., Griffith, M. J., ... Watson, K. B. (2011). Video game play, child diet, and physical activity behavior change: A randomized clinical trial. *American Journal of Preventive Medicine*, 40(1), 33–38.
- Beckmeyer, J. J., & Arditti, J. A. (2014). Implications of in-person visits for incarcerated parents' family relationships and parenting experience. *Journal of Offender Rehabilitation*, 53(2), 129–151.
- Bishop, C. (2004). Antagonism and relational aesthetics. *October*, 110, 51–79.
- Bishop, C. (2012). *Artificial Hells: participatory art and the politics of spectatorship*. Verso Books.
- Block, K. J., & Potthast, M. J. (1998). Girl scouts beyond bars: Facilitating parent-child contact in correctional settings. *Child Welfare*, 77, 561–578.
- Borries, F. von, Walz, S. P., & Böttger, M. (Eds.). (2007). *Space Time Play: Computer Games, Architecture and Urbanism: The Next Level* (1st ed.). Birkhäuser Architecture.
- Boswell, G., & Wedge, P. (2007). *Imprisoned fathers and their children*. Jessica Kingsley Publishers.
- Bourriaud, N. (2002). *Relational aesthetics*. (S. Pleasance, F. Woods, & M. Copeland, Trans.). Les Presses du réel.
- Bradley, B., Davis, T. A., Kaye, J., & Wingo, A. (2013). Developmental Social Factors as Promoters of Resilience in Childhood and Adolescence. In *The Resilience Handbook: Approaches to Stress and Trauma*, ed. by M. Kent, M. C. Davis and J. W. Reich (pp. 197–208). London & New York: Routledge.
- Brezinka, V. (2008). Treasure Hunt-a serious game to support psychotherapeutic treatment of children. *Studies in Health Technology and Informatics*, 136, 71.
- Caillois, R. (1961). *Man, play and games*. University of Illinois Press.
- Cole, H., & Griffiths, M. D. (2007). Social interactions in massively multiplayer online role-playing gamers. *CyberPsychology & Behavior*, 10(4), 575–583.
- Copier, M. (2009). Challenging the magic circle: How online role-playing games are negotiated by everyday life. *Digital Material. Tracing New Media in Everyday Life and Technology*, 159–172.
- Det Kriminalpræventive råd. (2005). *Fængsledes børn - en udsat gruppe*. København.
- Dourish, P. (2004). *Where the action is: the foundations of embodied interaction*. The MIT Press.
- Downey, A. (2007). Towards a politics of (relational) aesthetics. *Third Text*, 21(3), 267–275.
- Dunn, E., & Arbuckle, J. G. (2002). Children of Incarcerated Parents and Enhanced Visitation Programs: Impacts of the Living

- Interactive Family Education (LIFE) Program. Retrieved October, 1, 2007.
- Flanagan, M. (2009). *Critical play: radical game design*. The MIT Press.
- Hein, G. (2013). Empathy and Resilience in a Connected World. In *The Resilience Handbook: Approaches to Stress and Trauma* (pp. 144–155). London & New York: Routledge.
- Helms, N. H., & Rahbek, J. U. (2012). Spildesign i Serious Games - en didaktisk udfordring? *Tidsskriftet Læring og Medier (LOM)*, 5(9).
- Henricks, T. (2008). The nature of play. *American Journal of Play*, (Fall 2008).
- Huizinga, J. (1939). *Homo Ludens Versuch Einer Bestimmung des Spielelementes der Kultur*.
- Hutchins, E. (2000). Distributed cognition. Retrieved March, 14, 2001.
- Huvila, I., Holmberg, K., Ek, S., & Widén-Wulff, G. (2010). Social capital in second life. *Online Information Review*, 34(2), 295–316.
- Kampfner, C. J. (1995). Post-traumatic stress reactions in children of imprisoned mothers. In K. Gabel & D. Johnston (Eds.), *Children of incarcerated parents* (pp. 89–100). New York: Lexington Books.
- Kato, P. M., Cole, S. W., Bradlyn, A. S., & Pollock, B. H. (2008). A video game improves behavioral outcomes in adolescents and young adults with cancer: a randomized trial. *Pediatrics*, 122(2), e305–e317.
- Klimmt, C. (2009). Serious games and social change: Why they (should) work. *Serious Games: Mechanisms and Effects*, 248–270.
- Knutz, E., & Markussen, T. (2014). Politics of Participation: Learning from Participatory Art. In *Proceedings of the Art of research Conference*. Aalto University, Helsinki.
- Knutz, E., Markussen, T., Desmet, P., & Visch, V. (2012). Designing Narrative Games for a Serious Context. In *Proceedings of the 8th International Conference on Design & Emotion*. Central Saint Martins College of Arts and Design, London.
- Kraut, R. E., Rice, R. E., Cool, C., & Fish, R. S. (1998). Varieties of social influence: The role of utility and norms in the success of a new communication medium. *Organization Science*, 9(4), 437–453.
- Magnussen, R., & Sørensen, B. H. (2011). Design-based Action Research. In *Serious Games in Education* (pp. 47–58). Aarhus: Aarhus University Press.
- Michael, D. R., & Chen, S. (2006). *Serious games: games that educate, train and inform*. Thomson Course Technology.
- Mikulincer, M., & Shaver, P. R. (2013). An attachment perspective on resilience to stress and trauma. In *The Resilience Handbook: Approaches to Stress and Trauma*, ed. by M. Kent, M. C. Davis and J. W. Reich (pp. 156–168). London & New York: Routledge.
- Miller, K. M. (2006). The impact of parental incarceration on children: An emerging need for effective interventions. *Child and Adolescent Social Work Journal*, 23(4), 472–486.
- Mitgutsch, K. (2011). Serious learning in serious games. In *Serious games and edutainment applications* (pp. 45–58). Springer.
- Murray, J., Farrington, D. P., & Sekol, I. (2012). Children's antisocial behavior, mental health, drug use, and educational performance after parental incarceration: a systematic review and meta-analysis. *Psychological Bulletin*, 138(2), 175.
- Orleans, M., & Laney, M. C. (2000). Children's Computer Use in the Home Isolation or Sociation? *Social Science Computer Review*, 18(1), 56–72.
- Poehlmann, J., & Eddy, J. M. (Eds.). (2013). *Relationship and Processes in Children With Incarcerated Parents* (Vol. 78). Boston, Massachusetts: Wiley-Academy.
- Rahmani, E., & Boren, S. A. (2012). Videogames and health improvement: a literature review of randomized controlled trials. *Games For Health: Research, Development, and Clinical Applications*, 1(5), 331–341.
- Robbins, P., & Aydede, M. (2009). *The Cambridge handbook of situated cognition*. Cambridge University Press.
- Shaffer, D. W. (2006). *How computer games help children learn*. Macmillan.

- Shepard, B. (2012). *Play, Creativity, and Social Movements: If I Can't Dance, It's Not My Revolution*. Routledge.
- Smith, P. S. (2010). *Når straffen rammer uskyldige*. Gyldendal A/S.
- Squire, K. D. (2005). Resuscitating research in educational technology: Using game-based learning research as a lens for looking at design-based research. *Educational Technology: The Magazine for Managers of Change in Education*, (1), 8–14.
- Steinkuehler, C. A., & Williams, D. (2006). Where everybody knows your (screen) name: Online games as 'third places'. *Journal of Computer-Mediated Communication*, 11(4), 885–909.
- Suchman, L. A. (2007). *Human-machine reconfigurations: Plans and situated actions*. Cambridge Univ Pr.
- Sutton-Smith, B. (1997). *The ambiguity of play*. Harvard University Press.
- The Danish National Centre for Social Research. (2016). *Father in Prison, Child Exposed The Lives and Well-Being of Children With Parents in Prison*. Copenhagen.
- Trepte, S., Reinecke, L., & Juechems, K. (2012). The social side of gaming: How playing online computer games creates online and offline social support. *Computers in Human Behavior*, 28(3), 832–839.
- Turner, V. (1995). *The ritual process: Structure and anti-structure*. Transaction Publishers.
- Uz, C., & Cagiltay, K. (2015). Social Interactions and Games. *Digital Education Review*, (27), 1–12.
- Varela, F. J., Thompson, E., & Rosch, E. (1991). *The embodied mind*. MIT press Cambridge, MA.
- Westera, W., Nadolski, R. j., Hummel, H. g. k., & Wopereis, I. g. j. h. (2008). Serious games for higher education: a frame work for reducing design complexity. *Journal of Computer Assisted Learning*, 24(5), 420–432.
- Wilson, R. A., & Clark, A. (2005). How to situate cognition: Letting nature take its course. *The Cambridge Handbook of Situated Cognition*.