

Mandatory Fun: Consent, Gamification and the Impact of Games at Work

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ABSTRACT

In an effort to create a positive experience at work, managers have deployed a wide range of initiatives and practices designed to improve the affective experience for workers. One such practice is gamification, introducing elements from games into the work environment with the purpose of improving employees' affective experiences. Games have long been played at work, but they have emerged spontaneously from the employees themselves. Here, we examine whether managerially-imposed games provide the desired benefits for affect and performance predicted by prior studies on games at work or whether they are a form of "mandatory fun." We highlight the role of consent (Burawoy, 1979) as a psychological response to mandatory fun, which moderates these relationships and, in a field experiment, find that games, when consented to, increase positive affect at work, but, when consent is lacking, decrease positive affect. In a follow up laboratory experiment, we also find that legitimation and a sense of individual agency are important sources of consent.

INTRODUCTION

In an effort to create a positive experience at work, managers have deployed a wide range of practices – ranging from job crafting to social activities such as company parties – that are designed to improve the affective experience of employees. However, scholars have shown that employees may not actively cooperate with these activities as managers expect, resulting in unintended effects (Fleming & Spicer, 2004; Fleming & Sturdy, 2010; Dumas, Phillips, & Rothbard, 2013). In order to better understand the process that leads to the success or failure of these initiatives, we build on the concept of consent as introduced by Burawoy (1979): the degree to which employees actively cooperate with management initiatives designed to make work more productive or engaging (Burawoy, 1979; Laubach, 2005; Littler & Salaman, 1984). We do so by examining games and gamification, the same context in which Burawoy originally observed the process of workplace consent. We conduct both a field and lab experiment to further understand the role of consent to management practices such as games.

Scholars studying workers on shop floors and in service industries have long noted the importance of games and game-playing at work as a way of improving work experience (Burawoy, 1979; Roy, 1952; 1959; Sherman, 2007). Traditionally, these games arose from the employees themselves as they strove to pass the time and alleviate the deleterious aspects of work (Roethlisberger et al., 1943; Roy, 1959; Burawoy, 1979). Inspired by the popularity of games in general, and the rise of video games in particular, the role of games in the workplace has recently experienced some important changes. In particular, managers have begun to use the design principles behind games to try to make the affective experience of work more positive and fun for their employees, a process called “gamification” (Deterding, Dixon, & Khaled, 2011). In organizations, gamification involves managerially-imposed games designed to improve employees’ affective experiences of work and motivate them to work harder (Deterding et al., 2011; Edery &

Mollick, 2009). As a result, ‘gamification at work’ subtly transforms games from employee-generated spontaneous play created to improve affective experiences at work into well-intentioned, but managerially-imposed, ‘fun.’ By focusing on the gamification process, we highlight the paradox of ‘mandatory fun,’ the tension between the traditional notion of games, with their promise of fun at work, and the managerially-imposed aspect of these games. Given this transformation in the meaning of games at work, we examine whether games that are imposed on employees by managers have the desired and expected effects predicted by prior studies on games at work, and especially the research that examines the role of consent in games (Burawoy, 1979).

Mandatory fun is an important organizational concept because it sits at the nexus of organizational and individual control over one’s work experience; topics long of interest to scholars (Barker, 1993; Gouldner, 1964; Perrow, 1986). It also applies beyond games to a wide variety of initiatives proposed by managers that seek to improve affective experience at work, such as company parties, retreats, and other forms of ostensibly enjoyable social events (e.g., Fleming & Sturdy, 2010; Dumas, Phillips, & Rothbard, 2013). We contribute by highlighting the juxtaposition of the imposed nature of organizational initiatives with the employee’s sense of control over their own experience. We argue that consent, or the failure to consent to such initiatives, is a psychological response to mandatory fun. We contribute to the literature on consent by examining what increases employee consent whereby employees cognitively agree to actively cooperate with their employers and how consent influence important workplace outcomes (Burawoy, 1979; Hodson, Creighton, Jamison, Rieble, & Welsh, 1994; Hodson, 1999; Laubach, 2005).

Because both the traditional use of games at work and the purpose of gamification are to improve workers’ affective experiences of their work, our research is also linked to several recent streams of research that examine ways to make the work experience more enjoyable for employees; including work design (Fried & Ferris, 1987; Fried, Grant, Levi, Hadani, & Slowik, 2007; Grant,

2007, 2008a; Hackman & Oldham, 1980), job crafting (Wrzesniewski & Dutton, 2001; Leana, Appelbaum, & Shevchuk, 2009; Berg, Grant, & Johnson, 2010; Berg, Wrzesniewski, & Dutton, 2010) and Affective Events Theory (AET) (Weiss & Cropanzano, 1996; Weiss & Rupp, 2011). Instrumentally, managers try to use the gamification process to achieve similar goals to work design and job crafting, improving affect and performance. However, work design and job crafting seek to do so by changing the nature of work to make it more satisfying and meaningful. Gamification, by contrast, does not fundamentally change the nature of the task, but instead provides an ephemeral “game layer” that changes the experience of work, without redesigning the nature of the actual job. Thus, gamification suggests that similar effects to work design might occur simply by layering fun onto tasks, creating a positive affective experience at work without changing the underlying properties of the tasks themselves.

We examine the role of gamification in the workplace and, in particular, the tension created by the idea of “mandatory” fun through a field experiment conducted at a technology company, where we examine the ways in which gamification influences how employees affectively experience their work (Weiss & Cropanzano, 1996; Weiss & Rupp, 2011), and perform at work. We follow this up with a lab experiment designed to understand when people consent to gamified activities.

From Games to Gamification: Theories of Games at Work

The use of games at work has been noted by organizational scholars since the 1930s, but evidence suggests that workplace games may have appeared much earlier, and were used to motivate workers as far back as ancient Egypt (Edery & Mollick, 2009). Though the nature of workplace games has varied over the years, such games fit within a definition used by researchers who study the design and technology of games: games are systems in which players engage in an artificial competition (either alone or against other players) with a defined outcome according to defined rules (Salen, 2004; Zimmerman & Salen, 2005). Early management research highlighted many workplace

games, including those that occurred on an ongoing basis during the classic observations of the Hawthorne works (Roethlisberger et al., 1939). This research trend continued with Roy's (1959) study of machine operators, which examined how they dealt with the "beast of monotony" and how games helped improve worker morale and their affective experience of work. In this ethnographic study, Roy (1959) documented a variety of ways in which workers made tedious tasks more engaging by creating games around self-imposed goals ("stamp a thousand green shapes in a row") and around interactions with other workers (such as ritualized game of stealing a co-worker's banana).

Burawoy (1979) expanded the study of games at work to show how they had subtle but important benefits to management, beyond the respite that games provided workers. For managers Burawoy (1979) saw games as an important way in which management exerted control over workers, contrasting with previous research, which had viewed gameplay as a time-wasting resistance to management (Roy, 1953; 1954). From Burawoy's (1979) perspective, workers are diverted into lateral conflict with each other through gameplay, in the form of competition, instead of uniting against management. And, more subtly, Burawoy contended that playing games manipulated workers into consenting to their role in the workplace in that employees who engaged in games defended the rules of the game, and, in Burawoy's view, the rules of the production environment itself.

The goal in "Making Out", the primary game discussed by Burawoy (1979), was for factory workers to achieve an individual production goal over the quota level through successfully "working the angles". Though production over quota received some financial reward, Burawoy describes how the game itself, rather than minimal financial incentives, became the focus of workers. Burawoy argues that as a result workers ultimately came to view fellow workers, rather than management, as their real competition. In his role as a participant observer, Burawoy (1979, p. 64) wrote: "Once I knew I had a chance to make out, the rewards of participating in the game...absorbed my attention, and I found myself spontaneously cooperating with management in the production of greater

surplus value.” Playing Making Out provided a variety of “social and psychological rewards” including the “reduction of fatigue, passing time, relieving boredom, and so on” (Burawoy, 1979, p. 85). The game, therefore, improved workers affect by changing how they experienced work, and channeling their dissatisfaction into inter-worker competition.

Since Burawoy’s (1979) study, research on employee-created games has found them in various forms in a wide variety of settings, including among hotel employees (Sherman, 2007), truckers (Ouellet, 1994), casino operators (Sallaz, 2002), and job-seekers (Sharone, 2007). The ubiquity of games at work (such as cards or dice), and games about work (such as Making Out or quota competitions) suggests that there is something compelling about games in work settings (Roethlisberger et al., 1943, Roy, 1959; Burawoy, 1979). The widespread playing of games by employees has not gone unnoticed by managers, who have begun to taken a new interest in workplace games, rather than merely tolerating naturally-evolving ones (Reeves & Read, 2009). This interest is driven by a particularly instrumental logic: *work isn’t always fun, games are fun, so turning work into a game will make work fun, and lead to happier employees*. The assumption that games can make routine work fun and engaging is driving managers to integrate games into the work environment through a process called “gamification.” Though definitions in practice may differ, we define gamification as an employer-imposed game in a work environment where the goals of the game are designed to reinforce the goals and purpose of the employer¹.

Gamification can be differentiated from simple contests (“the best salesperson wins steak knives”) because gamification seeks to use elements from designed games (such as video games, board games, and sports) to enhance the fun or effectiveness of a game in a work environment (see

¹ Our definition draws on both historic studies of games at work and from recent scholarship on the subject; however, the term “gamification” has sometimes been used to refer to a broader set of activities that include the type of gamification we refer to, as well as other technology-based reward systems that are not necessarily game-based (Deterding et al., 2011).

Deterding et al., 2011 for a related definition). A game is designed when it is purposefully created with reinforcing contexts, interactions, and mechanisms that create a more immersive feeling of play (Zimmerman & Salen, 2005). The classic board game, *Monopoly*, for example, enhances the play experience by creating a context in which players are investing in real estate, and includes elements – fake money, jail, property names, deeds, houses and hotels – that reinforce each other and the game itself. Gamification, therefore, goes beyond a simple contest by adding themes (a fantasy or sports settings), game mechanics (such points or levels), and a range of other mechanisms to make games from *Monopoly* to *Grand Theft Auto* (Hamilton, 1997) more exciting and engaging (Deterding et al., 2011). Thus, gamification entails adopting the structure, look, and feel of a designed game with the intent of advancing instrumental organizational goals, while creating the same experience for participants that they would have if they were playing a game. A contest, in contrast, does not adopt the structure, look, and feel of a designed game; it just structures organizational goals in terms of a competition. Additionally, gamification extends the use of games at work beyond manual labor, where games have historically relieved the tedium of repetitive work, to include games around other forms of work, such as white collar tasks.

As with many workplace initiatives from flexible policies (e.g. Allen, 2001; Ramarajan & Reid, 2013; Rothbard, Phillips, & Dumas, 2005), to company parties (e.g. Fleming & Sturdy, 2010; Dumas, Phillips, & Rothbard, 2013), to work design (e.g. Hackman & Oldham, 1980, Fried & Ferris, 1987, Fried et al., 2007, Grant, 2007, 2008b) and job crafting (Wrzesniewski & Dutton, 2001; Leana, Appelbaum, & Shevchuk, 2009; Berg, Grant, & Johnson, 2010; Berg, Wrzesniewski, & Dutton, 2010), managerially-imposed games are often instituted with the purpose of improving employees' positive feelings about their work (Edery & Mollick, 2009). The link between games and affective experiences at work hinges on the belief that games are fun and that fun from games can transfer to feelings about work. Yet, the word “fun” is strangely absent from almost all academic discussions on

games, and, indeed, is rarely invoked in the management literature at all, with the notable exception of Glynn's (1994) study where play is linked to intrinsic motivation. To the extent that fun is discussed, it is usually presented as an outcome or element of other constructs, especially intrinsic motivation (Malone, 1980; Przybylski, Rigby, & Ryan, 2010; Statler, Heracleous, & Jacobs, 2011). However, explaining workplace games and the rise of managerially-imposed gamification requires a re-evaluation of the idea of fun and how games generate it. In examining the role of games at work, we find that fun of the sort that games generate is important in itself and is distinct from how fun is discussed in constructs such as intrinsic motivation (Deci & Ryan, 1985; Grant, 2008a).

The "fun" associated with games and gamification at work has interesting parallels to the concept of intrinsic motivation. Yet we propose that it is distinct from intrinsic motivation in several ways. Intrinsic motivation has been defined as when an individual engages in an activity because he or she finds it inherently interesting and enjoyable (Ryan & Deci, 2000; Gagne & Deci, 2005). In other words, one potentially important motivation for work is that individuals enjoy and are interested in the work activity itself and that it can be fun (Amabile, Hill, Hennessey, & Tighe, 1994; Gagne & Deci, 2005; Grant & Berry, 2011; Grant, 2008b; Ryan & Deci, 2000). In gamification, unlike intrinsic motivation, "fun" does not necessarily arise from a volitional, inherent interest in the work task itself, but rather from a game that makes tasks that are otherwise not inherently interesting more fun. Thus, there is an externally-imposed structure that is associated with the task, which does not make the task itself more enjoyable; rather it makes the work *experience* more enjoyable. Indeed in support of this point, the few studies of "fun" in the workplace have explicitly studied the link between fun and affective constructs such as job satisfaction (Karl & Peluchette, 2006). This distinction parallels the distinction that Pratt and Ashforth (2003) make between 'meaning *in*' and 'meaning *at*' work. Where meaning in work refers to the nature of what the task is; meaning at work refers to the broader experience of membership in the organization and what that experience is like.

Gamification therefore invokes fun in a way that is different from traditional research on work design, job crafting, and intrinsic motivation. Where intrinsic motivation, for example, requires a task to be inherently rewarding or engaging, gamification acknowledges that a task is not inherently rewarding or engaging, and then seeks to hide the non-motivating nature of the task under a *layer* of fun games – a process sometimes referred to in the literature on game design as “chocolate covered broccoli” (Bruckman, 1999). The idea that people can have fun playing games *about* tasks, while not actually enjoying the task itself, is central to understanding games at work. Roy’s (1959) “Banana Time” was a game that had no relation to work itself, but one which made work tasks more bearable and made the employees’ experience at work more enjoyable. The games that Sherman (2007) identified among luxury hotel workers did not make luxury hotel work exciting, but rather created a set of rules that made the experience of being at work more fun. Gamification embraces this tradition, giving up on making work itself more meaningful or enjoyable by creating a sense of fun using a game, rather than the work itself.

Games and Positive Affect

The premise that games lead people to feel better at work underlies both research on traditional games in the workplace and gamification. From the games observed in the Bank Wiring Room at the Hawthorne Works (Roethlisberger et al., 1939) to the games participated in and observed by Roy (1959), a key function of games at work has been to provide respite and recovery and, in doing so, improve the positive affect people feel when they are at work. Likewise, gamification, while not intended to make the work more interesting in and of itself, is focused on improving the employee’s affective experience at work, making the environment more exciting and thus increasing the positive affect employees feel at work. Recent work on recovery finds that taking breaks at work that are true respites rather than chores also enhances positive affect (Trougakos, Beal, Green, & Weiss, 2008). Research on games themselves has also found that positive affect is

higher when participants are engaging in a gamified versus a non-gamified activity (Jennett et al., 2008) and that enjoyable game play is related to positive affect post game (Przybylski, Weinstein, Murayama, Lynch, & Ryan, 2012). Indeed, neurological brain studies have found differences in neurological activity between active gameplay and passive observation of games, suggesting that gameplay itself activates reward-related neural circuits (Cole, Yoo, & Knutson, 2012).

The idea that games at work can improve positive affect and performance is consistent with research on AET (Weiss & Cropanzano, 1996), which defines an affective event broadly as a work event to which an employee has an affective reaction (Weiss & Cropanzano, 1996; Basch & Fisher, 2000). Researchers have studied affective events ranging from aversive workplace experiences such as broken psychological contracts (e.g., Conway & Briner, 2002) and problems with a supervisor (e.g., Mignonac & Herrbach, 2004), to positive affective events such as receiving praise from a supervisor or a reward or acknowledgment of achievement (Mignonac & Herrbach, 2004), as well as affective events such as customer interactions (e.g., Grandey, Tam, & Brauburger, 2002; Rothbard & Wilk, 2011), which can be associated with either positive or negative affective reactions.

Although research on AET has not examined games as sources of affective reactions per se, games are, by their nature, built to trigger affective events. Well-designed games give constant, measured rewards and dispense carefully-calibrated challenges that make players feel like they are continuously achieving success in the world of the game (Koster, 2004; von Ahn & Dabbish, 2006; Yee, 2006; Reeves & Read, 2009). Workplace games provide a sense of accomplishment with greater frequency than might otherwise be achieved in real work, where praise is less common and feedback often less immediate (Davis, 1959; de Man, 1928; Edery & Mollick, 2009; Schell, 2008). Further, workplace games are intended to enhance one's positive affect as a reaction to playing the game (Reeves & Read, 2009; McGonigal, 2011). Gameplay, therefore, could serve as a workplace affective

event, or a series of events, designed to lead to positive affective reactions (Weiss & Cropanzano, 1996; Basch & Fisher, 2000). As such, games at work may improve employee positive affect.

In addition to influencing positive affect itself, AET also suggests that affective events influence both attitudes and performance in the workplace (Weiss & Cropanzano, 1996). The bulk of research on AET has studied the relationship between affective events and attitudes such as job satisfaction (Weiss, Nicholas, & Daus, 1999; Fisher, 2002; Fuller et al., 2003; Mignonac & Herrbach, 2004; Wegge et al., 2006) and organizational commitment (Fisher, 2002; Mignonac & Herrbach, 2004). However, research has also posited (Weiss & Cropanzano, 1996; Beal et al., 2005) and begun to show that affective events influence both subjective assessments of (e.g. Dalal, Lam, Weiss, Welch, & Hulin, 2009; Liu, Prati, Perrewé, & Brymer, 2010) and objective performance (Totterdell, 1999, 2000; Miner & Glomb, 2010; Rothbard & Wilk, 2011). In particular, this research posits that positive affective events are associated with beneficial performance because they lead to greater cognitive availability and flexibility (e.g., Fredrickson, 1998, 2001; Ashby, Isen, & Turken, 1999).

Mandatory Fun and the Role of Consent

Although games invoke fun, which may lead to positive affect associated with work as well as improved performance, there is a critical paradox underlying the notion of gamification and fun at work – the paradox of “mandatory fun.” When managers provide a game that is built into the work experience, they are essentially imposing that game on the employees, as opposed to permitting the playing of a game that has been developed by the employees themselves (c.f., Burawoy, 1979). As Fineman (2006) notes “there is an inherent tension in the notion of *prescribed* fun at work. Fun typically gains its ‘funness’ from its spontaneity, surprise, and often subversion of the extant order.” This is analogous to how activities, like informal socializing, which might be spontaneous for workers, can be coopted and transformed into management initiatives such as company parties (Dumas, Phillips & Rothbard, 2013). The notion of “mandatory” fun is fundamentally about the

desire to make work more pleasant for people or to distract them from the unpleasant and taxing aspects of the work (Fleming & Sturdy, 2010), yet it also requires that managers decide what it is that will be pleasurable to the employees.

To resolve the paradox of mandatory fun and understand when a game serves as an affective event that leads to increased positive affect and possibly even improved performance, it is critical to consider to what extent employees voluntarily consent to playing the game, rather than seeing it as an imposition of management. The role of consent in games at work has been of at least as much interest to scholars as the games themselves, with its origins in Burawoy's seminal work on the subject (Laubach, 2005). Burawoy (1979) noted that workplace games inherently create consent to the nature of the work itself, since the game is built around the rules and structures of the work. Achieving consent to work through games is thus easier than other ways in which managers secure employee loyalty, in that employees require only that the games themselves be fair and clear enough that they are easily understood (Burawoy, 1979). Instead of struggling with management over the conditions of work, game players are instead in competition with each other to win the game, reinforcing the goals of management while consenting to management's rules.

A key difference, however, between gamification (and many other workplace initiatives) and the types of games that Burawoy studied, is that gamification is not driven organically by employees, like the games on the shop floor or an optional workplace fantasy football league. In gamification, games are instead imposed from the top by managers. They are explicitly designed to reinforce the goals of management, rather than doing so more subtly or as a by-product, as is the case in more spontaneous "bottom up" games. Under these conditions, by playing the game, employees are not necessarily consenting to the game and its legitimate place in the workplace.

Defining Consent

The concept of consent was developed, as described above, by Burawoy (1979) within the context of games and employment relations. A number of scholars have built on Burawoy's (1979) notion of consent (e.g., Hodson et al., 1994; Hodson, 1999; Laubach, 2005; Littler & Salaman, 1984; Sherman, 2007). Though the conceptualization of consent and its operationalization has varied, it has been seen as the decision of individual workers to exercise their agency and agree to actively cooperate with managerial goals (Laubach, 2005; Sherman, 2007), and this decision is influenced by concerns about justice (Hodson et al., 1994), levels of engagement (Laubach, 2005), and buy-in to managerial control (Littler & Salaman, 1984). Thus, we define consent as the active cooperation of workers with managerial goals.² Importantly, though active cooperation may have behavioral manifestations, consent has been conceptualized as workers' attitudes towards management and their work; it is about workers' psychological acquiescence to management (Burawoy, 1979; Littler & Salaman, 1984; Hodson et al., 1994; Hodson, 1999; Laubach, 2005; Sherman, 2007).

In this paper, because we examine consent in the context of games at work as Burawoy originally did, we draw from Burawoy's (1979) conceptualization of consent, but also add elements from the literature discussed above. While consent itself might have behavioral manifestations, because it is a cognitive response to managerial initiatives, such as games, we look at three cognitive indicators discussed in the literature on consent: understanding the rules associated with, feeling a sense of justice about, and being engaged with managerial initiatives (in this case the imposition of a workplace game by management). The first indicator of consent, then, entails *clearly understanding the rules of the game* (Burawoy, 1979). Rules are critical to any game, and adherence to rules is required for a game to be played. As Burawoy (1979, p. 81) puts it, "the very activity of playing a game generates consent with respect to its rules." If the rules of the game are not clear, there can be no consent, as

² This differs somewhat from the way the term consent is used when consent is a pre-requisite of participation. Consent is often considered to be agreement to engage in an activity, but, in this case, the activity is required, and consent is instead the active cooperation, as opposed to passive acceptance or resistance, of the employee in the activity.

workers cannot actively cooperate if they do not know what they are cooperating with. Building on Burawoy (1979), Hodson (1999, p. 318) emphasizes the importance of workplace rules in the generation of consent arguing that disorganization and a lack of workplace rules “represents a significant impediment to workers’ consent to active participation in production.”

The second indicator of consent, present in a number of scholarly conceptions, is the notion of a *perceived sense of justice and fairness* with regard to managerial initiatives. Fairness, as it has been discussed in this literature, can come from two sources. The first source is procedural justice (Thibaut & Walker, 1975), whereby people feel that the process by which managerial initiatives are enacted is fair and just (Hodson et al, 1994; Hodson, 1999; Littler & Salaman, 1984). The second source is a sense that the initiative itself is fair and just (Burawoy, 1979). In our context this means that people view the game itself to be fair and the process by which the game is enacted to be fair.

In addition to rules and fairness, a final indicator of consent is *active engagement*. The varied operationalizations of consent all refer to engagement, albeit using different terms, as scholars cite the importance of agency and active participation as a defining characteristic of consent (Hodson et al, 1994; Hodson, 1999; Sherman, 2004; Laubach, 2005). Engagement has been defined in the literature as people’s attention to and absorption in a role or task (Rothbard, 2001), and in this context refers to people voluntarily attending to, and being absorbed by, managerial initiatives. In games initiated by employees, voluntary engagement is a given, because if the game was not engaging, they would stop playing. In gamification, however, because games are being imposed by management, employees must actively choose to cooperate and voluntarily engage in the game. Thus, their engagement is not a given, but rather a component of their consent.

Consent, in the sense of active cooperation in an otherwise mandatory activity, entails the presence of all three indicators – understanding of the rules, perceptions of fairness of both the process and the activity itself, and engagement in the managerially imposed activity. In organically-

developed workplace games, these elements are automatically present. However, in a workplace where games are imposed, all three indicators of consent need to be present for employees to react to the mandatory fun of managerially-imposed games as they would to games outside of work or games spontaneously generated by themselves or fellow employees.

Interaction between managerial initiatives and consent

We have argued that gamification represents a management practice, similar to other managerial initiatives designed to make the experience of work more positive (e.g., Allen, 2001; Fleming & Sturdy, 2010; Dumas, Phillips, & Rothbard, 2013; Ramarajan & Reid, 2013; Rothbard, Phillips, & Dumas, 2005). This introduces the paradox of mandatory fun, which comes from the imposition of what is intended to be a positive affective event or experience (Fineman, 2006; Fleming & Sturdy, 2010). We contend that consent plays an important role because imposed initiatives, like gamification, do not automatically garner the active cooperation of employees that spontaneously-generated activities among workers do. Consent, thus, becomes a critical determinant of how employees respond affectively and from a performance standpoint.

As argued above, managers impose workplace games with the intent of creating affective events (Weiss & Cropanzano, 1996) that enhance employees' positive affect and productivity as a reaction to playing the game. Although we expect that positive affective events (if experienced as positive) would have a positive effect on performance,³ we argue that this will only occur if employees consent to the game. If they do consent, we expect to see the benefits of gamification in the form of positive affect and enhanced productivity. However, as critics of gamification have indicated, when games are not consented to, they represent a form of unremunerated work (Bogost,

³ Lyubomirsky, King, and Diener's (2005) review and meta-analysis shows a strong effect of positive affect on a variety of success factors. There are a small number of studies done in experimental settings that show that negative affect can be associated with systematic processing, which can be beneficial for short periods on some tasks (See Schwarz & Clore, 1988, 1996 for reviews). However, the nature of sales work is consistent with the bulk of the research that finds a positive relationship between positive affect and task performance (Lyubomirsky et al., 2005).

2011) and may be seen as illegitimate. In this case, rather than increasing positive affect and productivity at work, the imposed game might undermine it. Thus, we view consent as a critical moderator for understanding the impact of games at work and propose that:

Hypothesis 1: Consent moderates the relationship between gamification and employee positive affect such that (a) *for those who consent to the game, gamification improves employee positive affect* and (b) *for those who do not consent to the game, gamification decreases employee positive affect*.

Hypothesis 2: Consent moderates the relationship between gamification and performance such that (a) *for those who consent to the game, gamification improves employee performance* and (b) *for those who do not consent to the game, gamification decreases employee performance*.

Sources of Consent

What, then, determines the extent to which workplace games receive the consent of employees? The literature indicates that consent comes from workers' cognitive belief that a workplace initiative, such as a game, is legitimate, and as a result actively cooperate with managerial goals (Hodson, 1999; Littler & Salaman, 1984) such that they better understand the rules, perceive it as fair, and actively engage with it. In the context of gamification at work, there are potentially two sources of consent. First, individual employees themselves may already view games as a legitimate activity in the workplace. Second, individuals may come to view games as a legitimate activity in the workplace because they feel agency or a sense of individual choice or control over how the game is implemented or played (Hodson et al, 1994; Laubach, 2005; Sherman, 2005).

The first source of the legitimacy of gamification, then, rests on how much employees view games as legitimate, and thus as a desirable and proper activity. We expect that gamification achieves legitimacy and consent when people are more comfortable and familiar with games more generally in their lives outside of work. Research on the permeability of the work-non-work boundary, suggests that numerous spillovers, both affective and skill-based, transfer across the boundary and can influence work (Edwards & Rothbard, 2000; Rothbard, 2001; Greenhaus & Powell, 2006). Proponents of gamification, rely on this notion when they cite the ubiquity of games outside of

work as a primary reason why games at work will be accepted by employees (Zichermann, 2011). Therefore, we expect individuals who are immersed in games outside of work to feel most comfortable in accepting games at work. That is, those employees who play games like those used in gamification efforts (multiplayer, competitive games) outside of work are more likely to consent to games at work. This is because these employees have not just accepted the importance of games, but have also embraced the sorts of games that are used in gamification at work, increasing the chance of cognitive legitimation (Suchman, 1995). These individuals are more likely to be aware of and engaged in games in the workplace. Moreover, because of their non-work game playing behavior, they may have transferable skills (Greenhaus & Powell, 2006) such that they are better able to follow and understand the rules of the game and through this ability be more likely to perceive those rules as fair, enhancing relational legitimacy (Tost, 2011). Thus, we expect:

Hypothesis 3: *Greater gameplay outside of work increases the likelihood that employees will consent to games at work.*

In addition to this individual difference in people's acceptance of games inside the workplace, which is driven by external gameplay, employees who do not regularly play games outside of work may also consent to games in the workplace. Consent is a cognitive response of individuals to organizational control. If individuals have the ability to exert agency over managerial initiatives, even in a small way, they may be more willing to actively cooperate with managerial goals (Laubach, 2005; Sherman, 2005; Littler & Salaman, 1984; Hodson et al. 1994). As Burawoy (1979, p. 81) notes: the appeal of games is that "Workers control their own machines rather than being controlled by them, and this enhances their autonomy." Similar points were noted earlier by Roy (1959), who cites Henri de Man's (1928), observation that, even in menial jobs, workers create games and challenges to achieve, at a minimum, the "luxury of self-determination." A path to consent, therefore, lies in the feeling that the player has some choice and thus control over the gamification process. In this way, consent has linkages to the self-determination component of the multi-

dimensional psychological construct of empowerment, which involves a sense of control and an active rather than passive orientation to work (Spreitzer, 1996, 2008).

Hypothesis 4: *Giving people agency over which games they play increases the likelihood that employees will consent to games at work.*

The relationships among these hypotheses are shown in Figure 1. We test the first three hypotheses using a field experiment. In order to further explicate the consent construct, and to test Hypothesis 4, we conducted an experimental lab study that allowed us to better isolate the factors that lead to greater consent to games.

[Insert Figure 1 about here]

STUDY 1: METHOD

Participants and Design

To test our first three hypotheses, we conducted a field experiment at a startup company. Our sample was comprised of salespeople at BigDeal (a pseudonym), a 2.5 year old venture in the daily deal space. Of the salespeople for whom we had demographic data, 52 percent were male and 99 percent were college graduates, with an average age of 25.3 and an average tenure at BigDeal of 6.4 months (sd=4.9 months). After an introductory email from the head of sales, we directly emailed 448 salespeople asking them to participate in a series of online surveys to study attitudes at BigDeal. An initial survey was administered two months prior to the experimental treatment (response rate=73%), and additional surveys were administered immediately prior to (response rate= 64%) and at the end of the experimental treatment (63%). When combining these responses, we had a total of 242 salespeople who filled out both the pre- and post-treatment surveys, which comprised 54% of the population surveyed. Respondents did not differ significantly from non-respondents on key observable characteristics, such as performance ($t=-0.43$, $p=.669$) or tenure ($t=1.16$, $p=.24$). To protect confidentiality, we hosted the data on a secure third-party server, and later matched the data to archival performance data captured by BigDeal's detailed electronic records. The performance

data covered a larger sample of individuals ($n=283$), since pre-treatment surveys were not required to assess performance changes. In total, 233 individuals had complete matched data on all variables.

Salespeople at BigDeal were responsible for contacting local businesses in the United States and Canada, and convincing them to sell coupons for discounted products or services through BigDeal's local websites. Coupons were only featured for a short time, and salespeople earned a commission based on the dollar value sold of their client's coupons. Since the type of merchant and the nature of the discount had a large effect on the demand for coupons (and therefore commission), salespeople engaged in a highly consultative and creative sales process to find customers whose products would be in demand, and also to shape the discounting strategies of local merchants. Salespeople, who worked individually, were assigned to a metropolitan area as a sales territory and worked in a central office, managed by District Sales Managers (DSMs) who covered multiple metropolitan areas. All DSMs were grouped into three regions, and each region had its own floor in the BigDeal office complex.

We used the floor structure in our experimental design, assigning each floor to one of three conditions: the game condition and two control conditions. While floor assignments were not formally randomized, individual salespeople were assigned to floors based on current job openings at the time they were hired. Floor A ($n=85$) was assigned the game condition, Floor B ($n=80$) was assigned the baseline control condition, and Floor C ($n=68$) was assigned to the alternative control condition. The baseline control condition (Control) involved no changes to the existing work environment. In the alternative control condition (Leaderboard) participants were exposed to large-screen "scoreboards" throughout their floor. These scoreboards displayed data that was already available to salespeople through their sales management system, but in a public manner, and with the sorts of graphics typical of sports statistics on television. We designed the Leaderboard condition to ensure that the results of the intervention were not due to a Hawthorne effect (Roethlisberger et al.,

1943; Adair, 1984; Jones, 1992), where managerial attention, environmental modification, or feedback, rather than gamification, was the cause of changes in affect and performance. The Leaderboard Condition thus provided participants with similar feedback/information intervention to those in the Game condition, but without the mechanics that were expected to make the game “fun” (See Figure 2, Panel A).

With the help of professional game designers, we designed the Game condition as a simple basketball-themed game. Individuals scored points by performing the activities for which they were already financially incentivized – closing deals with customers. Other than a bottle of champagne, no additional compensation was awarded for winning the game. Increasing point values were assigned to deals of higher value: warm leads counted as “layups” while cold calls were “jump shots”, for example. Large display screens throughout the office floor showed basketball-based animations (see Figure 2, Panel B), and daily emails were sent to all participants to update them on the game status. Thus, we modeled our game on previously successful sports games, invoking as many of the elements that have been identified as making games as fun as possible – fantasy, challenge, teamwork, skill display, and competition

[Insert Figure 2: Panels A and B about here]

The experiment ran continuously for eighteen days. During this period, the Game group received daily emails on the game results, and the monitors showed the game graphics. The Leaderboard group was shown the same performance data, but without the game theme or animated graphics. We surveyed all three groups at the start of the intervention and at the end of the intervention. In addition to the survey data, we collected performance data directly from the electronic sales system.

Measures

Similar to recent field experiments (e.g., Bernstein, 2012), we measured change in affect and performance from the start of the experiment to the end of the experiment. We use this method because it provides a difference in difference approach that allows us to control for many individual factors (Bertrand, Duflo, & Mullainathan, 2004). However, for each DV, we also test an alternative model that does not use change scores. In that model, we test for the effects of the intervention on Time 2 levels of the dependent variables, controlling for Time 1 levels.

Positive Affect: Given the need to keep the survey extremely short and response rates as high as possible, we used a brief version of positive affect adapted from Rothbard and Wilk's (2011) experience sampling study. The items are drawn originally from Watson and Tellegen (1985) and Watson, Clark, and Tellegen (1988). We measured positive affect at Time 1 and again at Time 2 after the participants had either been exposed to the Game condition, or one of the two control conditions. We averaged the three Time 1 positive affect items into a Time 1 Positive Affect scale ($\alpha = .90$) and the three Time 2 positive affect items into a Time 2 Positive Affect scale ($\alpha = .90$). We then took the difference between Positive Affect at Time 2 and Positive Affect at Time 1 to assess whether employees' positive affect changed as a result of the experimental treatment conditions.

Performance: The primary performance measure of salespeople was the number of deals signed, or contracts closed, with local merchants. Change in performance was therefore measured by the number of contracts closed by individual sales representatives in the eighteen days immediately prior to the experiment compared with the eighteen days of the experiment itself. Since ability can vary greatly among employees (Mollick, 2012), we took advantage of the fact that management had assigned certain contract goals to its sales representatives to normalize performance by ability level. We measured the percent of goal achieved, rather than raw contracts closed, to normalize this distribution.

Consent: We measured the construct of “consent to the game” within the game group.

Though every employee was aware of the game, not all were equally interested in actively cooperating with the goals of gameplay. Therefore, not everyone who played the game consented to it, in the sense that they did not cognitively response to it by actively cooperating and viewing the game and its outcomes as legitimate goals to be achieved. Although the game was highlighted each day by an email and the scores were displayed on an ongoing basis on large screens throughout the floor, one could choose to ignore and not read the email or to ignore game-related events on the display screens.

Thus, we operationalized the consent construct as a cognitive response to managerial initiatives, such as games. As defined earlier, we look at the three cognitive indicators of consent to games: understanding the rules of the game, perceived fairness of the game, and engagement with the game. At the conclusion of the game, we asked participants to answer questions corresponding to each of these three indicators on a 1 to 5 scale ranging from “Strongly Disagree” to “Strongly Agree.” Individuals responded to the following three items: “I understood the rules behind the [Game],” “The [Game] was fair,” and “I followed the [Game] closely.” Factor analysis indicated that these three items loaded onto a single factor with an Eigenvalue greater than 1. We then combined these three items into a single measure of consent to the game ($\alpha=.77$).

As a validity check on this measure, we used participants’ responses to an additional open-ended question we had asked about their suggestions for improving the game in the future. Indeed, several of their responses to this question corroborate the indicators of consent we had identified. Comments from individuals who failed to consent to the game tended to fall into one of three categories that correspond with our three consent indicators. Some individuals indicated that they were not aware of or engaged in the game, “I was not aware of the [Game]...” Some individuals failed to understand the rules. One respondent succinctly indicated that the game could be improved

“By Explaining the Rules.” Last, others felt that the game was not fair, “If we made a competition that was fair and well publicized throughout the company this would work a lot better.”

We took advantage of the variation in people’s reactions to the game to test the role of consent. Within the game treatment group, we were able to directly test the role of consent on the dependent variables, but, since there was no equivalent construct for either of our control groups, we divided the game group into two segments for comparisons between treatments. Individuals who indicated active consent (consent greater than 3, “neither agree nor disagree,” out of 5 on a standard Likert scale) were placed in a separate group from those who indicated neutral or negative consent. This allowed us to directly measure the moderating effect of consent on the gamification process.

Game Play Outside of Work: To test Hypothesis 3, we surveyed the sales representatives about their game play outside of work on the initial survey administered two months prior to the field experiment. In order to examine whether non-work game playing led to a mindset that was more receptive to games at work, we asked participants about their non-work game play. And in particular, we asked participants about how many hours they spent playing “multiplayer” games outside of work per week, as these types of multiplayer games most closely correspond to the multiplayer game that was being examined within the workplace.

Control variables: We used a number of control variables in the analyses⁴. For the affect analyses, we accounted for the likely regression to the mean of individuals with extreme initial affect scores, by controlling for individuals who started in the top or bottom 25% of the affect range using dummy variables. We also controlled for organizational tenure, whether individuals had recently been moved between territories, and the size of the sales force within a given territory. To control for the effects of managers, who can have an impact on affect, we clustered errors by DSM.

⁴ Gender was only available for a subsample of the population, so we do not control for it in the models shown. However, supplementary analyses indicate that these models proved robust to the inclusion of gender, which itself was not significant when included.

For the performance analyses, we controlled for the proportion of the representatives' sales leads that were generated through the company website (warm leads), rather than cold calls. We also controlled for the value of the sales territory and the amount of time the representative had operated within the territory. Since performance was far more likely to be related to the sales territory, rather than the DSM who oversaw many territories, we clustered errors by territory for these analyses. For individuals in the game group, we also tracked their performance in the game, to examine whether the game outcome affected consent. Table 1 shows summary statistics of study variables by treatment group, and Table 2 shows correlations.

[Insert Tables 1 and 2 about here]

STUDY 1: RESULTS

We conducted our analyses using OLS with clustered robust standard errors. In all tables the omitted group is Control. Table 3 provides the effects of games on changes in positive affect. The first model simply compares the groups that received the game and leaderboard treatments to the baseline control. Without accounting for differences in consent within the game group, there is, as expected, no significant effect from the Game Condition alone. Models 2 and 3 divide the Game Condition between those who consent and those who do not, as described above. As can be seen, for those who consent to the game, the effect is positive and significant relative to Control, whereas for those who do not consent, the effect is negative and significant relative to Control.⁵ Further, the leaderboard, rather than the game intervention, showed no difference from Control. This offers support for Hypotheses 1a and 1b. Further support is provided in Table 4, where the population is limited to the game group alone, and the effects of consent are tested directly. Here increasing degrees of consent are associated with increases in positive affect within the Game Condition.

⁵ The results are robust to an alternative approach, where, rather than using the differences in affect between the start and end of treatment, we simply use the Time 2 positive affect as a dependent variable, and control for the Time 1 level of positive affect. See the last column (Model 4) in Table 3.

[Insert Tables 3 and 4 about here]

Table 5 tests whether there is a link between gamification and performance, as predicted by Hypotheses 2a and 2b.⁶ We do not find a direct link between increased performance and gamification with consent, but we do find indications that gamification without consent is marginally negatively related to performance as compared to the control group ($p=.069$). Thus, Hypothesis 2a was not supported, but we do find a marginal effect indicating that gamification, without consent, may be negatively associated with performance. The lack of strong effects for performance may have occurred because performance in sales environments such as this may be lagged making it difficult to isolate the correct time windows and identify full performance effects.

[Insert Tables 5 and 6 about here]

In Table 6, we examine Hypothesis 3, which predicted that game playing outside work would increase consent to games within work, limiting the population to those participants in the Game condition, who also provided initial survey data on game play outside of work. We find a strong linkage between multiplayer game play outside of work and consent, supporting Hypothesis 3. Interestingly, the actual outcome of the game seems to have little impact on consent – winners were only marginally more likely to indicate consent to the game than losers, as can be seen in the coefficient for the game score variable in Model 3 of Table 6.

In sum, our field study has shown that consent significantly moderates the impact of gamification on positive affect providing strong support to Hypothesis 1a and Hypothesis 1b. We also found that, consistent with H2b, consent had a marginal moderating effect on performance indicating that further exploration of this effect may be warranted. Last we demonstrated that legitimization and familiarity with games is linked to consent to games, as predicted by Hypothesis 3.

⁶ When measuring performance instead of changes in affect, we only required data from the post-treatment survey, increasing our n to 283 salespeople for these analyses.

However, we were not able to examine the role of agency (Hypothesis 4) as a predictor of consent in the field experiment. To test Hypothesis 4, we needed to control for individual differences in familiarity with games, while also examining the role of agency. A second limitation of the field data was that, due to the need for very short survey responses, we were only able to collect one item to tap into each of the three indicators of the multidimensional consent construct. We therefore conducted a second experimental study in the laboratory where we were able to manipulate agency and collect expanded measures of the three indicators of consent with multi-item scales.

STUDY 2

Working with professional game designers, we created two versions of a game that were built around the concepts of time management and multitasking. Both versions of the game involved a queue of three kinds of objects, each of which had a timer. When the timer elapsed, an object would “escape” and be replaced by another in the queue. Players tried to eliminate objects from the queue before the timers ran out. To play the game, players selected one of the three buttons (each corresponding to one of the object types). Selecting a button started a countdown, which, after a delay, would eliminate all objects of that type from the queue. The challenge was to pay attention to multiple sets of objects, select the appropriate object type to eliminate, and manage the timing of the sequence of buttons and objects in order to maximize a score, which was derived from the objects captured and the objects that escaped.

In both versions of the game, the gameplay was identical, the task of collecting objects from the queue was done in the exact same way, and the sequence and timing of objects in the queue as well as the scoring were identical. The games differed only in theme. One version of game had a farming theme. The objects in the queue were different types of characters from a village coming to market. Participants were told that they needed to select the appropriate crops that matched each of these characters. The second version of the game had a fantasy theme. In this case, the objects in the

queue were attacking armies of orcs and goblins, and the players had to select the correct spells that matched and averted each attack.

Sample. Participants were 216 students at a large private University who had signed up to participate in the behavioral lab. They were paid \$10 for their participation. The average age was 21.3 and 69% were female, which was typical of the overall demographics of the subject pool.

Procedure. We used a 3 (Choice) X 2 (Game Type) between-subjects factorial design, manipulating Choice (Preferred, Non-preferred, No Choice Offered), and Game Type (Farm, Orc), thus creating 6 different conditions. The experiment involved playing a game and completing a subsequent online survey. We did not expect that Game Type would significantly interact with Choice to influence consent. However, because of the way we manipulated choice (i.e., agency) and the fact that we did not use deception, we needed to examine the Game Type effects as well. Thus, our theoretical prediction was that the choice condition would influence consent, but that game type would not interact with it. If that were the case, we planned to collapse the game type conditions, while controlling for Game Type.

Participants entered the lab and sat down at the computer. Each answered a short set of questions about prior game play. Participants were told they would be working on a task that was associated with multitasking skills. Next, they were led through the game choice process.

Choice Manipulation. In order to manipulate choice, players were randomly assigned into one of three conditions: a No Choice Offered condition where no option was presented, a Preferred Choice condition, and a Non-Preferred Choice condition. All participants were told: “The game you are about to play will assess your multi-tasking ability. Multitasking is an important skill with many implications for the way people perform their jobs. The game will help us better understand your multi-tasking ability and help you improve it in the future.” In the No Choice Offered condition, participants were not presented with any information about Game Type, but rather were

simply given either the Farm or Wizards vs. Orcs game to play. We included this condition because it provided a control, but given that participants in this experiment voluntarily came to the lab to explicitly participate in a study, we were concerned that it did not completely mimic the “lack of choice” that participants in the field study may have implicitly felt. Thus, we designed the Preferred and Non-Preferred Choice conditions to replicate the field study’s participants who consented (i.e. were engaged in the game, understood the rules, and felt it was fair) and those who did not.

For these conditions, after answering questions about prior game play, we presented participants with a screen showing the two differently-themed game types (Farm vs Orc) that were available (See Appendix A) and asked them to choose the one that most appealed to them. Participants were then randomly assigned to either the Preferred or Non-Preferred Choice conditions. For example, if assigned to the Preferred Choice condition, a participant who said they preferred the Wizards vs. Orcs themed game would come to a screen that said: “You have selected Wizards vs. Orcs. You will receive your desired game preference. To continue, you must play the Wizards vs. Orcs multi-tasking game.” Alternatively, if assigned to the Non-Preferred Choice condition, they would be given the theme that was the opposite of what their preference had been. For example, a participant who preferred Wizards vs. Orcs would see: “You have selected Wizards vs. Orcs. You will NOT receive your desired game preference. To continue, you must play the Farmers’ Market multi-tasking game.” A total of 216 people participated, and were randomized into the No Choice Offered (n=59), Preferred Choice (n=79), and Non-Preferred Choice (n=78) conditions (we chose to randomize more subjects into the Preferred and Non-Preferred conditions because these were the conditions of theoretical interest).

Measures. We measured the three indicators of consent from Study 1, though in expanded form: understanding the rules, perceived fairness, and engagement. All measures here used a 5 point strongly disagree to strongly agree Likert-type scale. To measure *engagement*, we adapted Rothbard’s

(2001) measure of engagement and asked the following three items: “I was completely engrossed in the exercise,” “I thought the exercise was engrossing,” and “I was highly engaged in my desire to be the best farmer/wizard.” Reliability for this measure was acceptable ($\alpha=.73$). To measure *understanding the rules*, we asked the following three items, “I understood the rules behind the exercise,” “I knew what I had to do in order to do well in the exercise,” and “I understood how to maximize the points I scored in the exercise.” Reliability for this measure was also acceptable ($\alpha=.88$). For *fairness*, because we are interested in both whether people feel the process by which the initiative is enacted is fair and the initiative itself is fair, we adapted three items from Ambrose and Schminke's (2009) overall justice measure that pertain to process fairness and added two additional items regarding whether the exercise itself was fair. Thus, we asked the following five items: “Overall, I felt like I was treated fairly by the experimenters,” “The treatment I received in this experiment was fair,” “The way the exercise was assigned to me was fair,” “I felt the exercise was fair,” and “The exercise scored my actions accurately.” Reliability for this measure was also acceptable ($\alpha=.81$). Last, we added a measure that goes beyond the manipulation check to determine whether our experimental manipulation influenced participants’ sense of agency and control. Drawing from Greenberger, Strasser, and Lee's (1988) approach, we asked participants to respond to a five items asking about their control over aspects of the exercise: “I had a lot of control over the choice of the exercise,” “I had little control over the choice of the exercise” [reversed], “I had a choice in what exercise I played,” “I would have opted for having a different theme, if given a choice,” “I wanted more control over what exercise I participated in [reversed].” Reliability for the agency/control measure was also acceptable ($\alpha=.73$).

STUDY 2: RESULTS

Manipulation Check. Our manipulation varied whether participants received their preferred choice as to what game they played or received a less preferable option, we also had a

control condition that was not offered any type of choice. To check this manipulation we conducted a 3x2 ANCOVA that controlled for gender, prior game play experience, and the degree to which *a priori* they perceived games to be legitimate as indicated by their response to the question “I would like to learn to multitask better through a game.” The manipulation check variable was “I got to play the exercise I preferred.” We found that the choice condition significantly predicted participants responses to this item [$F(2, 209) = 195.71, p < .001$] but that as expected there was no significant interaction between the Choice and Game Type conditions. Therefore we were able to collapse the Game Type conditions and examine the mean differences across the three Choice conditions. Participants indicated stronger agreement with the statement that they got to play the exercise they preferred in the Preferred Choice group ($M=4.15$) than in either the Non-Preferred Choice group ($M=1.47$) or in the No Choice Offered group ($M=2.58$). All of these groups were significantly different from one another according to planned contrasts that we performed.

We then examined whether the Choice manipulation had the predicted effect on the three original indicators of consent that we had tested in the field study. To do so, we conducted a 3X2 (Choice X Game Type) ANCOVA that again controlled for gender, prior game play experience, and their view about the legitimacy of games as applied to the task. Once again, the interaction between the Choice and Game Type conditions was not significant, so we treated Game Type as a control and examined the predicted differences in the Choice condition. The Choice manipulation was significant for each of the three indicators of consent understanding the rules [$F(2, 209) = 3.019, p=.05$, perceived fairness [$F(2, 209)=4.483, p=.012$,] and engagement [$F(2, 209) = 20.573, p=.000$.]

Understanding the Rules. Participants in the Preferred choice condition better understood the rules ($M=4.09, s.d.=.73$) than those in the Non-preferred choice condition ($M=3.72, s.d.=.97$) as indicated by the planned contrasts [$t(213)=2.46, p=.015$]. Participants in the No Choice Offered

condition were in the middle ($M=3.83$, $s.d.=.91$) but were not significantly different from participants in either the Preferred choice or the non-preferred choice conditions.

Fairness. Participants in the Preferred choice condition perceived the game to be significantly more fair ($M=3.98$, $s.d.=.56$) than those in the Non-preferred choice condition ($M=3.69$, $s.d.=.68$) as indicated by planned contrasts [$t(213)=2.73$, $p=.007$]. Participants in the No Choice Offered condition were in the middle ($M=3.94$, $s.d.=.69$). They were not significantly different from those in the Preferred choice condition, but were significantly different from the Non-preferred choice group [$t(213)=2.26$, $p=.025$].

Engagement. Preferred choice condition participants reported that they were more engaged in the game ($M=3.79$, $s.d.=.878$) than those in the Non-preferred choice condition ($M=3.07$, $s.d.=.736$) as indicated by planned contrasts [$t(213)=5.11$, $p=.000$]. The No Choice Offered condition ($M=3.73$, $s.d. =1.02$) was not different from the Preferred choice condition, but was significantly different from the Non-preferred choice condition [$t(213)=4.36$, $p=.000$].

Agency. In addition to showing the effect of choice on the three indicators of consent that we measured in the field study, in this laboratory study we added a measure of perceived agency to further test H4. To do so, we conducted a 3X2 (Choice X Game Type) ANCOVA that again controlled for gender, prior game play experience (a source of consent as demonstrated in the test of H3), and participants views on the legitimacy of games as applied to the task, on perceived agency as the dependent variable. Once again, the interaction between the Choice and Game Type was not significant, so we treated Game Type as a control variable and examined the predicted differences in the Choice condition. The Choice manipulation was significant in predicting feelings of agency [$F(2, 210) = 79.136$, $p=.000$]. Planned contrasts indicated that participants in the Preferred Choice condition expressed greater perceived agency ($M=3.53$, $s.d.=.62$) than those in the Non-preferred condition ($M=2.19$, $s.d.=.69$) [$t(213)=13.51$, $p=.000$]. The No Choice Offered condition was in the

middle ($M=2.59$, $s.d.=.52$) and was significantly different from both the Preferred [$t(213)=8.81$, $p=.000$] and the Non-Preferred Choice [$t(213)=3.70$, $p=.000$] conditions.

To parallel the findings from Study 1 we also examined a combined measure of consent using an 11-item composite of the 3 subscales (Cronbach's $\alpha=.87$). The interaction between the Choice and Game Type condition was not significant, so we treated Game Type as a control variable and examined the predicted differences in the Choice condition. The Choice manipulation was significant in predicting the combined consent measure [$F(2, 209) = 11.32$, $p=.000$]. Planned contrasts indicated that participants in the Preferred Choice condition expressed significantly greater consent ($M=3.95$, $s.d.=.54$) than those in the Non-Preferred Choice condition ($M=3.53$, $s.d.=.61$) [$t(213)=4.18$, $p=.000$]. The No Choice Offered condition was in the middle ($M=3.85$, $s.d.=.73$) and was significantly different from the Non-Preferred Choice condition [$t(213)=2.99$, $p=.003$], but was not different from Preferred Choice condition. Moreover, consistent with our findings from Study 1, in Study 2 we find that prior views of the legitimacy of games, measured by the number of hours spent playing games per week, predicts the 11-item combined measure of consent ($F=4.97$, $p=.027$). Examining the subscales separately reveals that number of hours spent playing games per week predicts the engagement ($F=4.01$, $p=.047$) and understanding the rules ($F=4.60$, $p=.033$) subscales, but not the perceived fairness subscale ($F=1.174$, $p=.189$).

Study 2 provided additional support for Hypothesis 3 and allowed us to examine the indicators of consent using a richer set of measures. Moreover, the findings suggest support for Hypothesis 4. In this controlled experiment, we were able to manipulate a sense of agency and found that greater agency (as represented by Preferred versus Non-Preferred Choice) enhances people's experience of consent as measured by the three indicators of consent that we articulated in our theorizing and examined empirically in Study 1— understanding the rules, perceived fairness, and engagement. While our findings show a clear difference between the Preferred and Non-Preferred

Choice conditions, the findings are not as clear for the No Choice Offered condition. One of the reasons we measured the Non-preferred Choice condition was that in the lab we expected that this would better simulate the experience of mandatory fun than simply the No Choice Offered option. Participants come in to the lab having agreed to engage in the exercise that they are then asked to do. As a result, the No Choice Offered does not directly map onto what participants in our field study experienced. In sum, Study 2 lends support to the idea that the way a game is implemented can affect whether people perceive gamification as imposed or chosen.

DISCUSSION

The importance of games in work environments has been noted by generations of management scholars, and, recently, has become a part of emerging management practice, with analysts predicting gamification to be a major trend going forward (Burke, 2011). In our field experiment, we find that games, when consented to by employees, have a positive impact on affect in the workplace, as postulated over fifty years ago by Roy (1959), and suggested by AET (Weiss & Cropanzano, 1996). But gamification, like other management initiatives, can have unintended consequences. The positive impact of games comes with a caveat, one which is important to a wide range of workplace initiatives and is a theoretical contribution in its own right.

Theoretical Contributions

We make several theoretical contributions with this work. First, we introduce the paradox of mandatory fun, which arises because of the imposition of workplace initiatives designed to generate positive affect for employees at work. Games, like other “fun” activities such as parties or social events, have traditionally been emergent phenomena, developed by the workers themselves (Burawoy, 1979; Sallaz, 2002; Sherman, 2007; Sharone, 2007). Management imposition of games, no matter how well meaning, changes what was an organic worker-generated process and makes it a required activity, invoking the paradox of mandatory fun. The result is that workers need to

psychologically consent to the game, agreeing to actively cooperate with a management initiative, rather than engaging in resistance, or else ignoring it.

Second, we contribute to the existing literature on consent at work by further explicating the construct of consent, especially as a psychological response to mandatory fun. We build on prior conceptions of consent, defining consent as active cooperation with managerial goals. In the context of gamification, we posit that consent is a cognitive response that can be operationalized by three indicators: understanding the rules, perceived fairness and justice, and active engagement (Burawoy, 1979; Hodson et al., 1994; Hodson, 1999; Littler & Salaman, 1984). We examine these indicators in both the field and the lab. Through our field experiment, we tested and confirmed that consent played an important role in determining the outcome of gamification. If workers consented to the game, gamification significantly increased their positive affect. A failure to consent to the game, moreover, resulted in a decrease in positive affect, as well as a marginal decrease in job performance, indicating that mandatory fun creates a double-edged sword. Negative effects accrued to those who reacted to the “mandatory” nature of the management-imposed game, whereas positive effects accrued to those who, instead, consented wholeheartedly to the game. In our laboratory experiment, we further explored the construct of consent and its antecedents.

Third, we contribute to an understanding of the sources of consent (Hodson et al., 1994, Hodson, 1999; Laubach, 2005). One source is outside legitimation. In both our field and our lab studies, we found that employees, who viewed games as legitimate outside of work, were more likely to consent to them in other settings. We also identified a second source of consent, which was a sense of individual agency and choice. In our laboratory experiment, individuals who were given agency over what game they played had higher levels of consent and perceived control.

Adding to these tests of gamification, mandatory fun, and consent, an additional contribution of this paper is the evidence that, consistent with AET (Weiss & Cropanzano, 1996),

gamification can serve as an affective event, or series of affective events, which may influence positive affect at work. This contributes to the growing body of work on AET (e.g. Weiss & Cropanzano, 1996; Basch & Fisher, 2000; Mignonac & Herrbach, 2004; Rothbard & Wilk, 2011). In particular, while consistent with it, prior work on affective events has not examined games and “fun” initiatives as affective triggers.

Last, we add to the broader literature on the ways in which managers seek to influence affect at work by suggesting that games influence how people feel and perform at work, not by influencing how people respond to the nature of the task itself as in work design (Fried & Ferris, 1987; Fried et al., 2007; Grant, 2007, 2008a; Hackman & Oldham, 1980), and job crafting (Wrzesniewski & Dutton, 2001; Leana, Appelbaum, & Shevchuk, 2009; Berg, Wrzesniewski, & Dutton 2010; Berg, Grant, & Johnson, 2010), but instead by influencing people’s experience of the workplace environment. Indeed, to test this idea we performed supplementary analyses on whether gamification influenced people’s intrinsic motivation in the work itself. In particular, we measured and tested whether the effects we see here for positive affect had a similar effect on intrinsic motivation and find no evidence that any of the treatment conditions led to significant changes in intrinsic motivation in either the field or lab study.⁷ These supplementary analyses support our argument that fun, as it applies to games, is conceptually distinct from intrinsic motivation. In gamification, it is not the work that becomes more intrinsically motivating, rather it is the game layer, and it is the fun that that the game provides when people consent, rather than the work itself, that improves positive affect at work.

Theoretical and Practical Implications

⁷ Changes in intrinsic motivation (measured using Grant’s (2008b) were not significantly predicted by either the game with consent group: $b = .148$, $t = 1.21$, $p = .238$, or by the game without consent group: $b = -.01$, $t = -.12$, $p = .91$. We replicated this finding in the study 2 lab experiment where the manipulation of choice influences consent, but not intrinsic motivation ($F(2, 209) = 2.32$, $p = .101$).

Many practices in organizations such as socializing, company parties, and the like are designed to facilitate workplace relationships and ensure more positive affective experiences, but may not have the intended effects for all employees (Dumas et al., 2013; Fleming & Spicer, 2004; Fleming & Sturdy, 2010; Ramarajan & Reid, 2013). The fact that there is variance in the degree to which people consent to the imposition of a workplace game and that such variance in consent leads to very different outcomes suggests that the paradox of mandatory fun poses real challenges for organizations. Engaging employees requires more than imposing a game or “fun” workplace initiative. Consent is not just about participation and engagement, it is also about the belief that managerial goals are legitimate, appropriate, and just and entails an active acceptance of such goals. As such it may apply to initiatives beyond games in the workplace.

Our research also has several implications for practice. In addition to ensuring that games themselves are fair, engaging, and have clear rules, our findings also suggest that perceptions of individual agency play a key role in garnering consent. To increase a sense of agency managers could solicit ideas from employees about what games (and more broadly what workplace initiatives) might be fun, and be clear that the structure of such games and initiatives emerged organically from the ideas of co-workers. It is also important that managers ensure that employees feel that they have input into the game or workplace initiative, and that they preserve the ability of workers, whether they consent or not, to maintain some degree of privacy even in multiplayer games (Bernstein, 2012). The notion that a particular game or initiative is not just imposed from the top, and but rather has elements of employee input and is not simply unremunerated work, might help to undercut some of the “mandatory” aspect of the fun.

Limitations and Strengths

There are some limitations to and important boundary conditions of this research. First, BigDeal was an unusual environment, undergoing rapid change that was embraced by its young and

entrepreneurial employees. It is possible that employees in a highly engaged environment like BigDeal⁸ may be less likely to be influenced by gamification compared to environments where work is less satisfying, such as menial service jobs or factory floors. However, it is also possible that other environments may be less receptive to gamification. Additionally, the degree to which mandatory fun is generally consented to may vary greatly by industry, organization, and employee population. Our population was young with a relatively short job tenure, who were generally satisfied with their employment deal, perhaps making them more likely to consent than other populations. The nature of the game itself also may have had an effect on outcomes. The game used in the field experiment was professionally designed, relatively simple and generally well-received. However, as we have shown, games are subjective, and any sort of game will naturally polarize populations, with some enjoying the game, and others finding it less enjoyable. We cannot, therefore, completely separate the impact of the particular games we tested from the impact of games in general. However, our use of the Leaderboard condition and our use of variation in consent in the Game condition provides some indication that our results are generalizable to other forms of gamification, as does the introduction of other game types in the lab experiment where we saw variation in consent based on our manipulation of agency. Nevertheless, future studies are needed to explore the boundary conditions under which workplace games produce their effects, and to further elucidate the mechanisms through which games influence employee affect at work.

Despite these limitations and boundary conditions, the study has several strengths. Our field experiment allowed us to examine differences in differences with both affect and performance, providing the ability to examine the effects of this intervention in a robust and well-identified way. Moreover, the inclusion of the Leaderboard condition as an additional control helps us to rule out the

⁸ The company was featured on a prominent list of “Top 50 Places to Work in the United States” based on employee reviews.

alternative explanation that an intervention that included public scoreboards and graphics, as opposed to including that material in the context of a game, is what drove the results. The Leaderboard condition contained the same statistical displays as the game, but without the gamification elements designed to make the process fun. When employees consented to the game, their experience was more positive than the employees who were exposed to the alternative intervention, the leaderboard. In addition to the decrease in affect and performance among those who failed to consent to the game, we saw a decline in performance (though no impact on affect) among employees exposed to the Leaderboard condition. The Leaderboard condition performed significantly worse than the “no intervention” control condition and the consenting gamification group. This suggests that the features of a game, not just the feedback it provides, play an important role in eliciting changes in affect and performance. Last, exploring these questions in an organizational field setting allows us to make stronger inferences about how these initiatives influence people at work, while our lab experiment allows us to make stronger causal inference about how individual agency generates greater consent.

CONCLUSION

Drawing on several theoretical perspectives, we examine gamification as an exemplar of a number of managerial initiatives that seek to change the affective nature of work. However, the externally-imposed nature of gamification makes it vulnerable to the paradox of mandatory fun, where games that are imposed by management require worker consent in a way that games generated organically by workers do not. In our field experiment, we find that games, when consented to, increase positive affect at work, but, when consent is lacking, decrease positive affect. Further analyses of the field experiment and an additional laboratory experiment suggest that legitimation and a sense of individual agency are important sources of consent. Our findings serve as both an encouragement and a warning for those using games to generate changes in employees’

experiences: games can have powerful effects that can be either positive or negative, depending on the underlying consent of the employee.

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Figure 1

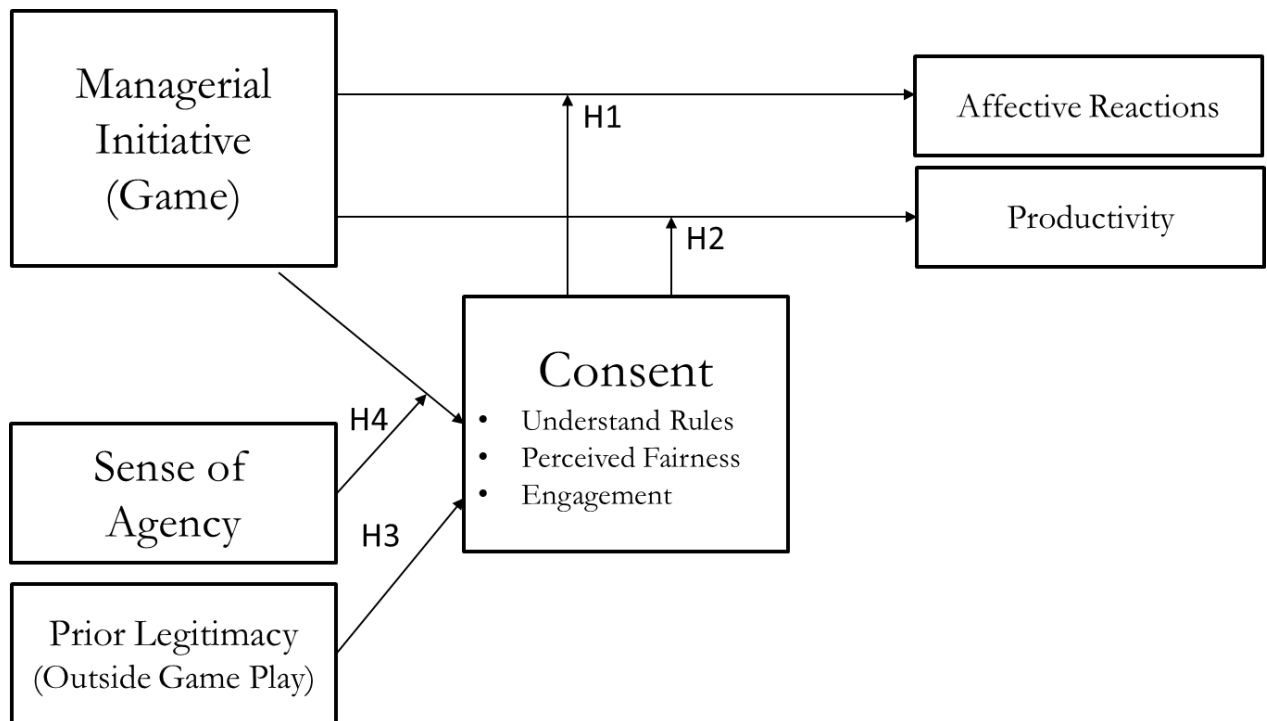


Figure 2

Panel A: Leaderboard



Panel B: Game animation



Table 1
Summary Statistics

VARIABLES	(1) All	(2) Control	(3) Leader	(4) Game
PA Difference	0.001 (0.979)	0.025 (0.948)	0.093 (0.991)	-0.094 (1.001)
PA Pre	3.33 (0.942)	3.44 (0.944)	3.13 (0.894)	3.38 (0.963)
PA Post	3.329 (0.969)	3.463 (0.977)	3.221 (0.895)	3.290 (1.014)
Contracts/Goal Diff	0.039 (0.424)	0.093 (0.360)	0.076 (0.282)	-0.040 (0.549)
May Goal	24.490 (3.322)	23.660 (3.454)	24.270 (2.809)	25.430 (3.373)
Contracts Pre	13.780 (14.99)	13.660 (15.90)	13.340 (8.355)	14.240 (18.08)
Contracts Post	14.51 (10.08)	15.75 (12.52)	14.96 (9.623)	12.98 (7.429)
Tenure	186.000 (148.3)	163.100 (126.4)	198.200 (159.0)	197.900 (157.5)
Switched cities	0.146 (0.354)	0.138 (0.347)	0.074 (0.263)	0.212 (0.411)
Territory N	4.378 (3.438)	4.150 (3.028)	3.368 (2.285)	5.400 (4.235)
Warm leads	0.360 (0.139)	0.362 (0.157)	0.361 (0.123)	0.356 (0.136)
Territory Tenure	4.090 (2.050)	3.538 (1.935)	4.529 (2.140)	4.259 (1.989)
Game Score				98.070 (34.79)
Consent				2.698 (0.821)
Observations	233	80	68	85

Note: For each variable, means for each condition are listed in the top row.
Beneath the means in parentheses are standard deviations.

Table 2a

Correlations for all Participants

	1	2	3	4	5	6
1 PA Diff	1					
2 Goal Diff	-0.03	1				
3 Switched cities	-0.05	0.05	1			
4 Territory N	-0.02	-0.17*	0.08	1		
5 Warm leads	0.02	0.11	-0.07	0.09	1	
6 Tenure in Organization	0.11	-0.19*	-0.14*	0.33*	0.13*	1
7 Territory Tenure	0.09	-0.16*	-0.26*	0.19*	0.08	.62*

N=233, * p<.05

Table 2b

Correlations for Participants in Game Condition Only

	1	2	3	4	5	6	7	8	9
1 PA Diff	1								
2 Goal Diff	-0.03	1							
3 Switched cities	-0.06	0.05	1						
4 Territory N	-0.02	-0.17*	0.08	1					
5 Warm leads	0.02	0.11	-0.07	0.09	1				
6 Tenure in Organization	0.11	-0.19*	-0.14*	0.33*	0.13*	1			
7 Tenure in Territory	0.09	-0.16*	-0.26*	0.19*	0.08	0.62*	1		
8 Game Score	0.01	-0.03	0.03	0.62*	0.24*	0.26*	0.18	1	
9 Consent	0.18*	0.15*	-0.13	-0.08	0.13	0.04	0.12	0.29*	1

N=85, * p<.05

Table 3
Changes in Positive Affect across All Groups

VARIABLES	(1) Model 1	(2) Model 2	(3) Model 3	(4) Alt. Model
	For Models 1- 3 DV = Change in Positive Affect from Time 1 to Time 2			For Model 4 DV=Time 2 Positive Affect
Game Overall	-0.13 (0.13)			
Leaderboard	0.00 (0.13)	0.00 (0.13)	-0.02 (0.14)	-0.09 (0.13)
Game no Consent		-0.31* (0.14)	-0.32* (0.15)	-0.34* (0.14)
Game w/Consent		0.31* (0.14)	0.30* (0.14)	0.25† (0.13)
High PA	-0.26† (0.14)	-0.27† (0.15)	-0.26† (0.15)	0.45 (0.27)
Low PA	0.89** (0.16)	0.88** (0.16)	0.87** (0.16)	-0.00 (0.26)
Tenure			0.00 (0.00)	0.00 (0.00)
Moved Territory			-0.09 (0.12)	0.01 (0.13)
Territory Staff			-0.00 (0.02)	0.01 (0.02)
Prior PA				0.39* (0.15)
Constant	-0.16 (0.12)	-0.16 (0.12)	-0.23 (0.16)	1.94** (0.55)
Observations	233	233	233	233
R-squared	0.20	0.23	0.23	0.28
Adj. R-squared	0.18	0.21	0.21	0.25
F test	11.26	12.89	10.45	20.47
Prob > F	0.00	0.00	0.00	0.00

Robust standard errors in parentheses

** p<0.01, * p<0.05, †p<0.10

Table 4

Changes in Positive Affect within the Game Treatment Group

VARIABLES	(1) Model 1	(2) Model 2	(3) Model 3	(4) Alt. Model
	For Models 1- 3 DV = Change in Positive Affect from Time 1 to Time 2			For Model 4 DV=Time 2 Positive Affect
Consent	0.35* (0.14)	0.35* (0.12)	0.35* (0.11)	0.35* (0.12)
High PA		-0.48 ⁺ (0.26)	-0.45 (0.26)	-0.22 (0.34)
Low PA		0.91** (0.25)	0.87** (0.23)	0.62 (0.40)
Prior PA				0.82** (0.24)
Tenure			0.00 (0.00)	0.00 (0.00)
Moved Territory			0.00 (0.16)	0.03 (0.17)
Territory Staff			-0.02 (0.03)	-0.02 (0.03)
Constant	-1.03* (0.42)	-1.21* (0.38)	-1.26* (0.38)	-0.65 (1.05)
Observations	85	85	85	85
R-squared	0.08	0.32	0.33	0.35
Adj. R-squared	0.07	0.29	0.28	0.30
F test	6.073	5.350	12.99	9.885
Prob > F	0.039	0.026	0.001	0.002

Robust standard errors in parentheses.

** p<0.01, * p<0.05, † p<0.10

Table 5

Changes in Performance for All Groups

VARIABLES	(1) Model 1	(2) Model 2	(3) Model 3	(4) Alt. Model
	For Models 1- 3 DV = Change in performance from pre-test to during test			For Model 4 DV=Performance during test
Game Overall	-0.05 (0.04)			
Leaderboard	-0.08* (0.04)	-0.08* (0.04)	-0.07† (0.04)	-0.07† (0.036)
Game no Consent		-0.08† (0.04)	-0.07† (0.04)	-0.04 (0.035)
Game w/Consent		0.00 (0.05)	0.01 (0.05)	-0.01 (0.042)
Warm Leads			0.23* (0.10)	0.23* (0.101)
Territory Value			0.00 (0.00)	0.00** (0.000)
Territory Tenure			-0.01† (0.01)	-0.00 (0.007)
Prior Performance				0.51** (0.060)
Constant	0.10** (0.03)	0.10** (0.03)	0.06 (0.05)	0.23** (0.053)
Observations	283	283	283	283
R-squared	0.01	0.02	0.04	0.28
Adj. R-squared	0.01	0.01	0.02	0.27
F test	2.38	2.40	2.734	18.22
Prob > F	0.098	0.070	0.015	0.000

Robust standard errors in parentheses.

** p<0.01, * p<0.05, † p<0.10

Table 6

Consent within the game treatment group

VARIABLES	(1) Model 1	(2) Model 2	(3) Model 3
Tenure	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)
Moved Territory	-0.23 (0.20)	-0.30 (0.20)	-0.36 (0.23)
Game Hours/week	0.05 (0.03)		
Multiplayer Hours/week		0.11** (0.03)	0.09* (0.03)
Game Score			0.01† (0.00)
Constant	2.68** (0.24)	2.69** (0.24)	2.14** (0.44)
Observations	70	70	70
R-squared	0.04	0.08	0.16
Adj. R-squared	-0.01	0.04	0.10
F test	2.136	6.937	6.924
Prob > F	0.174	0.013	0.010

Robust standard errors in parentheses.

** p<0.01, * p<0.05, †p<0.10

Appendix A

Next, we will assess your multitasking skills by performing an exercise. Please select the one that most appeals to you:



Wizard vs. Orcs

Choose your spells wisely to defeat the onrushing orc horde!

Play Wizard vs. Orcs



Farmers' Market

Grow the right produce for each customer, but watch out for those naughty cats!

Play Farmers' Market