Playing at Work

Organizational Play as a Facilitator of Creativity

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Playing at Work:
Organizational Play as a Facilitator of Creativity

Samuel West

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DOCTORAL DISSERTATION

by due permission of the Faculty of Social Sciences at Lund University, Sweden. To be defended on December 4th 2015 at 13:15 at Kulturens auditorium.

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Abstract

This thesis investigates how play may benefit creativity in organizational contexts. Play and playfulness have previously been linked to creativity in children and adults, but empirical organizational research is scarce. Play is defined as a behavioral approach that is characterized by play being: voluntary, fun, frivolous, imaginative, and in some way bound by structure or rules. An important distinguishing feature of play is that it is frivolous, which means that play is done just for fun and no other results or outcomes are expected.

The first study was an exploration of how play is used by organizational consultants to promote creativity, how play was thought to enhance creativity, as well as how play is encouraged in organizational contexts. The results suggested that play promotes organizational creativity via the mediating factors openness, intrinsic motivation, and the collaborative relationships needed to co-create and innovate. The investigation also identified a number of encouragers and discouragers of organizational play. Playful contextual cues and explicit permission to play are examples of encouragers, while imposed play activities and a stressful work environment are examples of discouragers. The second study explored the effect of playful cues introduced during a scheduled workplace meeting versus a control condition receiving a conventional refreshments. The findings suggested that playful cues are a promising means by which to enhance the creative climate and playfulness in workplace meetings. The findings furthermore indicated that introducing play-cues does not risk meeting productivity. The third study investigated the impact of an intervention of playful improvisational theater on organizational creativity. Organizational teams participated in a play intervention that consisted of three workshops of playful improvisational theater. Compared with the control condition receiving no intervention, the intervention group reported an increase of workplace playfulness and scored higher on post-test measures of individual and group creativity.

The combined results of these three studies support previously proposed creativity enhancing effects of organizational play. The implications for organizations wishing to enhance creativity and innovation are that fostering a climate of playfulness may be a means of stimulating organizational creativity.

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We don't stop playing because we grow old;

we grow old because we stop playing.

- George Bernard Shaw

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List of Studies

1. West, S., Hoff, E., & Carlsson, I. (2013). Playing at work: professionals' conceptions of the functions of play on organizational creativity. *International Journal of Creativity & Problem Solving*, 23(2), 5-23.

2. West, S., Hoff, E., & Carlsson, I. (2015). Exploring play-cues in workplace meetings as a means of enhancing creative climate, playfulness, and productivity. Accepted to *American Journal of Play*.

3. West, S., Hoff, E., & Carlsson, I. (submitted) Enhancing team creativity with playful improvisation theater: a controlled intervention field study.

Acknowledgements

This thesis actually started in 2009 when I took a sabbatical from my work as a clinical psychologist and organizational consultant and moved to beautiful Cape Town, South Africa to write a book about happiness at work (West, 2011). Chad Henderson at the university of Uppsala helped me get invaluable access to the university library which made my research possible. A meeting with Nicki Mbelle, who has the enviable title of Chief Jester and helps her corporate clients discover the value of play, opened up my mind to play. She recommended a book about adult playfulness. Steuart Brown's book *Play: how it shapes the brain, opens the imagination, and invigorates the soul* (2009) was so interesting that I remember reading the entire book standing up. The connection between play and well-being at work and creativity was so exciting that I knew that this is what I wanted to work with. Several years earlier I had loosely discussed the possibility of doing a PhD about happiness at work over lunch at a Thai restaurant in Lund with Jan Rollof along with a friend of his, a professor of psychology. With my mind spinning with excitement about my newly discovered interest, I contacted that professor again with a crazy idea of researching organizational play.

A special thanks to Ingegerd Carlsson and Eva Hoff, for without their initial enthusiasm, I would never have applied to the PhD program and this thesis would never have happened. The punishment for their encouragement was that they then became my supervisors. You are the best supervisors I could have asked for! Or as my son would write it: The. Best. Supervisors. Ever. Also thanks to the LUCK group, our department's small network for creativity research. You showed me that there is more than one way to approach sober academic tasks. Also I wish to thank the Department of Psychology at Lund University for ultimately making this thesis possible.

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The most significant change in my understanding of play is that, now I truly appreciate play as a behavioral approach to work tasks. Play is not the opposite of work, play is not something done outside of work. Work and play can be delightfully intertwined.

If people never did silly things,
nothing intelligent would ever get done.
- Wittgenstein

Abstract

This thesis investigates how play may benefit creativity in organizational contexts. Play and playfulness have previously been linked to creativity in children and adults, but empirical organizational research is scarce. A widely accepted definition of creativity is that it involves the production of something that is both novel and appropriate. Play is defined as a behavioral approach that is characterized by play being: voluntary, fun, frivolous, imaginative, and in some way bound by structure or rules. An important distinguishing feature of play is that it is frivolous, which means that play is done just for fun and no other results or outcomes are expected.

The first study was an exploration of how play is used by organizational consultants to promote creativity, how play was thought to enhance creativity, as well as how play is encouraged in organizational contexts. The results suggested that play promotes organizational creativity via the mediating factors openness, intrinsic motivation, and the collaborative relationships needed to co-create and innovate. The investigation also identified a number of encouragers and discouragers of organizational play. Playful contextual cues and explicit permission to play are examples of encouragers, while imposed play activities and a stressful work environment are examples of discouragers.

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Svensk sammanfattning
(Summary in Swedish)

Syftet med avhandlingen var att undersöka om och hur lek påverkar arbetsplatsens kreativitet. Forskning har visat att leken är viktig för barns kreativitet, men leken kan också gynna vuxnas kreativitet. En vanlig definition av kreativitet är att den innebär skapandet av något som är både nytt och nyttigt. När lek definieras beskrivs den som ett mentalt tillstånd eller en inställning till det aktören gör snarare än en specifik aktivitet. Lek kan därmed definieras utifrån dess fem utmärkande egenskaper; leken är självvald, lättsinnig, upplevs som rolig, involverar fantasin och att leken växer fram utifrån en struktur eller givna regler. Lekens lättsinnighet är ett viktigt element eftersom leken görs enbart för att det är roligt, leken leken syftar inte till resultat.

Avhandlingens första studie utforskade hur leken används av konsulter för att främja kreativitet i organisatoriska sammanhang, hur man tror att leken ökar kreativiteten samt hur leken främjas i arbetssammanhang. Undersökningens resultat tyder på att leken har stor potential att öka kreativiteten genom att träna öppenhet, öka medarbetarnas inre motivation och leda till goda relationer på arbetsplatsen. Studien identifierade även vad som anses främja eller dämpa lekfullheten på arbetsplatsen. Lekfulla stimuli och en uttalad tillåtelse att leka främjar arbetsplatsens lekfullheten medan påtvingat förkoreograferat "kul" och en hög stressnivå dämpar lekfullheten.

I den andra studien fick deltagare lekfulla stimuli eller 'cues' under ett vanligt inbokat arbetsmöte, medan en kontrollgrupp fick en vanlig fruktkorg. Experimentet visade att lek-cues/stimuli ökar mötets kreativa klimat, lekfullhet samt även deltagarnas upplevelse av mötes-produktiviteten.

Den tredje studien undersökte hur en längre lekintervention bestående av en kurs i lekfull improvisationsteater påverkade medarbetarnas kreativitet. Jämfört med kontrollbetingelsen, visade interventions-gruppen efter lekinterventionen en ökning av både individuell kreativitet och gruppkreativitet.

Huvudslutsatsen av avhandlingens tre undersökningar är att det finns ett positivt samband mellan arbetsplatsens lek och kreativitet. Den kunskapen är av stor vikt för de organisationer som strävar efter att öka kreativitet och innovation, då främjandet av ett lekfullt arbetsklimat potentiellt gynnar såväl arbetsglädjen som kreativiteten.

Introduction

> *I worked as an instructor doing computer training courses for corporate clients. Months of doing the same lessons, teaching the same stuff over and over again was driving me crazy. One day I decided to start teaching with a fake German accent. I took on a strict German accent and mannerisms. My job was immediately transformed into the most fun job in the Universe! The participants loved it and joined in by responding with their own German accents. It was great fun and I'm sure that it also improved the quality of the course.*
>
> - Instructor at a corporate training facility

Not only is a playful work environment an enjoyable mood booster, recent research has suggested that playing at work benefits certain organizational objectives. Creativity, productivity and group cohesion are factors believed to be increased by play. The changing landscape of work along with new generations entering the workforce bring new demands for engagement and fun in the workplace.

Although the research on organizational play remains a trickle, scholarly interest in the various aspects of play seems to be increasing. If the number of recent management and business-related books and articles on the benefits of playing at work mirrors reality, then organizational play is gaining in popularity. Play may be sneaking in from the children's playgrounds into the modern workplace. It has however not always been so. In the great industrialist Henry Ford's memoir *My Life and Work* (1922, p. 134), he makes it very clear that play is not something that belonged in his factories:

> *When we are at work we ought to be at work. When we are at play we ought to be at play. There is no use trying to mix the two. The sole object ought to be to get the work done and to get paid for it. When the work is done, then the play can come, but not before.*

Play was certainly not acceptable behavior in the Ford automobile factories, it was something that should be limited to after working hours. Emphasizing hard work and diligence as a way to salvation, the Protestant work ethic, which was eagerly embraced by industrialists, has been blamed as the strongest and longest lasting anti-play movement. Sutton-Smith (1997) recounts that play was more prevalent during the pre-industrial Middle Ages, where time for playful festivals was a substantial part of life. He argues that play became the enemy of organized factory work during the industrial revolution.

In his book *The Play Ethic,* Kane (2004) argues that it was and still is the Puritan notion of play as something demonic that has tainted society's view of play. As a frivolous and enjoyable activity, play could not possibly lead to heavenly salvation. The Puritan work ethic[1], was certainly beneficial to the exploitative employers of the industrial revolution. Or was it? Who knows how much more innovative the early factories could have been had their employees been encouraged to play.

For the pre-industrial skilled worker, work and life were intertwined, and play and leisure were natural aspects of working life. The Industrial Revolution, argues Hodgkinson (2005, p. 32), "transformed a population of strong willed, independent-minded, heavy-drinking, party orientated, riot-loving, life-loving Englishmen into a docile, disciplined, grateful workforce." The Protestant views also influenced society's views about how much fun work should or could be. Work and play were seen as two opposites that should not be combined. In fact play was something that the first management consultants found compelled to be eliminated by efficient management (Taylor, 1911/2010). The persistence of the protestant influence has been captured by the following quote: "We have been brainwashed into believing there is a split between work and play. Work is productive and good; fun accomplishes nothing and is often evil" (Greer, 1975 p.165).

As we move further away from the industrial era and dive deeper into a knowledge-based economy, play may once again be welcomed back into the workplace. Could it be, as Andersen and Por (2014) suggest, that we are experiencing a radical shift from play being seen as the opposite of work, towards a view of play as intertwined with and inseparable from work itself?

The prevalent reports of the playful work environments of some of today's most successful companies suggest that play is returning to the workplace. Newspapers recently reported that office workers in cities around the world were engaged in Post-it wars. In these "wars," offices competed to create the best and most advanced artwork made of colorful Post-it notes on their windows. The mosaics of Post-it notes depicted anything from video game figures to monsters, and the silly post-it mosaic art served no apparent purpose other than to have fun. The creation of the 'artwork' and the ensuing 'wars' are an excellent example of play in the workplace. Management of some of the warring organizations viewed taking time out from work for childish arts and crafts as a waste of time; the frivolous use of office paper supplies as wasteful, and ultimately saw the playful behavior as a productivity loss. Other organizations encouraged these wars and saw value in the playful behavior and thought that it was beneficial for employee moral (Levine, 2012).

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[1] The Protestant or Puritan work ethic is sometimes called the Lutheran work ethic. This is wrongly attributed to Martin Luther who contrary to his reputation, was a joyous fellow prone to to both idleness and perhaps even play.

This thesis explores the relationship between play and organizational creativity. As there is limited research on adult play, and even less on organizational play, the initial investigation that forms this thesis was exploratory in nature. Thus, the first study utilized qualitative research methodology to investigate how play is intentionally used by consultants to promote creativity and what these creativity and play consultants believed to be the functions of play for enhancing creativity as well as how play may be encouraged in organizational contexts. The second study built upon the results of the first, by experimentally testing how play-cues influence a workplace meeting's creative climate, playfulness and productivity. The third and final study expanded upon the first two by investigating the effects of a more extensive play intervention on individual and group creative performance.

Play and Playfulness

There is little consensus amongst scholars on how to conceptually define play. Play is one of those constructs that is difficult to theoretically capture, being more easily experienced than defined. Trying to define play can be frustrating, and some scholars have concluded that play cannot be contained within a systematic definition (Spariosu, 1989). The paradoxical ambiguity of play led Sutton-Smith (1997) to argue that a definition of play must be broad rather than narrow, and that attempting to theoretically confine play only leads to silliness. These warnings have, however, not deterred scholars from attempting to define this elusive concept. In his seminal work *Homo Ludens* (Man the Player) the cultural historian and play scholar Huizinga (1955, p. 13) defines play as:

> *... a free activity standing quite consciously outside 'ordinary' life as being 'not serious' but at the same time absorbing the player intensely and utterly. It is an activity connected with no material interest, and no profit can be gained by it. It proceeds within its own proper boundaries of time and space according to fixed rules and in an orderly manner.*

Reacting to Huizinga's definition, Caillois (1961) argued that not all play is rule-bound and orderly. His theorization defined play as free, separate, uncertain, and unproductive yet regulated and make-believe, and included two types of play: The structured rule-bound play found in formal games and the play of unstructured spontaneous activities. He further classified play into different forms such as competition, chance and role-playing, and placed these various forms on a continuum of more or less formally structured. Other authors and researchers have offered a number of sometimes very similar overlapping definitions of play. Dansky (1999) considered activities playful when they are intrinsically motivated and self-directed, and are free from externally imposed rules or constraints, and that there is a loose and flexible link between means and ends. Brown (2009) defined play as an absorbing and intrinsically motivated activity that is apparently purposeless and provides enjoyment and a suspension of self-consciousness. In a recent article about the challenge of defining play, Eberle (2014) offered the following definition: "Play is an ancient, voluntary, 'emergent' process driven by pleasure that yet strengthens our muscles, instructs our social skills, tempers and deepens our positive emotions, and enables a state of balance that leaves us poised to play some more" (p. 231).

Play has been proposed as a route to personal development, and advocates of play view it as a fundamental aspect of a well-lived life (Brannen, 2002; DeKoven, 2002). Kane (2004) described play as an approach to life and work which embraces enjoyment and makes room for activities that are pleasurable, voluntary and imaginative and proposes that the Puritan work ethic be replaced with what he calls the *Play Ethic* in which we accept ourselves as players and redesign our society so that we can follow play as part of primal human nature. He advocates play as a way of life that permeates all aspects of life such as work, education, art, spirituality and politics.

We humans can find a wide range of activities playful depending on our state of mind. Focusing on play in organizational contexts, play has been defined "as an intrinsically motivated, fun activity, carried out recursively in the form of a practice, typically in the context of social relationships" (Statler, Heracleous & Jacobs, 2011, p. 238). Reviewing the literature on adult play, Mainemelis and Ronson (2006) described play as a behavioral orientation to a task that is superimposed upon an activity. With this conceptualization, play is seen as a state of mind, and the activity itself therefore becomes less important than how an activity is framed and approached. As a behavioral approach, play is not confined to specific predetermined playful activities. Play activities can be very diverse. Just about any activity can, with a playful state of mind become play such as: tourism, television, daydreaming, sexual intimacy, literature, academia, kayaking, or gossip (Sutton-Smith, 1997). When done playfully, a usually non-playful activity such as cleaning becomes play just as a game of golf ceases to be play once it is taken too seriously. A normally boring work task such as stocking shelves at a grocery store becomes play when the task is done KungFu-style along with the appropriate kicks and screams.

The various definitions and descriptions from diverse disciplines highlight different nuances of play without much indication or consensus on whether play is of a primarily cognitive or affective nature. It can be concluded that, while positive affect is identified as an essential aspect of play it is a cognitive shift that enables players to engage in imagination driven activities that are separated from reality.

The nature of playfulness

Playfulness can be seen both as a state and a trait. As a trait, playfulness is seen as an aspect of personality that is relatively stable over time, whereas understood as a state, playfulness is seen as being a frame of mind that is strongly influenced by context.

Researchers of animal behavior view playfulness as a state. Animal behavior scientists have conceptualized play as a behavior that is done in a positive mood that is rewarding to the individual. The behavior generates novelty as the player is inclined to think and behave in spontaneous and flexible ways while protected from the normal consequences of serious behavior, (Bateson & Martin 2013). Burghardt (2014) also emphasized the behavioral state: "… repeated seemingly nonfunctional behavior differing from more adaptive versions structurally, contextually, or developmentally, and initiated when the animal is in a relaxed, unstimulating, or low stress setting" (p91).

Research on playfulness as a personality characteristic has focused on the internal dispositional characteristics of individuals. Conceptualized as a personality trait, a playful individual has a predisposition that makes the individual more likely to engage in a situation or an environment to make it more enjoyable or entertaining. Adult playfulness has been defined as a inclination to re-frame an activity so as to enhance enjoyment for oneself and others (Glynn & Webster, 1992). Expanding on this definition, Barnett's (2007, p. 955) investigation of play as a psychological construct offered the following more exhaustive definition of playfulness as a personality trait:

> *Playfulness is the predisposition to frame (or reframe) a situation in such a way as to provide oneself (and possibly others) with amusement, humor, and/or entertainment. Individuals who have such a heightened predisposition are typically funny, humorous, spontaneous, unpredictable, impulsive, active, energetic, adventurous, sociable, outgoing, cheerful, and happy, and are likely to manifest playful behavior by joking, teasing, clowning, and acting silly.*

Shen, Chick and Zinn (2014) argue that existing conceptualizations of playfulness as a trait often conflate characteristics of playful behavior with dispositional qualities of the individual. State-level variables such as 'feeling happy' and overt behavior such as 'laughing' are confused with trait variables such as intrinsic motivation, and curiosity. They suggested a conceptual model of adult playfulness as a trait that consists of the three sub-dimensions: fun-seeking motivation, uninhibitedness, and spontaneity.

Differentiating work and play

The autotelic nature of play is central to differentiating play from work. Playing is something we do just for fun, for our own and other's enjoyment. Play does not directly meet any organizational objectives. Writing about the joy of work, de Man (1929, p.19) noted that "play is an activity which has no other aim than the gratification of the doer. We pass from play to work whenever value or utility becomes the motive of our actions." Play is done for the sake of enjoyment, not for the expected outcome of the playful activities, while work is an activity which has an expected goal or outcome. When play is applied to achieve organizational goals of for example creativity, then its ambiguity becomes apparent. This ambiguity of intentionality has lead some scholars of organizational play to develop the concept of Serious Play. This concept has been defined as a situation in which participants accept the ambiguity regarding intentionality and engage in play to achieve serious results (Statler, Heracleous, & Jacobs, 2011).

The importance of separating work and play may be more important for some individuals and work situations than for others. Researchers have found that many entrepreneurs see the boundary between work and play as blurry (Kauanui, Thomas, Sherman, Waters, & Gilea, 2010). It has also been suggested that individuals who enjoy and are engaged in their work are more likely to regard their employment less as "work" and more as play, and are less concerned with differentiating the two (Gillert, 2011). This supports the idea that a good way to incorporate play into the workday is by advocating a playful approach to work tasks instead of isolating play to specific play spaces or play activities.

Play at work takes many forms. Studying factory workers in the 1950s Roy (1959) observed how workers, despite harsh conditions, often tried to make monotonous repetitive work tasks more fun by adding playful elements to their tasks. Swedish researchers have explored playful behavior amongst meatpackers who both dance at work and tickle their coworkers (Strömberg & Karlsson, 2009). More recently, as documented in a delightful video on Youtube, a flight attendant chose to engage passengers as percussionists and rap his way through the mandatory security

announcement (West, 2011). Another documented example of organizational play, is when employees wrote sport articles about shared sport activities for the office newsletter. These amusing articles engaged the entire organization, even those who did not participate in the actual sports (Sørensen & Spoelstra, 2012). Playfulness can also be more deliberate, as when work tasks are intentionally framed as games thereby tapping into powerful engagement and reward mechanisms (Dignan, 2011). Play also occurs in organizational contexts camouflaged as a serious productive activity.

Organizational play as a behavioral approach

However, labeling play as serious and expecting results from the play activity leads to a paradoxical situation where employees are to do something just for the fun of it, while simultaneously producing something of value for their employer. This problem could be avoided by not focusing on play as a specific activity such as building things out of Lego bricks or marshmallows, but instead seeing play as a behavioral approach to regular work tasks. This stance also makes it less important to differentiate play and work, since there is no longer any reason to label certain isolated activities as play and others as serious productive work. With a playful state of mind any work activity, productive or not, can potentially become playful.

Learning from playful rats

Aside from trying to move into a playful state of mind and engage in play activities, what can someone who wishes to increase their playfulness do? One interesting suggestion from play scholars is to seek the company of playful people. Laboratory research has shown that rats exhibiting less playfulness (for example due to environmental stressors), become more playful simply by being with other more playful rats (Siviy & Panksepp, 1987). Likewise, we humans might also become more playful by surrounding ourselves with playful creatures of any species.(Gordon, 2014).

Creativity

Researchers of organizational creativity have defined creativity as the development of a novel product or idea that is of value to either the individual, group, or the greater society (Amabile, 1996). While the definition of creativity as being something that is both novel and appropriate can be further expanded, and/or disputed, it nonetheless remains the most popular definition for research within organizational creativity. The related term innovation is conceptualized as the implementation stage of creativity, most often within organizational contexts. A recent literature review of research on organizational creativity offered the following definition of innovation and creativity (Anderson, Potocnik & Zhou, 2014, p. 1298):

> *Creativity and innovation at work are the process, outcomes, and products of attempts to develop and introduce new and improved ways of doing things. The creativity stage of this process refers to idea generation, and innovation refers to the subsequent stage of implementing ideas toward better procedures, practices, or products. Creativity and innovation can occur at the level of the individual, work team, organization, or at more than one of these levels combined but will invariably result in identifiable benefits at one or more of these levels of analysis.*

Definitions of innovation often describe it as the implementation of new ideas (West, 2002). Yet in the often chaotic practice of creating and implementing new ideas, the conceptual difference between creativity and innovation is often blurred. Creativity researchers have recently begun to question the underlying notion that idea generation and idea implementation are disconnected from each other (Glaveanu, 2014). Defined as the development of something that is both novel and valuable, organizational creativity must promise a degree of implementation to create value for the organization. Novel ideas that do not meet organizational objectives or do not somehow lead to implementation are not of much value to an organization. Then, when does organizational creativity become innovation? The distinction between these two concepts is sensitive to domain and context, and it might also depend on who makes the distinction. Practitioners and researchers from management and organizational studies prefer the term innovation, whereas researchers of organizational psychology prefer to study creativity or organizational creativity. The term innovation is most often used in research at an organizational level, while creativity is used more on an individual level , studies at a team level use both concepts (Alencar, 2012). For this thesis, which focuses more on the team level of analysis, the terms creativity and organizational creativity are used. However this is done while acknowledging that the concepts of innovation and creativity often overlap both in the literature and in practice.

While the seemingly simple definition of creativity as the development of something that is novel and appropriate is by far the most widely used definition of creativity, this definition of creativity has been criticized as being too loose (Kaufman, 2003). Creativity researchers have called for a better distinction between different kinds of creativity and creative behavior (Beghetto & Kaufman, 2007). In a recent article that

has stirred debate amongst creativity researchers Glaveanu (2014) argued that there is a crisis in creativity research, and called for improved domain-transcending definitions and operationalizations of creativity. It may not always be beneficial to strive for grand theories and definitions. Baer (2014) argued that creativity is domain specific, meaning that creativity in one area may have little in common with creativity in another area of research, and that grand theories and all encompassing definitions are therefore of little use. Grand theories can be detrimental as they risk misleading researchers to view creativity as a more homogeneous and unified concept than it actually is. Also arguing that defining creativity is overrated and that the fields pluralism is healthy, Silvia (2014) wrote "I'm glad there's no consensual definition of creativity, and I would rather people stop defining it. If I edited one of the creativity journals, I'd probably ask most authors to delete the standard boilerplate definitions." (p. 236).

To a large extent, a researcher's definition of creativity depends on their choice of methodology and instruments (Hennessey & Amabile, 2010). The plethora of methods to assess creativity take a number of different approaches, measuring and emphasizing different aspects of creativity, (Batey, 2012). An example of this is a newly developed assessment of group creativity used in Study 3 of this thesis. Creativity that is captured in this test is defined as "a collective, generative, novel way of experiencing reality ending with an idea of a shared product that is evaluated as creative in a relevant context" (Hoff & Carlsson, 2015, p. 41).

Play and Creativity

Unsurprisingly, most research on the relationship between play and creativity has studied children and their imaginative forms of play (Russ & Christian, 2011). In a recent review of the literature, Hoff (2012) found convincing evidence supporting the positive effect of children's imaginative play on their creative performance.

In his interview study of exceptionally creative professionals, Csikszentmihalyi (1996) identified playfulness and the ability to alternate between fantasy and reality as an important dimension of the creative personality. He found that highly creative people had a playful disposition which they maintained throughout their lives. More recent research on adult playfulness also supports the link between a playful personality and creativity (Guitard, Ferland, & Dutil, 2005; Barnett, 2007). Data from an online study of 268 adults showed a strong association between adult playfulness and creativity. It was especially the fun and silliness aspects of playfulness that was associated with positive psychological functioning (Proyer & Ruch, 2011). College students scoring higher on measures of playfulness were found to have better academic performance and be more likely to do extra reading beyond what was needed to pass the exam, suggesting a higher degree of curiosity and a tendency to seek diverse knowledge (Proyer, 2011). A study from Hong Kong that investigated the creativity of adult players of table-top role playing games, found that these players scored higher on creative performance than a control group that did not play the games (Chung, 2012). A recent, large survey-based investigation with over 1500 respondents, found a positive relationship between self-reported measures of a playful personality and creative performance as measured by a brief creativity assessment (Bateson & Nettle, 2014).

Though scarce, several experimental studies have demonstrated the creativity enhancing effects of adult play. An investigation of the relationship between arousal level and creative performance found that playing a physically active video game could increase scores on tests of creativity (Hutton & Sundar, 2010). A full day of playing role play games was found to increase creativity in a sample of young Polish adults (Karwowski & Soszynski, 2008). In a laboratory study, Glynn (1994) explored how task cues effected the creativity of university students. Participants completed the same puzzle task cued as either work or play. Participants performing the puzzle cued as a work task were more goal-oriented, focused more on the quantity of their performance and were more concerned with monitoring their performance relative to others. Participants who performed the puzzle framed as play were more intrinsically motivated, focused more on quality, and used richer, more elaborate imagery.

Simply imagining oneself as a child seems to activate playfulness and creativity. In an experimental study, college student participants wrote about what they would do if school was cancelled for the day. The experimental group received identical instructions except that they were to imagine themselves as 7-year-olds in this situation. The participants who imagined themselves as a child while doing the writing assignment performed better than controls on the creativity tests that

followed. The study suggests that thinking of oneself as a child, even for a short period of time, facilitates playful and creative exploratory thinking processes (Zabelina & Robinson, 2010).

Thus, while creativity has been strongly linked to a playful personality, play is also a behavior influenced by context. Although the experimental research is limited, it does suggest that play activities benefit creativity, for example playing silly or imaginative games, imagining oneself as a child or labeling tasks as playful, trigger a shift towards a playful state of mind. As the existing experimental research has used university student participants, generalizations to corporate contexts remain uncertain.

How play enhances creativity

The idea that play may promote creativity is not new. Freud (1926) noted the link between play and creativity, and suggested that play was the source of creativity. Building on his work on child development, the psychoanalyst Winnicott (1971) recognized the value of play for creativity. Csikszentmihaly's early research on creativity and flow was grounded in the study of play (1971), and in his later research (1996) play was seen as an integral component of creativity.

Neuroscientists have demonstrated the crucial role of play for the development of behavioral flexibility, and for building social and cognitive competences in animal subjects (Spinka, Newberry, & Bekoff, 2001; Pellis & Pellis, 2009; Trezza, Baarendse, & Vanderschuren, 2010).

Theoretically it is conceivable that play might enhance creativity since both creative and play behavior share many of the same processes. Theorizing about how play effects creativity, Vandenberg (1978) suggested that the connection between creativity and play not only occurs through possible associations made during the play, but also that play develops a special attitude of a more flexible way of thinking characterized by a search for variation and novel solutions. Summarizing research on children's play and creativity, Russ (2004) suggested that play practices the cognitive processes of divergent and flexible thinking, as well as the use of imagination.

Mainemelis and Ronson (2006) understand play as key source of creativity in organizations. They explain that as an engagement with work tasks it facilitates cognitive, affective, and motivational processes of creativity, and as a diversion from work tasks it fosters social- relational dynamics. As a liminal experience play is both real and imaginary, and the playful movement between opposites offers opportunities for threshold experiences, which enable a broadening of views and the creation of new distinctions. Functioning as temporary diversion from work tasks, play may function as relief from stress or boredom, strengthening psychological safety and building social networks (Mainemelis & Ronson, 2006). As enjoyable diversion from demanding work tasks, play may also be an important part in the incubation stage of creativity (Smith, 2011). Organizational research has furthermore suggested that creativity may be enhanced by including less focused "mindless" work in the workday,

these tasks could perhaps be low-stress playful activities during the workday (Elsbach & Hargadon, 2006).

Arguing that play is a source of behavioral variety, researchers within organizational psychology have suggested that play promotes creativity by giving employees a legitimate excuse to behave in new ways (March, 1976). Play may facilitate creativity by exercising the ability to let go, to temporarily suspend control and open up to new ideas or behaviors. In the safe boundaries of play, habitual beliefs can be questioned which facilitates a shift of perspective to make new distinctions (Barry & Meisiek, 2010). Play may also mediate the transfer from ideas to action through the exploration of possible outcomes in the early stages of the innovation process (Dodgson, Gann & Salter, 2005).

For groups to be creative, group members need to be able to contribute their ideas, and report mistakes without fear of how other group members will respond. This sense of psychological safety is important for organizational creativity, which involves frequent experimentation and mistake-making (Edmondson & Mogelof, 2006). Psychological safety fosters knowledge sharing and creative team performance (Kessel, Krater, & Schultz 2012). It has been suggested that play fosters joy and goodwill amongst team members (Roos & Roos, 2006). Play may be instrumental in increasing psychological safety, allowing group members to deviate from socially prescribed behaviors and ordinary conventions and making them more willing to engage in creative behavior (Mainemelis & Ronson, 2006). Cooperation and good teamwork is consistently associated with higher group creativity (Paulus, Dzindolet, & Kohn, 2012), and play may promote high-quality exchanges which have been shown to have a positive influence on creativity (Muñoz-Doyague & Nieto, 2012). Online team gaming sessions have also been shown to enhance cooperation in the workplace (Hasan & Verenikina, 2009). Henricks (2014, p. 204) summarized that "Play is an exploration of powers and predicaments. We play to find out what we can - and cannot - do and to see if we can extend our capabilities"

Play and organizational creativity

Scholars of organizational behavior have suggested that it is in play that organizational creativity is born (Mainemelis & Ronson, 2006). March (1991) included play in the concept of organizational exploration which includes activities involving a search for variation and flexibility, experimentation and risk taking, as well as discovery and innovation. Playfulness has been identified as an essential aspect of a creative organizational climate (Ekvall, 1996). Play has also been suggested to be an encourager of a creative and innovative work environment (Starbuck & Webster, 1991; Deal & Key, 1998; Costea, Crump, & Holm, 2005; Statler, Roos, & Victor, 2009).

Experimental studies of the effect of play on creativity in organizational settings seem very scarce or non-existing, however, there are a number of studies that have linked play to improved organizational creativity. Some established companies deliberately provide opportunities for social computer gaming to promote team

innovation, which has been reported to lead to better social interactions in work teams as well as increased creativity (Dodgson, Gann, & Coopmans, 2008). A study on the work environment of computer programmers reported that playful behavior enhanced creative problem solving (Hunter, Jemielniak, & Postula, 2010). Higher levels of employee playfulness have been associated with an increase in innovative behavior and improved organizational creative climates in a number of surveys in Taiwan (Yu, Wu, Chen, & Lin, 2007; Liang-Hung, Wei-Hsin, Ching-Yueh, & Ya-Feng, 2010; Chang, 2011). There is also some evidence that scientists benefit from play. In a study of laboratory scientists, play was identified as a crucial element in the innovation processes of developing new pharmaceuticals (Styhre, 2008). Furthermore, playing together as a team may help sustain team innovation in large organizations (Dougherty & Takacs, 2004).

Some of the most prominent proponents of organizational play are the advocates of "Serious Play." The concept of serious play was developed by organizational researchers to be used in organizational settings. The concept emphasizes the purposeful use of play activities that directly benefit organizational objectives such as innovating and developing new products (Schrage, 2000; Statler et al., 2009). Serious play utilizes the imaginative processes that characterize play to generate new ideas in result-oriented organizational environments (Jacobs & Statler, 2006). Serious play using Lego bricks combined with physical play has been shown to aid strategic planning processes (Roos, Victor, & Statler, 2004; Heracleous & Jacobs, 2005), and the use of similar play sessions has also been reported to enhance strategic thinking (Heracleous & Jacobs, 2008), strategic innovation (Jacobs & Heracleous, 2007), as well as analogical reasoning during strategy development (Statler, Jacobs, & Roos, 2008). Serious play has also been suggested to have a positive effect on the development of leadership skills (Holliday, Statler, & Flanders, 2007).

Applied efforts

Research on organizational play is diverse. Suggestions of the benefits of play for creativity can be found in some unlikely areas such as law and libraries. A play pedagogy is argued to lead to more creative legal scholars and sharper law students (Adamson et al., 2008). Libraries are encouraged to stimulate both visitor's and employee creativity by embracing organizational play (Kurt & Kurt, 2010; Leeder, 2014). Outdoor team play, for example building log structures or hunting for treasure chests, have become popular elements in leadership development programs. It has been suggested that these play activities may enhance the creativity and leadership skills of participating managers (Kark, 2011). Playful improvisation workshops have been used to enhance medical students' and practicing physician's creative thinking skills, as well as improve their collaboration and interpersonal communication skills (Watson, 2011).

Business and creativity consultants have been quick to prescribe play as an effective method to increase creativity in the workplace. Authors of management books suggest that ideation is enhanced with a dose of playfulness and by framing such activities as games (Gray, Brown, & Macanufo, 2010; Dignan, 2011). Consultants have

also argued that organizational development and change are facilitated by adding playful elements, and that play has the potential to improve corporate culture (Gillert, 2011). Inspired by insights into the lives of popular musicians, other creativity consultants have urged sober business leaders to view the workplace more as a business playground (Stewart & Simmons, 2010).

Play as a facilitator of wellbeing at work

The relationship between positive affect and organizational creativity may be relevant in explaining the facilitating effects of organizational play on creative performance. Two decades before the rise of positive psychology, Lieberman (1977) proposed that positive affect is an important aspect in the relationship between play and creativity. The creativity enhancing effects of positive affect have been demonstrated in a number of experimental studies (Davis, 2009), and positive affect has also consistently been associated with increased employee creativity (Rasulzada, 2007). According to Fredrickson's (2001) Broaden-and-Build theory, positive emotions experienced in, for example play, broaden a person's behavioral repertoire. The skills and resources established and honed in play then become valuable for future creative tasks. The theory also argues that pleasant social interactions experienced in play build relationships that foster group creativity. Positive affect influences our cognitive strategies, indicating that all is well and evoking a more carefree, playful approach to tasks (Schwarz & Bohner, 1996).

Studies experimentally demonstrating the creativity enhancing effect of positive affect have often used playful situations to induce a positive mood. Researchers have used various playful elements such as humorous film clips or gifts of candy to increase positive affect (Isen, Nowicki, & Daubman, 1987; Baas, De Dreu, & Nijstad, 2008; Nadler, Rabi, & Minda, 2010). Though these mood researchers have not labeled the manipulations as play, the situations could be recognized as rather playful, and the results could conceivably support the notion that play enhances creative performance by inducing a positive mood. Humor may be considered an aspect of adult playfulness, and there is some evidence that workplace humor is conductive to organizational creativity (Lang & Lee, 2010).

The stream of research on happiness at work has identified variety and contact with others as important to happiness and wellbeing at work (Morgeson & Humphrey, 2006; Warr, 2011). It is conceivable that play behavior may effect both the amount of variety experienced during the workday, as well as the frequency and quality of social interactions. Transient states of happiness or fleeting moments of joy, perhaps induced by play behavior, have been suggested to influence the organizational climate and contribute to overall job satisfaction (Fisher, 2000). It has been demonstrated that momentary boosts of positive affect are associated with increased creativity. Amabile, Barsade, Mueller, & Staw, (2005) found that a temporary positive mood spike at work led to greater creativity, and that this spike also predicted increased creativity the following day. These brief moments of joy or fun can be contagious. A playful employee's demonstration of joy may infect coworkers through emotional contagion. This affective sharing between group members has been reported to

increase positive affect, as well as the quality of the workgroup's interpersonal relationships (Ilies, Wagner, & Morgeson, 2007; Walter & Bruch, 2008).

Improvisation and creativity

Organizational scholars have suggested that organizations wishing to enhance their innovation skills learn from the improvisational arts where skills are honed through playful experimentation and exploration (Barret, 1998). Incorporating playful elements from improvisational theater has been proposed as an effective way to enhance creativity in organizational settings (Meyer, 2010). Exploring the links between organizational creativity and organizational improvisation, Fisher and Amabile (2009) distinguished between compositional creativity and improvisational creativity. Compositional creativity is the most studied. It involves the creation of new products or services through a carefully planned and rigorously followed process. In contrast, improvisational creativity does not consist of a deliberate process of predetermined stages, and is defined as actions with high novelty in which problem identification, idea generation, and idea execution are not separated.

Improvisational theater is taught and practiced with the help of highly engaging and fun exercises and short interactive games (Spolin, 1963; Johnstone, 1979). Improvisational theater instructors have developed and refined their techniques for decades and the engaging training sessions simultaneously elicit spontaneity and playfulness while retaining both pedagogical structure and game rules. Training workshops based on improvisational theater have been suggested to be an effective means to increase organizational playfulness (Göncü, & Perone, 2005; Irgens 2008; Nisula, et. al, 2015), and a number of studies have shown that improvisation training benefits creativity (Karakelle, 2009; Kirsten & Du Preez, 2010; Lewis & Lovatt, 2013; Magni, Maruping, Hoegl & Proserpio, 2013).

A Technology of Foolishness

March (1976) argued that organizations need a "technology of foolishness" to counteract the prevailing standard mode of operation that involves an over-reliance on what he called "the technology of rationality." While appreciating the undeniable benefits of organizational rationality, March identified its limitations and argued that organizations in certain situations need to supplement this rationality with foolishness. A technology of foolishness allows organizations to suspend organizational objectives, exposing themselves to new experiences, and different perspectives which enables organizational members to experiment and discover. However, this sensible foolishness requires the explicit permission to behave less consistently and less goal oriented.

According to March (1976), the technology of rationality is based on the primacy of rationality, that the appropriateness of action is determined by to what extent the action relates to pre-determined organizational objectives. A technology of rationality presupposes purpose for action, that action is directed by preexisting goals. This rational approach maintains that organizational actions should be a result of a preexisting set organizational objectives, and should be derived from a solid understanding and consideration of expected outcomes and future consequences. Acting rationally, organizations do not take action based on intuition, revelation or emotion or with ambiguous goals and unknown outcomes. Rational action begins with clear goals based on existing preferences and values, and a preexisting understanding of the world. These assumed static goals guide data collection and insight, on which actions based on the expected results are then chosen.

In contrast, the technology of foolishness accepts that, rather than being predetermined, purpose can also be of a transitional nature and emerge from action. Sometimes actions need to precede purpose. The technology of foolishness encourages ambiguity and fluidity of action; as opposed to insisting on consistency and prediction. The technology of foolishness also allows organizations to relax the primacy of functional rationality, to temporarily suspend logic, reason, and intentionality, and promote an openness to new actions, objectives and understandings.

March (1976) argued that society heavily rewards consistent rationality. Influential members of society such as organizational leaders therefore have a powerful overlearning of rationality. This emphasis of rationality inhibits development. To overcome this position, organizations need to encourage experimentation and the experience of doing things for which there is no rational reason. Asking how organizations might escape the logic of reason, March proposed playfulness as a feasible alternative. Outlining play as a temporary, but deliberate relaxation of rules, it allows for exploration of behavior and knowledge that does not fit the standard rational mode of operation. Play relaxes the ordinarily strict insistence on purpose and predefined outcomes, and enables organizational members to act irrationally in

order to explore alternatives. He argued that playfulness is an instrument of organizational intelligence which is grossly overlooked by organizational leaders.

In a later article building on the previous ideas, March (1991) explained that organizations need to balance exploitation with exploration (which includes organizational play):

> *Exploration includes things captured by terms such as search, variation, risk taking, experimentation, play, flexibility, discovery, innovation. Exploitation includes such things as refinement, choice, production, efficiency, selection, implementation, execution. Adaptive systems that engage in exploration to the exclusion of exploitation are likely to find that they suffer the costs of experimentation without gaining many of its benefits. They exhibit too many undeveloped new ideas and too little distinctive competence. Conversely, systems that engage in exploitation to the exclusion of exploration are likely to find themselves trapped in suboptimal stable equilibria. As a result, maintaining an appropriate balance between exploration and exploitation is a primary factor in system survival and prosperity.* (March, 1991, p 71)

Many, especially large bureaucratic organizations lack the technology of foolishness (and its playfulness) and when it does exist they find it difficult to manage (Sarasvathy & Dew, 2005). The concepts of exploration and technologies of foolishness offer a useful theoretical framework to both understand the importance of organizational play and how it may be assimilated into organizational theory.

When play is effective in the creative process

As proposed in this thesis, play has the potential of boosting organizational creativity, but play may be more beneficial in certain stages of the creative or innovation process. Various models of the creative process have been proposed since Wallas (1926) conceptualization of the four stages: preparation, incubation, illumination, and verification. For almost a century now, scholars have added and subtracted stages, and refined and reformatted the linear multi-stage model. (Amabile, 1988; Basadur, Graen, & Wakabayashi, 1990; Runco, & Chand, 1995;) There are many different models, and as Puccio, Mance, and Murdock, (2005) pointed out, the various models serve different purposes and there is no "best" model. Nonetheless, and in true scholarly tradition, they propose their own model with six stages, (Exploring the vision; Formulating Challenges; Exploring ideas; Formulating solutions; Exploring acceptance; and Formulating a plan). Another, more widely cited model identified eight essential activities involved in the process of creative problem-solving (Mumford, Mobley, Uhlman, Reiter-Palmon, & Doares, 1991): (1) Problem definition ,(2)Information gathering, (3) Concept selection (4) Conceptual combination, (5) Idea generation, (6) Idea evaluation, (7) Implementation planning, and (8) Monitoring

The contribution of play may be the most fruitful in the more ambiguous initial stages of exploration, problem identification and formulation, incubation, and idea generation. It is likely that it is in the earlier phases of the creative process that ideas

are generated from playful actions and interactions. This is consistent with March (1991) who argued that the technology of foolishness is more valuable during organizational exploration activities than during exploitation. One of the proposed functions of play is that it fosters a tolerance of ambiguity, uncertainty and of mistake-making which are imperative to organizational exploration. Additionally, a recent study about using playful representational modeling methods (based on the concept of serious play), argued that play was especially effective in the early stages of a creative or innovation processes (Schulz, Geithner, Woelfel, & Krzywinski, 2015). Furthermore, the authors suggested that play may facilitate the type of ideation demanded by modern innovation processes that rely on collaboration, co-design, and co-creation. As this thesis has pointed out, play has the potential to build relationships across hierarchical and perhaps disciplinary boundaries and allow organizational members to drop their professional guard and embrace silliness to share ideas and perspectives in a playful experimental manner.

On the other hand, play is not immediately productive, and eventual outcomes are both uncertain and unreliable. Play might have less to offer organizations during the later stages of the creative or innovation processes such as the stages of evaluation, planning, implementation, and monitoring organizations.

The aim of this dissertation

The general aim of this thesis is to explore the potential of play as a facilitator of organizational creativity. This is initiated by exploring how play is currently used to promote organizational creativity, how play practitioners believe it enhances creativity, as well as how play is encouraged in organizational contexts. Furthermore, experimental intervention studies of organizational creativity in real life organizational settings are scarce (Anderson, Potocnik & Zhou, 2014), and studies of play interventions are even more scarce. This thesis aims to investigate the effect of play interventions on creativity in authentic organizational settings.

Method and Measures

The studies that form this thesis use different research approaches. In the first study a qualitative research method was used. The following two studies were quasi-experimental designs with pre- and post-measures and a control group. By using different research methodologies this thesis combines qualitative and quantitative methods to achieve a triangulation in which different research approaches compliment each other (Denzin & Lincoln, 1994). This mixed methods approach uses both relativistic and positivist epistemological paradigms (Guba & Lincoln, 1994).

Organizational research has predominantly used non-experimental designs, and scholars have argued that both quasi-experimental and randomized experimental designs should be used to a greater extent (Highhouse, 2009; Stone-Romero, 2011; Anderson, Potocnik, & Zhou, 2014). Contrary to the interpretive focus on the subjective and contextual, positivism and its associated quantitative research methods strive to uphold an objective and independent position and retain control of the research process which focuses on the observable, and the measurable. This ontological difference is apparent in the design of the three studies.

The initial qualitative study was guided by the paradigm of relativism in which knowledge and understanding is thought to collaboratively emerge from the research process in dialog between researcher and study participants. The initial literature review conducted at the beginning of this PhD project found considerable ambiguity regarding the construct of play. The literature on organizational play was mainly theoretical with limited focus on how play is actually used and manifested. As the field of organizational play was, and still is in its infancy, there was scarce research on how play is applied in the workplace to promote creativity. Despite the limited attention that organizational research had given to play there was a small but growing field of practitioners who were convinced that play has the potential to benefit organizational creativity. It was important to understand their notions of what organizational play is and their ideas about the relationship between play and creativity, and qualitative methods became the most appropriate choice (Creswell, 2003). A grounded theory inspired approach was chosen because it allows theory to emerge from the descriptions of the consultants' experiences, and notions on the topic instead of entirely from preconceived ideas. The approach was also inspired by phenomenology as relevant literature was consulted to generate the interview questions. Semi-structured interviews were used for the data collection, and informants were free to talk about the topics presented and develop their answers. The understanding of the practitioners' subjective ideas and general thoughts about the theory and practice of organizational play could form a relevant basis for forthcoming quantitative research.

With a grounded theory approach, data collection ceases once further data collection does not yields new properties and dimensions. "Once a category is saturated it is not

necessary to theoretically sample anymore to collect data for incident comparisons" (Glaser, 2001, p.192). In Study 1, conceptual saturation was considered reached after 15 interviews as the next 2 interviews did not result in new emerging concepts or categories.

An aim of the first study was to gain knowledge about important aspects of play, and become a point of departure for the coming investigations. Bearing in mind that the qualitative results are only seen as one possible perspective on the studied phenomenon, the results gave insight on the play consultants experiences of organizational play and generated many ideas for further quantitative research questions. The many discussions about organizational play that were necessary in the process of finding, recruiting and interviewing the study's participants was beneficial to the development of the initial ideas and greatly influenced the forthcoming studies.

Distributed Creativity in Organizational Groups

Group creativity was assessed with the test Distributed creativity in Organizational Groups - DOG (Hoff & West, 2014). Although collaborative creativity is essential for organizations, researchers of group creativity have lacked appropriate methods for assessment of group creativity. This new instrument has been developed to allow assessment of group creativity. In the test, groups participate in a creative process, starting with idea generation phases and ending in an evaluation and selection phase (Hoff & West, 2014). Participants perform the test in groups of three individuals. Participants are given a task to collectively generate ideas for a new and original multi-tool with at least five functions. To allow for re-testing, the test has two versions: in version A the multi-tool should be appropriate for a person in an urban environment whereas in version B the tool is for an individual in a rural environment or in nature. The assignment consists of three ideation stages in which participants successively focus on different end-users, themselves (5 minutes), a five-year-old girl (3 minutes), and an 80-year old man (3 minutes). In the final evaluation-selection stage (5 minutes), the group selects the five best ideas for the final product, which is then described or drawn on the last page of the test. The test takes about 20 minutes to complete. The final product is judged by a panel of judges (i. e. the Consensual Assessment Technique, CAT). The CAT scoring is done by independent expert judges who systematically rate the creativity of each product (Amabile, 1996). CAT is a well-established method that is frequently used to assess creativity in organizational contexts. In the third study, seven expert judges showed very good inter-rater reliability (α = .87). A reliability figure of .70 or higher is considered to an acceptable level of agreement between judges (Hennessey, Amabile & Mueller, 2011).

Meeting Creativity Climate

Building on the results from study 1, an instrument was developed to measure the creative climate of meetings. The lack of existing instruments required construction of a new questionnaire. This questionnaire assessed participants' experiences of the meeting's creative climate characterized by openness, intrinsic motivation and collaboration. These variables were taken from Study 1, which proposed that play

facilitated creativity via these three mediating mechanisms. The assessment consists of five items on a 7-point scale with the items: openness of meeting, openness to new ideas, engagement, participation, and collaboration. An example of the item scale is 'low collaboration' to 'high collaboration. Cronbach's alpha was .72.

Meeting playfulness
Experienced playfulness was assessed with two items on a 7-point scale. One item assessed the participant's experience of their individual playfulness during the most recent meeting period, and another item focused on their experienced playfulness of the group during the most recent meeting period. This measure assesses playfulness as a state.

Meeting productivity
Experienced meeting productivity was assessed with a single item on a 7-point scale from 'unproductive' to 'very productive'.

Psychological Safety
Psychological Safety was assessed with Edmondson's (1999) scale which was translated into Swedish. The scale consisted of 7 items on a 5-point Likert scale. All seven items loaded on a single factor with an eigenvalue of 2.23, with factor loadings ranging from 0.46 to 0.69. Cronbach's alpha was .63. Previous studies have reported higher internal consistency with a Cronbach's alpha of .81 (Kessel, Kratzer, & Schultz, 2012).

Test for Creative Thinking - Drawing Production (TCT-DP)
Individual creativity was assessed with The Test for Creative Thinking - Drawing Production (Urban & Jellen 2010). The test is designed to assess a more holistic concept of creativity than comparable tests of divergent thinking which rely heavily on verbal skills. The test sheet consists of an "incomplete drawing" with figural fragments that stimulate further drawing in a very free and open way. The drawing product is then scored by means of 14 evaluation criteria with the help of the test manual (Urban & Jellen 2010). The test allows for re-test as the drawing completion task is available in two versions; form A and form B. The inter-rater reliability of the scoring of the instrument has in previous studies been found to be good, $r = 0.87$, (Urban, 2005).

Short Measure of Adult Playfulness
The short measure of adult playfulness (SMAP) is a global assessment of adult playfulness (Proyer, 2012). It was used as a trait measure of adult playfulness. The five positively keyed items were answered on a 5-point Likert scale (1 = "strongly disagree," 5 = "strongly agree'). In Study 3 the instrument was found to have a reliability of $\alpha = .80$. Previous assessments of the instrument have reported good internal consistency $\alpha = .80$ - .89, and a test–retest correlation of $r = .74$, (Proyer, 2012).

Workplace playfulness

Similar to the measure of Meeting Playfulness, this measure consists of two items that assessed playfulness as a state. Whereas the former focused on the respondent's recent meeting experience, this measure focused on the respondent's experienced playfulness in their work team as well as their own individual playfulness in the workplace. Each item was assessed on a 7-point Likert scale.

Study 1

Play is one of the least understood behavioral phenomena in organizations (Mainemelis & Ronson, 2006). Although scholars have written about play, and several papers have outlined theoretical aspects linking play to creativity, empirical studies of organizational play are still scarce. To address this and to form the basis for the upcoming experimental studies it was therefore necessary in this initial study to conduct an open exploration of the practice of play in organizational situations. How is play used in organizational settings? How is play introduced or induced? What are the reasons for inducing play and how is play thought to promote creativity? What encourages and discourages organizational play?

To answer these questions a heterogeneous international group of 17 experienced creativity consultants and play advocates who work with organizational clients were interviewed. The interviews were transcribed and a grounded theory inspired approach was chosen to analyze the results.

The results suggest that play promotes organizational creativity by effecting the mediating factors openness, intrinsic motivation, and collaborative relationships needed to co-create and innovate. The findings on how play behavior is thought to facilitate creativity are summarized here:

Openness

Exercises non-judgement

Playful activities exercise a stance of non-judgement amongst participants. The frivolousness of play, and the excuse to be spontaneous and silly allow individuals to temporarily let go of prestige and correctness.

Fosters exploration and mistake-making

Play increases the tolerance of ambiguity. Playing and temporarily suspending organizational objectives encourages experimentation and improvisation. Groups that play together become more comfortable exploring and experimenting together.*Stimulates mental flexibility*

Play expands perspectives and practices the use of imagination, enabling less literal thinking. Imagining new information, situations and relationships that are not true in the real world is possible in the imaginary world created by play.

Intrinsic motivation

Energizes

Play activities can function as an energizer. Novel physical and mental challenges simultaneously stimulate body and mind.

Engages

Play taps into individual's intrinsic motivation by being inherently enjoyable and creating scripts for people to engage in. The fun of play increases participation and engagement.

Collaborative relationships

Psychological safety

The positive social effects of play helps build better relationships. Play serves as an effective shortcut to developing and maintaining the level of psychological safety needed for good group creativity.

Builds collaborative relationships

By bringing fun into relationships play helps break hierarchical and social barriers so that people find a common connection point and move into meaningful collaborative relationships.

Play encouragers and discouragers

An important encourager of workplace play is when senior management clearly gives employees the permission to play. This permission to play is most effective when it is both explicitly and implicitly given. A culture of playfulness at work is also fostered by frequent demonstrations of playfulness by senior management. Constraints of rules or time tend to increase play participation, because individuals may feel more secure within the boundaries of a game, or structure of an activity. Strong elements of competition may in certain situations encourage play yet in others act as a discourager by decreasing engagement and participation. Creativity consultants who use play in professional settings are divided on whether play should be framed as frivolous fun or if the usefulness and benefits of play should be emphasized. While toning down the triviality of play may sometimes be necessary, it risks undermining the autotelic and light-hearted core of play.

Play imposed is play opposed, and non-participation, being instructed by one's employer to play, and being told to enjoy it is patronizing and is a potent discourager of play. A highly stressful work environment was also found to be a discourager of play. Sober environments where lighthearted play is frowned upon by colleagues or superiors is a formidable discourager of anything playful.

Discussion

The study found that play is actively encouraged by the participating consultants to facilitate organizational creativity. Furthermore, play was thought to boosts creativity via the mediating factors of openness, intrinsic motivation, and building collaborative relationships. The complex nature of play (Sutton-Smith, 1997) along with a lack of previous research on adult play, was a stimulating challenge.. This also means that many questions about workplace play and the impact of play on creativity remain unposed and unanswered. This study was limited in that the informants consisted of a sample of practitioners of whom most were already convinced of the positive effects of play on creativity; for many informants arguing for the benefits of play was a source of income. Although this study has generated insights into the possible functions of play on creativity it is difficult to generalize from these results, and evidence that play enhances workplace creativity remains to be demonstrated.

Study 2

The first study found a number of ways that play can work to enhance organizational creativity, and that one of the methods by which play is induced in organizational settings is with the help of contextual cues that signal playfulness. Study 2 was designed as a first step to empirically test these findings. The study aimed to investigate how play-cues effect meeting participant's experience of the creative climate, playfulness and productivity of a workplace meeting. As a substantial amount of most people's time at work is spent in meetings, and meetings are a forum for social interaction, these meetings are a good organizational context in which to experimentally investigate organizational play.

Participants, design and measures

Participants were recruited when they booked a meeting room at a conference facility in Helsingborg, Sweden. Meeting organizers were informed that the study was about meeting satisfaction and that participation would not interfere with their planned meeting agendas. The total number of participants was 164 individuals in 18 meeting groups. The size of the meeting groups varied between 7 and 14 participants, with an average of 9 participants. The groups came from 11 different organizations that included teams from sales and marketing, software development, social workers, and HR managers. More than half of the participants (59%) were from large international IT corporations.

The participating groups were assigned to either a control condition or a play-cued condition. In the play-cued condition playful objects, childish sweets, or instructions to play a silly meeting game, were introduced midway through the meeting. Participants completed a questionnaire before and after the intervention. The procedure for the control group was identical except that a conventional conference facility bowl of fruit and dark chocolate was placed on the table.

The measures were questionnaire-based self-reports. Meeting creativity climate, playfulness, and meeting productivity were assessed.

Results

Wilcoxon Signed Rank Test was used for all three analyses. The intervention group showed significant increases of meeting creativity climate (p = .007), playfulness (p = <.001) and productivity (p = .001). The control group did not show significant changes.

Discussion

The findings supported the findings from study 1, and suggest that playful cues are a promising means by which to enhance the creative climate and playfulness in workplace meetings. The results furthermore suggest that introducing play-cues does not risk meeting productivity.

The majority of research on adult playfulness has focused on playfulness as a personality trait and reliable instruments for assessing adult playfulness have been developed (Glynn & Webster, 1992; Proyer, 2012). However, research on organizational playfulness tends to view playfulness as a behavioral approach, more of a state than a trait (West, 2014). This was to our knowledge, the first study that has attempted to measure playfulness as a state rather than a trait, and while our two-item measure seemed to capture the workplace playfulness in a given situation it would benefit from further validation studies as well as improvements of psychometric properties.

The first aim of this study was to investigate the relationship between play-cues and the creative climate in organizational meetings. We found a modest increase of the creative meeting climate for the play-cued group which supports previous research that has linked organizational playfulness to improved creative climate (Bateson & Martin, 2013; West, 2014). Study 1 proposed that play fosters creativity by increasing a sense of openness, increasing intrinsic motivation and by establishing and maintaining collaborative relationships, which are all important for, group creativity. While our findings are statistically significant, the small effect size of our results must be acknowledged. Many of our participants were IT-professionals from international corporations with highly stressful performance-based work environments, which could conceivably have dampened the effect on the creative meeting climate measure as high levels of stress in the workplace has generally been associated with decreased organizational creativity (Amabile, Hadley, & Kramer, 2002).

The second aim was to assess the impact of play-cues on playfulness in authentic workplace meetings. As expected, participants in the play-cued group reported an increase in playfulness whereas the control group did not. These results support findings from study 1, which identified contextual play-cues as a method to encourage playfulness in work settings. In the present study, play-cues were placed in the room without any obligation that the meeting participants engage in any playfulness. This voluntary aspect of play is a crucial and defining feature of play, as argued by play theorist Huizinga (1949): forced play is no longer play. Play is different from managed fun and other deliberate actions from management to promote a fun organizational culture. The nature of play and fun is highly individual; what is playful to one person or one group is not playful to another (Owler, et al., 2010). This was addressed in our study by using a variety of play-cues, and although we included a diverse range with four different cues it was very possible that some individuals may for example not have been able to experience and express playfulness with play-guns and weight-conscious people might not have experienced sweets as playful. While there is no one single method that suits all individuals or all groups, our results do support the idea that playfulness may be induced through a variety of playful cues.

The third aim was to explore the effect of play-cues on productivity, and our results suggest that playful meetings do not harm productivity. On the contrary, adding playful elements to otherwise mundane work meetings may slightly increase experienced productivity. These findings are in line with previous research that has

identified organizational play as both an energizer and an enhancer of engagement (Mainemelis & Ronson, 2006). The positive effect of play-cues on experienced meeting productivity may also be explained by the increased humor and laughter that the play-cues lead to in the meeting situation. Recent research on humor in team meetings has found that humor is positively related to team performance (Lehmann-Willenbrock, & Allen, 2014). The positive effects of playfulness and humor on performance may be especially relevant for younger generations for whom a fun work environment is particularly important (Romero & Pescosolido, 2008).

Study 3

Study 2 supported the hypothesized link between organizational play and creativity. However, the play intervention was very brief and actual creative performance was not assessed; additionally the effect sizes were small. Study 3 was intended to improve upon the previous study by extending the duration of the play intervention and measuring creative performance for both group and individual creativity.

Participants, measures, and procedure
A convenience sample of 93 participants from 9 Swedish organizations were recruited for the study. Fifty participants in four teams formed the intervention group. The control group consisted of 43 participants in five teams. The mean age was 38 and 52% were women.

The pre-test battery of tests and questionnaires was administered by the first author to the intervention group approximately a week before the first improvisation workshop and the post-test was administered approximately two weeks after the last workshop. The control group's assessments were conducted in an identical manner with the same amount of time between pre- and post-test. Participants in the control group did not receive any intervention.

Pre- and post-intervention measures were taken of workplace playfulness, adult playfulness, individual creativity, group creativity, and psychological safety. Workplace playfulness, adult playfulness, and psychological safety were measured with a self-report questionnaire.

The play intervention
The improvisational theater training intervention consisted of three workshops over a period of approximately 5 weeks. The team along with the team manager participated in the on-site workshops during work hours, and each session took about 2 1/2 hours. The playful experiential workshops consisted of the structured playing of improvisation theater games.

Results
The results showed that adult playfulness as a personality trait was positively correlated with scores of individual creativity ($r = .22$). The brief training in improvisational theater increased workplace playfulness ($p = .02$), and the intervention group increased significantly on measures of both individual ($p = .02$) and group creativity ($p = .042$) compared with the control group. The intervention group did, however, not show an increase on measures of psychological safety ($p =. 93$).

Discussion

We found a modest but significant correlation between adult playfulness and individual creativity. These results solidify previous research linking playfulness with creativity in adult populations (Proyer & Ruch, 2011; Bateson & Nettle, 2014; West, 2014). It is also worth noting that the SMAP did not change over time, regardless of participation in the play intervention or not. This is consistent with previous research on adult playfulness as a trait, that as an aspect of personality an individual's level of playfulness is relatively stable across time or re-test situations (Glynn & Webster, 1992; Barnett, 2007; Proyer, 2012).

In contrast to the SMAP, the measure of workplace playfulness assessed playfulness as a contextual "state" variable, being more sensitive to the situation of the workplace and/or the team. The results showed that the intervention group's workplace playfulness increased significantly compared to the control group which indicates that improvisation training may be considered an appropriate intervention capable of increasing organizational play. Previous research has suggested that playfulness can be induced in corporate settings in numerous ways. While spontaneous play may be the ultimate goal, "organized play" introduced by management or external consultants, should be introduced in a non-threatening well-structured manner with clear rules (West, Hoff & Carlsson 2013).

The intervention group increased significantly on measures of both individual and group creativity compared to the control group. These results are consistent with other experimental studies that have found that play increases scores of creativity (Karwowski & Soszynski, 2008; Hutton & Sundar, 2010; Zabelina & Robinson, 2010). The present study extends previous findings by empirically testing the effects of a play intervention on a non-student, real sample of organizational teams. As creativity is often a collaborative co-creating process (Sawyer & DeZutter, 2009), our findings that a relatively brief intervention of playful improvisation benefited collaborative team creativity is perhaps the most noteworthy.

As organizational play has been suggested to be a method to increase psychological safety (Mainemelis & Ronsson 2006), it was a surprise that our data did not support this hypothesis. Both groups scored high on the measure of psychological safety, and ceiling effects may have obscured any differences.

There are many possible ways by which play might facilitate organizational creativity. New behaviors and thoughts generated in the context of management sanctioned play may very well be, as Bateson and Martin (2014) propose, due to participants engaging in new behaviors and being able to think and behave in spontaneous and flexible ways while protected from the normal consequences of serious behavior. This idea is echoed by organizational researchers Mainemelis and Ronsson (2006) who suggested that organizational play functions as a manner in which organizational members exercise creativity within the safe boundaries of frivolous play.

Conclusion

This study appears to be the first controlled intervention study to empirically test the effect of organizational playfulness on creative performance. These findings contribute to a small but expanding research field of organizational playfulness and enrich the larger field of organizational creativity research. Our results indicate that organizational play is a promising method for enhancing organizational creativity and is worthy of future consideration by researchers and practitioners. A practical implication of these findings is that organizations can confidently explore the use of play, and perhaps more importantly, the encouragement of a playful work climate, as a development tool for creativity enhancement. While our findings show that play may enhance organizational creativity, much remains to be discovered about the possible mechanisms by which play benefits creativity.

General Discussion

The results from the studies in this thesis support the notion that play is a promising facilitator of organizational creativity. The series of studies on organizational play began by exploring how play is used and encouraged in organizational practice to enhance creativity. The hypothesis was then tested in two intervention studies.

The results in the initial exploratory study of this thesis suggest that play promotes organizational creativity by stimulating openness amongst team members, increasing intrinsic motivation, and by establishing and building collaborative relationships across organizational hierarchies. The second study in this thesis was, to my knowledge, the first that attempted to empirically test a play intervention in authentic organizational settings. The results supported the findings from Study 1, and suggest that playful cues are a promising means by which to induce playfulness. Despite a modest effect size, the results suggest that play-cues enhance the creative climate of a meeting. Furthermore the study found that play did not risk meeting productivity. In the third study, the play intervention group increased significantly on measures of both individual and group creativity over a control group. The study extends on previous research by empirically testing the effects of a play intervention on a non-student, and very real sample of organizational teams. The finding that a relatively brief intervention of playful improvisation benefited collaborative team creativity is important as it is the creativity of teams that is crucial for the success of many modern organizations.

By demonstrating play's positive impact on creativity in real life organizational contexts, this thesis contributes to the literature by extending previous findings of experimental research with student samples to organizational groups (Glynn, 1994; Hutton & Sundar, 2010; Karwowski & Soszynski, 2008; Zabelina & Robinson, 2010). These findings are in line with a growing body of literature that links organizational play to enhanced organizational creativity (Bateson & Martin, 2013; Nisula, et al, 2015). It appears that play can now be added to the list of effective methods for creativity enhancement (Scott, Levitz & Mumford, 2004), and the advocates of play have good reason for continuing to promote organizational playfulness (DeKoven, 2002).

Towards a definition of play

In this thesis, play is conceptualized as a behavioral approach to an activity, which can be defined by its basic elements; the more play criteria an activity meets, the greater the degree of playfulness. This thesis proposes that the five elements that characterize play are that it be fun, self-chosen,, frivolous, imaginative, and in some way bound by structure or rules. The play of office workers creating Post-it artwork, described in the introduction, is a good example. The activity meets the suggested defining qualities of play. It was self-chosen as the office workers did this on their own initiative without seeking the consent of superiors. The activity was engaging and fun. The activity was not results-oriented nor did it meet any organizational objectives.

The purpose of the activity was purely for enjoyment and perhaps the honor of creating the neighborhood's most spectacular window art. The materials and characters were silly and imaginative. The playing was also limited in time and space, confined to certain office windows and to a brief time period

Encouraging play in the workplace

Organizational leaders have reported that employee creativity is the key to their future success (IBM, 2010), yet given the importance of creativity for todays organizations, it is surprising that play remains scarce. There is simply not much playing going on in the workplace (Statler, Roos & Victor, 2009). A survey of organizational leaders found that a fun work environment was thought to increase creativity and promote group cohesiveness, but the survey respondents also reported that there is still too little fun in their work environments (Ford, Newstrom, & McLaughlin, 2004). Organizations interested in encouraging workplace creativity will find an abundance of research findings, building upon decades of creativity research (Mumford, 2012). However, those interested in promoting a playful work environment are referred to the books of motivational speakers and business consultants (Stewart & Simmons, 2010; West, 2011).

The three studies of this thesis adress the promotion of organizational play in different ways. After investigating how consultants introduce play in their work with organizational clients the following quasi-experimental study confirmed that play-cues (identified in study 1) can induce a sense of playfulness in a workplace meeting. In the final intervention study playfulness increased by inviting work teams to participate in a series of workshops in improvisational theater. Our findings that playfulness can be induced with a diverse array of approaches are in line with the results of a recent Finnish study. Researchers investigated three approaches to inducing organizational playfulness. All three approaches were conducted as workshops; improvisational theater-based training, sketching with pictures and serious play, which involves building prototypes with Lego bricks. Their findings suggested that these approaches were useful facilitators of playfulness in organizational contexts (Nisula, Kallio, Oikarinen, & Kianto 2015).

Fun offices or meeting rooms which contextually cue a playful environment are a characteristic of many innovative environments (Magadley & Birdi, 2009). From the field of industrial design there are several recent examples of how playful technology has been used to to elicit a more playful and lighthearted workplace. 'Arnie the talking beer vending machine,' was found to foster playfulness among employees who also enjoyed the free beer he dispensed. Another example is the "Twinkly Lights and Clouds" installation that was designed to playfully encourage employees to take the stairs instead of the elevator. The playful, fun and innovative installation SqueezeBoxes increased positive group interactions and openness leading to enhanced playfulness in an otherwise boring office (Gallacher, et al, 2015).

When implementing planned fun or playful activities in the workplace it is important to match the chosen play activity with the participants. There is some evidence that younger employees are more willing to participate than older individuals, and these generational differences must be taken into consideration. While the "baby boomer" generation (born between 1941 and 1960) often regard fun as counter-productive, the new generation of "millenial" workers (born between 1981 and 2000) tend to view it as important for building social connections and trust with colleagues (Lamm & Meeks, 2009). The organizational culture has a strong influence on how inclined employees are to play. Investigating fun at work, fun activities were found to be more careful and constrained in formal companies while fun was more prevalent in less formal organizations (Plester, 2009). Workplaces and individual employees vary greatly in their predisposition to the various forms of play. Play behavior that is great fun in one workgroup can be a complete failure in another group or in another context. A group of accountants may react unenthusiastically to the sounds of a remote controlled fart machine while a team of young technicians may appreciate the prank and admire the machine's advanced "Boom-Blaster Technology." Matching play and prospective players is thus essential to encouraging organizational play.

Managed fun versus organic fun

A significant challenge to studying play, and perhaps especially organizational play, is the lack of consensus on what types of activities can reliably be defined as play. This problem is, however, not surprising considering the multifaceted nature and the inherent ambiguity of the play construct (Eberle, 2014). "Managed fun" can be problematic both for researchers of play and for organizational leaders who wish to encourage playfulness. There is a big difference between packaged management-led forms of fun, and "organic" fun as an inherent part of organizational life.

"Play imposed is play opposed" said one respondent in Study 1 when asked about the enemies of organizational play. This theme reoccurs frequently in the literature. Though the value of organizational play is being recognized by organizational leaders, attempting to harness the benefits of play by implementing corporate-imposed fun risks backfiring and evoking employee cynicism (Fleming, 2005). Play and fun may risk being seen as a management fad, as a mechanism for employee engagement or creativity enhancement. A recent review of the literature on fun at work found that the attempts of employers to engage employees in fun activities are too often focused on managed fun, and that individuals were not thrilled about being forced by management to have fun or play (Bolton & Houlihan, 2009).

Managed play activities are not always perceived as playful by participating employees, and organic play (spontaneous, non-managed) is evasive to the controls demanded by research. The challenge when experimentally manipulating play is to induce play behavior without compromising the autotelic nature of play. In Study 2, this involved carefully adding playful contextual cues to a workplace meeting. Participants were then free to voluntarily participate in any spontaneous play behavior than then occurred. For Study 3 this was a little more difficult. Participation in the intervention of playful improvisational training was voluntary, but the structured games and

exercises in these workshops were led by a professional instructor, which in someways might have risked imposing the instructor's version of playfulness onto the participants. Individual and group play preferences are also an issue that intervention-based research must address. An activity that one group in a certain organizational setting experiences as play, may be experienced as non-playful to another group or in another context, complicating experimental control. When implementing planned fun or managed playful activities in the workplace it is important, as Study 1 found, to match the chosen play activity with the participants.

It is also worth noting that as the first study, perhaps unsurprisingly, found that a fun-phobic organizational culture discourages playfulness. When management frowns upon employees' spontaneous demonstrat-ions of fun and play during the regular workweek, attempts to play during special occasions and off-site events risk becoming contrived failures. An example of how managers can, perhaps inadvertently, discourage play is by making condescending remarks about demonstrations of playfulness and giving reminders on how unwelcome non-results oriented behavior is in his or her workplace. An example of how management and colleagues may discourage play can be taken from the work of a university teacher. Positive course evaluations from students who appreciate playfully framed seminars and lectures could conceivably prompt critical discussions amongst colleagues. These discussions about how playfulness risks decreasing quality, and how the university as an institution must resist the temptation of becoming too much fun; or being perceived as less serious, would be a sure way to stifle expressions of playfulness amongst teachers. Managers can promote a fun-phobic climate is by excessively extolling the virtues of productivity and effectiveness which stifles the spirit of play.

The problem of frivolity

This thesis defines play as a behavioral approach to an activity with the basic elements of play being that it is self-chosen, fun, frivolous, imaginative, and in some way bound by structure or rules. When integrating play in organizational contexts, the defining element of frivolousness needs to be considered. Promoting frivolous activities that do not meet organizational objectives is rarely congruent with organizational ambitions. This thesis argues that frivolous play is a means by which organizations can enhance creativity, and herein lies a certain paradox.

As Spraggon & Bodolica noted in a recent article (2014) there is a conflict within the research on organizational play. While some researchers have focused on deliberate implementation of play to obtain expected results (Schrage, 2000; Roos et al., 2004; Jacobs and Statler, 2006; Meyer, 2010; Sørensen & Spoelstra, 2012) others emphasize that play does not need managerial intervening and should not be functionalized (Kelley & Littman, 2001; Guerrier & Adib, 2003; Kane, 2004). When play is instrumentally used by results-oriented organizations to achieve extrinsic goals, play activities risk becoming less enjoyable and playfulness is diminished. The concept of *serious play* recognizes the problems with asking employees to engage in frivolous play while simultaneously expecting results from this play activity (Schrage, 2000). Per definition, play is something that is autotelic and done solely for the fun of it without

expecting any results. Yet in the present investigations, play was expected to meet the organizational objective of increased creativity. This leads to an ambiguous paradox, that is not easily resolved. Scholars who have adressed this issue have cautioned that the distinction between autotelic and goal-oriented behaviors should not be drawn too sharply. Even completely frivolous play can have functional results, such as when fun games are a form of physical exercise that benefits our health or silly word exchanges help build relationships. The difference in instrumentality between play and work may perhaps best be viewed as a matter of degree (Statler, Heracleous, & Jacobs., 2011).

Playfulness as trait or state

In the third study, the measure of playfulness as a personality trait (SMAP) did not change over time in neither the control group nor the intervention group. This supports the notion that adult playfulness can be considered a trait and does not change over time or due to a play intervention. Understood as a trait, and thus being a stable aspect of an individuals personality implies that playfulness is less influenced by the environment (Glynn and Webster, 1992; Webster & Martocchio, 1992; Barnett, 2007; Proyer, 2012). Furthermore Study 3 found that playfulness as a personalty trait was positively correlated with measures of individual creative performance, which substantiates previous research linking a playful personality to creative performance (Bateson & Nettle, 2014).

However, the measure workplace playfulness assessed playfulness as a state, being more sensitive to situation and context of the workplace and/or the team. While playfulness may be a stable personalty trait, this thesis also suggest that playfulness can be influenced by contextual variables, such as play-cues or playful workshops. These findings support the literature on the benefits of encouraging organizational playfulness (Starbuck & Webster, 1991; Kelley & Littman, 2001; Nussbaum, 2013).

Research has shown that playfulness as a trait and as a state have different relationships with outcome variables. Playfulness as a state is, for example more influential than trait playfulness on job performance and job satisfaction (Yu, Wu, Chen, & Lin, 2007). In study 3, playfulness measured as a trait did not change, while playfulness measured as a state increased. This suggests that the concept of adult playfulness cannot be seen as either a trait or a state. It is up to future research to clarify and differentiate playfulness as a state and as a trait. Until then, organizations wishing to increase workplace playfulness can recognize that, while playfulness may partially be a personality trait that may be worth of consideration during recruitment and selection of new employees, efforts to contextually encourage workplace playfulness are likely to be the most fruitful.

Play in relation to models of organizational creative climate

Organizational researchers have developed a plethora of models that emphasize organizational climate as a powerful influence on organizational creativity. The term organizational climate refers to the shared aggregation of the individuals' perceptions of the work environment, and the environmental attributes that shape expectations,

contingencies, requirements, and interactions in the work environment (West & Sacramento, 2012). The three most influential models for organizational creativity are Amabile's (1996) eight dimensional climate model, West's (1990) four factor model, and Ekvall's (1996) nine dimensional model. These models conceptualize organizational climate factors that facilitate creativity and/or innovation, with different emphasis and focus such as motivational or psychological approaches. They also share many dimensions. In a comprehensive review, Hunter, Bedell and Mumford (2006) found 45 different creative climate taxonomies, and developed from these a general climate taxonomy for organizational creativity that integrates and consolidates the dimensions included in previous models. In a later meta-analysis, this 14 dimensional model was found to be an effective predictor of creative performance across criteria, samples, and settings (Hunter, Bedell & Mumford, 2007). Instead of focusing on a single approach or model, the exploration of relationships between play and organizational climate for creativity will be drawn from this larger generic taxonomy.

The 14 dimensions identified by Hunter, Bedell and Mumford (2006) are labeled and operationally defined as follows: (1) *Positive peer group*. Perception of a supportive and intellectually stimulating peer group. Relationships are characterized by trust, openness, humor, and good communication. (2) *Positive supervisor relations*. Perception that an employee's supervisor is supportive of new and innovative ideas. Supervisor also operates in a non-controlling manner. (3) *Resources* Perception that the organization has, and is willing to use, resources to facilitate, encourage and eventually implement creative ideas. (4) *Challenge*. Perception that jobs and/or tasks are challenging, complex, and interesting—yet at the same time not overly taxing or unduly overwhelming. (5) *Mission clarity*. Perception and awareness of goals and expectations regarding creative performance. (6) *Autonomy*. Perception that employees have autonomy and freedom in performing their jobs. (7) *Positive interpersonal exchange*. Employees perceive a sense of "togetherness" and cohesion in the organization. Employees experience little emotional or affectively laden conflict in the organization. (8) *Intellectual stimulation*. Perception that debate and discussion of ideas (not persons) is encouraged and supported in the organization. (9) *Top management support*. Perception that creativity is supported and encouraged at the upper levels of the organization. (10) *Reward orientation*. Perception that creative performance is tied to rewards in the organization. (11) *Flexibility and risk taking*. Perception that the organization is willing to take risks and deal with uncertainty and ambiguity associated with creative endeavors. (12). *Product emphasis* Perception that the organization is committed to quality as well as originality of ideas. (13) *Participation*. Perception that participation is encouraged and supported. Communication between peers, supervisors and subordinates is clear, open, and effective. *(14) Organizational integration*. Perception that the organization is well integrated with external factors (e.g., outsourcing) as well as internal factors (e.g., use of cross-functional teams).

As seen in table 1, the primary associations between play and a creative organizational climate address different aspects of positive relationships as captured by the dimensions *positive peer group, positive supervisor relations,* and *positive interpersonal exchange*.

Play, especially interactive social play, brings an element of fun into the workplace and into relationships which stimulates and fosters trust, openness and humor. The frivolousness of play, and the excuse to be spontaneous and silly allow individuals to temporarily let go of prestige and correctness. Participating in playful activities together allow employees to exercise a stance of non-judgement that is essential for collaborative creativity. While climate models for organizational creativity identify and assess the importance of positive relationships for creativity they offer little instructional value as just how such a positive social climate can be attained.

The first study of this thesis found that organizational play is thought to foster the building and maintenance of positive relationships. Thus, sanctioning fun and encouraging play may potentially be a manner by which to establish and maintain a climate of positive relationships with co-workers and supervisors. Although the results from the third study of this thesis failed to support the hypothesis that play increases psychological safety as suggested by Mainemelis and Ronson (2006) it is conceivable that future research may find support for this idea.

The experience of creativity consultants interviewed in study 1, was that play helps break hierarchical barriers between employees, supervisors and higher level management. By granting the permission to play, and frequent demonstation of their playfulness, organizational leaders contribute to the perception that creative behavior is supported and encouraged at the upper levels of the organization. This relates to the climate dimension *top management support*. Top level management are advised by the world's leading business schools to "get back in the sandbox to learn how to play" (de Vries, 2012).

Organizations that give employees the permission to play sanction the use of resources to engage in activities without clear outcomes. A playful climate reinforces employee confidence in the value of using the organizations resources for exploration, without over-focusing on the end results or the immediate organizational objectives. Play is a way for employees to practice these skills of temporarily relaxing the focus on goals and outcomes, and become more comfortable exploring and experimenting. Play opens up to experimentation, because "in play one can fail, joyfully fail and enjoy the process." (respondent in interview from study 1). Playfulness has been linked to a better tolerance of ambiguity (Tegano, 1990), which involves a willingness to tolerate uncertainty and ambiguity to explore possibilities as opposed to hastily deciding on solutions. It is quite possible that organizational playfulness may contribute to an organization's readiness to take risks and deal with uncertainty and ambiguity associated with creative endeavors. This is related to the climate dimensions *resources* and *flexibility and risk-taking*.

Table 1
The relationship between organizational play and climate dimensions for organizational creativity.

Play functions	**Play elements and encouragers**	**Creative climate dimension**
Exercises non-judgement Psychological safety	Provides possibilities for positive fun interaction Contributes humor and silliness	Positive peer group
Exercises non-judgement Psychological safety Breaks hierarchical barriers	Provides possibilities for positive fun interaction	Positive supervisor relations
Fosters exploration and mistake-making	Frivolous nature of play Temporary relaxing of organizational objective	Resources
	Re-framing of work tasks	Challenge
		Mission clarity
Fosters exploration and mistake-making	Self-chosen activity	Autonomy
Exercises non-judgement Psychological safety	Provides possibilities for positive fun interaction	Positive interpersonal exchange
Stimulates mental flexibility	Imaginative nature of play	Intellectual stimulation
	Permission to play Setting the example	Top management support
		Reward orientation
Fosters exploration and mistake-making	Reinforces confidence in the value of exploration Combats focusing too much on the end results. Inherent ambiguity	Flexibility and risk taking
		Product emphasis
Energizes Engages	Physical activity Intrinsic motivation Autotelic nature of play	Participation
		Organizational integration

As characterized in the dimension *autonomy,* the freedom with which employees feel they can perform their work tasks is often cited as a influential contextual facilitator of creativity (Amabile et al., 1996; Zhou, 1998). A workplace where employees feel free to, when appropriate, approach their work playfully requires this perception of freedom in how they accomplish work tasks. It is conceivable that employee playfulness may be a manifestation of such autonomy. It should also be noted that this freedom also means the freedom to not participate in playful activities. A culture of forced fun is not conductive to either creativity or play.

Engaging together with colleagues in verbal forms of play expand perspectives and stimulates the use of imagination. As study 1 found: "Imagining new information, situations and relationships that are not true in the real world is possible in the imaginary world created by play. This mental state is less locked to the reality of the workplace with its rules, regulations and accepted ways of doing things, stimulating shifts of perspective and greater general mental flexibility." As conceptualized in the dimension *Intellectual Stimulation*, a climate that encourages open discussion and exchange of ideas has been linked to organizational creativity. This intellectual stimulation, like play, stimulates mental flexibility.

Mainemelis and Ronson (2006) described play as a behavioral orientation that is superimposed on work tasks. It is therefore not too farfetched to speculate that when employees voluntarily add play elements to their work tasks they increase their enjoyment and make the tasks more interesting and more challenging. This is related to the climate dimension *challenge* which is a perception that work tasks are challenging, complex, and interesting. While this aspect of the creative climate is not immediately related to play, it is interesting to consider that the definition of a playful individual is the person's tendency to re-frame activities to make them more interesting and stimulating.

Our conceptualization of the meeting creativity climate in Study 2, includes the items engagement and participation. These variables were taken from Study 1, in which playful activities were reported to stimulate participation and engagement and in a general sense help employees engage more personally and deeply into their work. This can be linked to climate dimension *participation*.

As this overview of the relationshop between play and the 14 dimensions of the creative organizational climate offers some insight, it has yet to be empirically investigated. The causal direction of the relationships between play and the creative climate remains unanswered. Does play promote these climate dimensions or does the creative climate manifest itself as organizational playfulness? The mediating factors of play and the relationships with dimensions of the creative climate were not explored or tested in the empirical studies of this thesis. This is something that future research could investigate.

The climate dimensions *mission clarity, reward orientation,* o*rganizational integration,* and *product emphasis* are unlikely to be associated with organizational play.

Establishing play as a technology of foolishness

Since March (1991) proposed that organizations need to balance exploitation driven by what he called the technologies of rationality with exploration (driven by the technology of foolishness), organizational scholars have sought to identify how this "foolishness" can be introduced in otherwise heavily rational organizations.

Studying entrepreneurial expertise, Sarasvathy and Dew (2005) found that successful entrepreneurs that developed new business ventures or new industries were skilled in the application of a technology of foolishness. Entrepreneurs who are not shackled to technologies of rationality, have been poetically described as "romantic adventurers with surprise endings that leave us a little unsettled about what we believe about the world and its possibilities" (p. 404). In a longitudinal study of a large international IT company, Dodgson, Gann, and Phillips, (2013) suggested that playing at work, in this case with avatars in virtual worlds, was an example of the use of a technology of foolishness in a very rational organization. Similarly, Jacobs and Statler, (2006) proposed that when organizations use playful building blocks (toys) to supplement rational strategic planning, this too is an example of the technology of foolishness.

The empirical studies of this thesis suggest that the phenomena of play can be successfully introduced and utilized as a technology of foolishness in rational organizations. Organizational play is utilized by creativity consultants and play advocates to boost organizational creativity, even in large bureaucratic corporations. Play can be induced in regular workplace meetings with contextual play-cues to add a dose of unpredictable silly playfulness that facilitates a more open and creative meeting climate. And teams that participated in playful improvisational theater training learned new ways to interact and collaboratively explore, and performed better on measures of both individual and group creativity. Seen as an instrument for the practice of the technology of foolishness, play's relaxed imperative of intentionality offers organizations an inherently fun tool with which to boost innovation and creativity. Playing in the workplace is a manifestation of a technology of foolishness because of its capacity to induce the elements of frivolousness and imagination into organizations.

March (1976) argued the organizational leaders, who often have well-honed rational skills, are often uneasy with allowing play into their castles of rationality. Play is considered annoyingly ambiguous, frustratingly frivolous, and suspiciously silly (West, 2014). This thesis positions play into organizational theory by empirically supporting the notion that it belongs in the technology toolbox of foolishness as an instrument and stimulant of organizational creativity. Along with the empirical support for the value of organizational play, this theoretical framework may potentially convince serious organizational leaders to embrace the foolish intelligence of play.

Strengths and limitations

There are a number of strengths as well as limitations to the studies in this thesis. While the initial qualitative study provided a better understanding of applied organizational play, the experimental studies pioneer the empirical evaluation of play as an organizational intervention. Another strength of both the intervention studies is their use of authentic organizational contexts and teams which remains rare in organizational research. The limited experimental research on the relationship between play and creativity has conveniently used college students as participants. Additionally, the third study, which required the assessment of group creativity, led to the development of a new method which allows for continued research on the creativity of groups.

A limitation of the initial qualitative study, was that the sample consisted of informants who for the most part were already convinced of the positive effects of play for creativity; for many "selling" the benefits of play was a source of income. The participants were selected for maximum variety both in their explicit focus on play or their greater focus on creativity enhancement. Variety as also achieved by recruiting participants internationally instead of only using a Swedish sample. The participants' experience with different types of organizations, (corporate NGO, etc) also added variety. This diversity was invaluable to the main aim of the investigation, but makes generalization attempts more difficult.

Regarding study 2, the results showed a statistically significant improvement of the meeting creativity climate for the play intervention group, but the effect size was modest. The study suffered from a lack of psychometrically robust measures. The lack of existing instruments required construction of a questionnaire to assess participants' experiences of the meeting's creative climate characterized by openness, intrinsic motivation and collaboration. The final data collected with our instruments did not produce data that met the criteria for more advanced parametric statistical techniques. All measures were assessed with a single sheet questionnaire. The advantage to this approach was that the assessment was quickly administered and did not interfere much with the participating team meetings, however, it would likely have been better to use established assessments. Although self-report measures are prone to problems, self-reported measures of the experience of the creative meeting climate were chosen, because it was judged not feasible to, in this field study, subject the participants to a much longer creativity assessment procedure.

Another limitation of Study 2 was the low intensity and short duration of the play intervention. The interventions used involved anywhere from 2 - 6 minutes of play while the group responded and interacted with the play-cues. A recent study using a ten minute 'play with clay' task as a play intervention with adult learners, failed to find support for the effect of play on creative performance. The author suggested that insufficient time for the play intervention could possibly explain the results (Tsai, 2013). On the other hand, the brief time-frame of workplace meetings do not allow for much longer periods of play.

Regarding study 3, the limitations of existing measures presented a challenge. One of the aims of the study was to understand the possible impact of play on collaborative creativity. Established assessments of creativity measure the creative performance of individuals rather than the collaborative creative performance of a group. To investigate play as a facilitator of group creativity appropriate assessment methods were required. The development of DOG(Hoff & West, 2014) was essential to be able to study group creativity. While this test is based on well-established creativity assessment methods, the test itself has not been tested for validity or reliability. Extensive studies are needed to evaluate the appropriateness of this new assessment technique.

A further limitation that needs to be addressed is the choice of control condition in the third study. The control condition was simply no intervention. It could be argued that the control condition should have been a comparably intensive and socially engaging, but non-playful activity or perhaps three workshops with non-playful content. However, a more elaborate control condition was not feasible due restraints of resources and time. Another limitation is the lack of follow-up. It remains unclear if the positive effects of play on the measured aspects of creativity are maintained over time.

Furthermore, both study 1 and 2 failed to investigate age and sex differences. Previous research has for example reported that younger people may be more receptive to organizational play (Romero & Pescosolido, 2008; Lamm & Meeks, 2009). Future research on organizational play should recognize the possible influence of age and sex.

Future directions

There are many avenues for future research on organizational play to explore. More experimental studies in real organizational settings would contribute to a better understanding of the relationship between the many facets of play and creativity. However, one of the challenges with experimental organizational research is the requirements of control of the experimental conditions. In the work on the two experimental investigations that form this theses, play was introduced in a controlled manner required in experiments. This limited the play conditions in study 2 and 3 to "organized play" interventions. Recognizing the difference between managed fun and organic self-initiated play, future research could focus on the how a playful organizational climate fosters a creative climate. Table 1 describes possible associations between organizational playfulness and creative climate dimensions. It is conceivable that encouraging play may benefit endeavors to establish and promote a creative climate. It is, however, unlikely that a single intervention of play would have a significant effect on an organization's general climate for creativity. Improving organizational climate factors require broader efforts over longer time periods to have an impact. As organic play can be elusive to manager's and researcher's manipulations, qualitative methods may provide a fruitful avenue for continued research.

Another interesting research topic is to investigate the mechanisms by which play effects creativity. Does play promote organizational creativity by giving employees an excuse to behave and think in new ways without taking the real-life consequences? Are the creativity enhancing effects of play affective, cognitive or motivational? The cultural differences in play are also interesting. Several studies on organizational play are from Taiwan and China; is playing at work manifested differently across cultures? The physical work environment's impact on playfulness and creativity also warrants more research focus. Is a team meeting more creative in a physically playful meeting room?

Adult play as a facilitator of creativity seems to be gaining acceptance within academia. A recent review of the literature on the benefits of organizational play ended with a call for a more playful university, where a culture of play radiates from the university library across the entire campus (Leeder, 2014). Stanford University has begun to offer a class entitled *Play to Innovation*. The course aims to give students a solid understanding of play and its benefits for creative thinking, as well as how to apply playfulness in the corporate world to enhance the innovation process (Stanford, 2012). There is now even a scholarly journal dedicated to the study of play. The *American Journal of Play* was established in 2008 as an interdisciplinary journal with contributions from many different fields.

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