FUN, FRIENDS, AND CREATIVITY: A SOCIAL CAPITAL PERSPECTIVE

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ABSTRACT

Although creativity research has devoted considerable effort towards identifying the antecedents of creativity, there remains important questions about how organizations can foster creativity through social processes. Drawing from social capital theory, we hypothesize a moderated mediation model that investigates the influence of employee participation in fun activities on individual creativity through workplace friendships. We further hypothesize that the strength of this positive indirect effect is weaker for managers compared to non-managers. Our analysis of data collected from a multi-source, three-wave field study (n = 163 employees) reveals a positive mediation between participation in fun activities and incremental creativity (but not radical creativity) via workplace friendships. The results further support our prediction that this positive indirect effect on incremental creativity is weaker for managers compared to non-managers. Our findings not only highlight the practical and theoretical importance of fun activities in generating novel and useful ideas, but the

results also reveal that the benefits derived from fun activities (i.e., strengthened friendships,

incremental creativity) are particularly salient for non-managers.

Keywords: Social capital, fun activities, workplace fun, workplace friendships, individual creativity, managers

Additional Notes:
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INTRODUCTION

Individual creativity – the generation of novel and useful ideas (Amabile, 1996) – is instrumental to help organizations survive and thrive in an ever-changing environment. While organizations have long-invested resources into initiatives to motivate employees (Wang, Liu, & Shalley, 2018) to achieve their own creative outcomes, the shifting landscape of work towards collaborative teamwork highlights the growing need to understand how social interactions may foster individual creativity. Although creativity research has shown that certain social processes are critical to creativity (Breslin, 2019; Kim, Shin, Shin, & Miller, 2018), there is little empirical evidence that investigates how workplace conditions may trigger social interactions that promote creativity (Acar, Tarakci, & van Knippenberg, 2019).

A social capital perspective (Nahapiet & Ghoshal, 1998) suggests that organizations may facilitate intellectual capital creation by hosting activities that provide opportunities for employees to socially interact to foster the combination and exchange of ideas. One type of organizational activity that is specifically designed to encourage social interaction are fun activities, which refer to "social activities that are organized and sponsored by the organization and designed to foster a sense of enjoyment and commitment" (Michel, Tews, & Allen, 2019, p. 99). Considerable evidence connects fun activities to numerous positive outcomes (e.g., Fleming, 2005; Tews, Michel, & Allen, 2014). Given that workplaces that reflect an open, playful, and trusting environment have been associated with higher levels of creativity (Hunter, Jemielniak, & Postuła, 2010; Mainemelis & Dionysiou, 2015; Rice, 2006; West, 2014), we theorize that participation in fun activities positively relates to individual creativity.

Although it may seem obvious that engaging in workplace fun may lead employees to think 'outside the box', a growing stream of empirical research highlights the potential

constraining nature of workplace fun (Bolton & Houlihan, 2009). Specifically, this body of

research – which is largely qualitative in nature – has found that employees may view workplace

fun as prescriptive measures to control their behaviors, which often results in employee

cynicism, resistance to fun activities, and closed-mindedness (Fleming & Sturdy, 2009;

Georganta & Montgomery, 2016). While this logic is in line with the traditional mindset that

constraints may stifle creativity, researchers have recently argued that constraints may promote

social processes that positively affect creativity (Acar et al., 2019).

Accordingly, we investigate the relationship between participation in fun activities and

individual creativity by drawing from social capital theory, which focuses on the role of

resources embedded within interpersonal relationships (Nahapiet & Ghoshal, 1998). We theorize

that the informal and social nature of fun activities provides opportunities for employees who

participate in these fun activities to develop workplace friendships, which refer to "nonexclusive

workplace relations that involve mutual trust, commitment, reciprocal liking, and shared interests

or values" (Berman, West, & Richter, 2002, p. 218). In turn, these friendships are positively

related to individual creativity, as the social capital embedded within these interpersonal

relationships are important to foster creativity (Liu, 2013).

Furthermore, social capital research suggests that managers and non-managers have

different opportunities and varying levels of influence over those opportunities to develop social

capital (Adler & Kwon, 2002). As such, we expect that manager status (i.e., people who are

responsible for managing employees) has an important role in moderating the effect of

participation in fun activities on creativity. We argue that the social norms associated with

managerial positions limit managers from developing workplace friendships with others in the

organization. In sum, we theorize that manager status moderates the effect of participation in fun

activities on creativity via workplace friendships. These hypotheses are tested using a three-wave, two-source dataset that was collected from a high-tech startup that frequently hosts fun activities.

This research makes three important contributions. First, we address calls for more research to examine the role of social phenomena in creative processes (e.g., Acar et al., 2019). We investigate the distal effect of a socially-focused workplace condition (i.e., fun activities) on individual creativity. Second, by examining how workplace fun promotes creativity, this study highlights the central role of workplace friendships in relishing the favorable effects of participation in fun activities for greater creativity. To address some of the mixed evidence on the outcomes of fun activities (Tews et al., 2014), we show that workplace friendships are a critical factor in explaining how participation in fun activities leads to creative thinking. Third, consistent with the growing area of research that explores how an individual's role in the workplace may influence their experience of workplace fun (Michel et al., 2019), we reveal the differential effects of manager status when participating in fun activities.

WORKPLACE FUN AND INDIVIDUAL CREATIVITY

The workplace fun literature has started to accumulate a number of studies given the shift towards creating more fun work environments across many organizations. Workplace fun refers to "characteristics or features of the work environment of a social, playful, and humorous nature, which have the potential to trigger positive feelings of enjoyment, amusement, and lighthearted pleasure in individuals" (Michel et al., 2019, p. 99). Workplace fun is similar to, yet distinct from, several related constructs and bodies of research, such as play at work (i.e., play at work is defined by its very interactive nature, highly enthusiastic interactions, and the overall goal of amusement) (Petelczyc, Capezio, Wang, Restubog, & Aquino, 2018). Play at work is meant to

reflect a fun work experience, however, workplace fun need not involve play (e.g., professional celebrations can be fun, but do not necessarily meet all three elements of play at work) (Petelczyc et al., 2018). Play at work therefore represents a specific tactic for fostering fun. As such, play represents a more narrowly focused construct that can be subsumed within the broader literature on workplace fun (Michel et al., 2019).

In this research, we focus specifically on workplace fun (as opposed to related constructs) because it comprises a wider range of activities and interactions. Specifically, fun activities comprise activities such as: social events (e.g., trips to professional sport events), recognition of personal milestones (e.g., birthdays), public celebrations of work achievements (e.g., recognition for outstanding results), team-building activities (e.g., trivia events), and friendly work competitions (e.g., Halloween costume contest) (Tews et al., 2014). Our focus is on employer-sponsored fun activities because we want to broadly understand how organizations can foster creativity. Since employees may not always engage in fun activities (Michel et al., 2019), we focus on employee participation in fun activities to understand how actual participation may prompt creativity.

Research has revealed mixed effects with respect to whether fun activities lead to positive or negative effects (Michel et al., 2019). Most studies point to the positive effects, whereby the underlying thread is that fun activities are enjoyable experiences that lead to positive attitudes and behaviors (e.g., Plester & Hutchison, 2016). Nevertheless, some studies provide evidence of the negative effects of fun activities, which largely suggest that fun activities may be viewed as a way in which to control employees, which leads to cynicism and resistance (e.g., Fleming & Sturdy, 2009; Plester & Hutchison, 2016). Other studies further suggest that the time consumed by fun activities may elicit negative reactions because it limits the time available for work tasks

(Baptiste, 2009). These mixed findings underscore the need to further illuminate the mediating mechanisms to unearth why fun activities may lead to differential outcomes.

Although researchers have suggested that workplace fun fosters creativity (Fluegge-Woolf, 2014; Jaussi, Knights, & Gupta, 2017), to the best of our knowledge, this relationship has yet to be empirically tested with an investigation of the mediating effect of workplace friendships. This investigation addresses calls for more research to investigate the role of social processes (Acar et al., 2019) and workplace conditions (Chen, Liu, Tang, & Hogan, 2020). We draw insights from social capital theory to examine the relationship between fun activities and creativity via friendships, while investigating the moderating effect of manager status.

FUN ACTIVITIES AND CREATIVITY: A SOCIAL CAPITAL LENS

Social capital refers to "the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual" (Nahapiet & Ghoshal, 1998, p. 243). Stated differently, social capital comprises interpersonal relationships and the resources inherent in those relationships (Burt, 1992). The central proposition of social capital theory is that social connections entail valuable resources that facilitate social affairs, which provides individuals with collectively-owned capital (Bourdieu, 1986). Since social processes are important for creativity (Amabile, 1988), there is little surprise that social capital has been pinpointed as a valuable perspective in describing how social connections may stimulate creativity (Liu, 2013; McFadyen & Cannella, 2004).

Social capital theory posits that opportunities for social capital transactions are a critical source of social capital (Adler & Kwon, 2002), but the role of organizations in creating these opportunities has received limited attention (e.g., Bolino, Turnley, & Bloodgood, 2002). In bringing together these disparate streams of social capital research, Adler and Kwon (2002)

posited that opportunities to build social capital rest within the social structure of the organization. An important way in which organizations can shape these opportunities is through employer-sponsored fun activities. Therefore, employees who participate in organization-sponsored fun activities have distinct opportunities to build their social capital.

Although social capital has multiple dimensions (i.e., relational, structural, cognitive), we focus on the relational dimension, which concerns the assets that are created and leveraged from high-quality relationships (Nahapiet & Ghoshal, 1998). Our focus on workplace friendships, as a relational dimension of social capital, is motivated by research that suggests proximal interactions (e.g., connecting with others during fun activities) are important for friendships (Sias & Cahill, 1998). Furthermore, research suggests that close relationships at work (e.g., friendships) are important for creativity (Kirrane, Kilroy, Kidney, Flood, & Bauwens, 2019), as high-quality work relationships provides access to resources (e.g., novel information, diverse perspectives) that are important for creativity (e.g., Lu et al., 2017).

In turn, according to social capital theory, which posits that relational social capital is critical for the creation of new intellectual capital (Nahapiet & Ghoshal, 1998), we argue that employees who have workplace friendships are more likely to work in conditions that are favorable to the exchange and combination of intellectual capital. Friendships often involve meaningful cooperation and commitment (Jehn & Shah, 1997), which facilitates knowledge sharing (Lin, 2007) and subsequently leads to greater creativity (Dong, Bartol, Zhang, & Li, 2017). Therefore, employees with workplace friendships are more likely to have an inherent access to resources that are conducive to the generation of creative ideas at work.

However, social capital research further suggests that there are important boundary conditions that ought to be considered when seeking to account for the social processes that lead

to the development of social capital (e.g., Han, Han, & Brass, 2014). We focus on the

moderating role of manager status because employees who occupy job roles that are higher in the

organizational hierarchy, such as managerial roles, often have different social opportunities in

which to develop social capital (Adler & Kwon, 2002). We theorize that manager status

moderates the relationship between fun activities and friendships, such that this relationship is

weaker for managers because managers are expected to adhere to social norms that are inherent

in their formal job role, which includes limiting their workplace friendships with non-managers

(Berman et al., 2002). Starting from these theoretical arguments, we develop the hypotheses of

the conceptual model (Figure 1).

INSERT FIGURE 1

Fun Activities and Creativity via Workplace Friendships

Although organizations may create several different types of opportunities for employees

to build their social capital (Dutton & Ragins, 2007), employer-sponsored fun activities represent

a particularly valuable opportunity for employees to strengthen a specific type of relational

capital – that is, their workplace friendships. Fun activities comprise social events that are often

offered throughout the year that involve distinct opportunities for employees to connect in an

informal context (Michel et al., 2019). Research on play and creativity (Hunter et al., 2010;

Mainemelis & Ronson, 2006; West, 2014) suggests that these fun activities affect the social

context in that these activities enable for social interactions that facilitate the creation and

maintenance of friendships with others. The homophily principle (McPherson, Smith-Lovin, &

Cook, 2001) and the similarity-attraction paradigm (Byrne, 1971) further suggest that fun

activities provide opportunities to permit the uncovering of shared interests, stories, and

experiences. For instance, Sørensen and Spoelstra (2012) reveal that play at work allows

employees to share their personal stories and experiences in a more comfortable environment. As such, research suggests that employees develop mutual care and concern when they interact during fun and playful activities, which strengthens their workplace friendships (Wright, 1984). Workplace fun research further shows that fun activities are positively related to co-worker relationships, such as constituent attachment (Tews et al., 2014). We therefore posit that participation in fun activities is positively related to workplace friendships.

Social capital theory further asserts that relational social capital facilitates the exchange and combination of knowledge and information, which fosters new intellectual capital (Nahapiet & Ghoshal, 1998). For this creativity to unfold, Amabile (1996) posits that employees must have task motivation, domain-relevant knowledge, and creative thinking skills. Building on extant research (Mainemelis & Ronson, 2006), we argue that workplace friendships, which derive from participation in fun activities, can enhance these three elements to increase creativity. First, intrinsic task motivation refers to the desire to undertake work because it is interesting, satisfying, or personally challenging (Amabile, 1996). Given that employees with friends at work are much more engaged (Rath, 2006), we similarly posit that employees who have friends at work are more likely to feel intrinsically motivated to do their work, especially when considering that many employees often spend significant time in collaborative activities (Cross, Rebele, & Grant, 2016). Second, domain-relevant knowledge reflects the factual knowledge, technical skills, and special talents relevant to the domain of interest (Amabile, 1983). Given that friendships foster learning (Roberts, 2009), employees with friends at work are more apt to share information and offer diverse perspectives to enhance domain expertise. Third, creative thinking skills involves a cognitive style where employees adopt different ways of thinking to generate alternative ideas, which helps employees to think differently about their knowledge domains

(Amabile, 1996). We reason that employees with workplace friendships are better positioned to think creatively because employees with enduring work relationships are more willing to share and receive information (Bouty, 2000). As such, there is little surprise that social interactions (Groenewoudt, Rooks, & Gool, 2019) and high-quality relationships (Liu, 2013) are linked to the generation of creative ideas.

In sum, we predict that fun activities affect the social context in which employees operate, such that employees who participate in fun activities experience positive social interactions (Fluegge-Woolf, 2014; Sørensen & Spoelstra, 2012). Research suggests that these fun activities foster a social context that allows employees to create and maintain their friendships with others (Jaussi et al., 2017; Mainemelis & Ronson, 2006). Lastly, we propose that these friendships make employees feel motivated to share, exchange, and combine their information to produce novel and useful ideas (Nahapiet & Ghoshal, 1998).

Hypothesis 1: Participation in fun activities positively relates to individual creativity via workplace friendships.

The Moderating Role of Manager Status

Although fun activities can represent important opportunities for employees to build and strengthen their social capital, we acknowledge that employees can experience fun activities differently (Tang, Liu, & Liu, 2017), which inherently affects how they develop and strengthen their social capital. One important characteristic that affects this social capital relates to the power inherent in specific positions (Lee & Tiedens, 2001). Research reveals that individuals who are in high-power positions, such as managers, are often socially distanced from those in low-power positions (Kipnis, 2006; Lammers, Galinsky, Gordijn, & Otten, 2012). This vein of research corroborates studies that suggest that many employees in high-power positions often

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feel 'lonely at the top' (Mao, 2006; Zumaeta, 2019). Based on this research that underscores how differences in power can affect social capital, we argue that manager status moderates the effect between participation in fun activities and workplace friendships, such that this relationship is weaker for managers compared to non-managers.

Although managers and non-managers can both participate in fun activities, we draw insights from the social norms literature to suggest that managers experience fun activities differently than non-managers because of the norms inherent in managerial roles. In fact, research underscores how norms can importantly affect decision-making processes in the workplace (Chang, Milkman, Chugh, & Akinola, 2019). For instance, Neeley and Reiche (2020) found that managers who went on international assignments often made the decision to conform to the social norms that were inherently expected of managers in particular contexts. This research corroborates insights from the social norms literature (Cialdini & Trost, 1998; Deutsch & Gerard, 1955) that suggest that managers are in high-power positions that subject them to social norms that govern how they carry out their role as managers, which inherently affects how they participate in fun activities and the subsequent effect on their workplace friendships. Given that managerial roles entail certain behavioral expectations (Borman & Brush, 1993), there are often clear expectations that indicate how managers are expected to interact with others. For instance, Berman and colleagues (2002) reveal that it is much more acceptable for managers to form friendships with other managers (i.e., lateral friendships) than with subordinates (i.e., vertical friendships). Therefore, although managers can participate in fun activities, we argue there is an inherent social norm that implies that managers should maintain their distance from their employees. As such, managers experience fewer opportunities to strengthen their relational social capital (i.e., workplace friendships) during fun activities when compared to non-managers.

As such, there is little surprise that, in contrast to those in lower hierarchical positions (i.e., low-power positions), individuals who occupy elevated hierarchical positions (i.e., high-power positions) are less likely to disclose and request personal information (Earle, Giuliano, & Archer, 1983). Research by Waytz and colleagues (2015) further reveals that individuals in high-power positions are often provided with distinct access to social opportunities that decreases the need to belong and subsequent reports of loneliness. This research implicitly suggests that, in comparison to non-managers, managers who participate in fun activities are less likely engage in conversations that involve self-disclosure, which is necessary for workplace friendships (Sias & Cahill, 1998). Research further reveals that employees in high-power jobs (which includes managers) typically have fewer workplace friendships (Mao, 2006). Taken together, while participation in fun activities can lead to workplace friendships, this effect will be weaker for managers compared to non-managers.

Hypothesis 2: Manager status moderates the strength of the positive relationship between participation in fun activities and workplace friendships, such that this relationship will be weaker for managers compared to non-managers.

Blending these arguments, we argue that fun activities present opportunities within the organizational social structure for meaningful social interactions, which facilitates workplace friendships. However, this relationship is weaker for managers because the social norms associated with managerial positions naturally limit the available opportunities for managers to build their friendships during these fun activities. Furthermore, social capital theory (Nahapiet & Ghoshal, 1998) suggests that employees with workplace friendships are more likely to exchange and combine their knowledge with others, which leads to more novel and useful ideas. In sum,

we hypothesize a moderated mediated relationship, whereby manager status moderates the indirect effect between participation in fun activities and creativity via workplace friendships.

> *Hypothesis 3: Manager status moderates the strength of the mediated positive relationship between participation in fun activities and individual creativity via workplace friendships, such that the relationship will be weaker for managers compared to non-managers.*

METHOD

Procedure and Sample

One of the authors solicited voluntary participation from employees working in a high-tech startup in Canada that embodies a fun workplace, which made it a suitable context to test our hypotheses. Data were collected at three points in time using a time-lagged design with one-week intervals, which helps to reduce common method bias concerns (Podsakoff, MacKenzie, & Podsakoff, 2012). Unique identification numbers were used to link employee surveys over time. All 389 employees were invited to participate in each of the three survey waves via email invitations with two subsequent reminders. There were 215 employees who completed the first survey (55% response rate), 219 employees who completed the second survey (56% response rate), and 213 employees who completed the third survey (55% response rate). Overall, 165 employees completed all three surveys, which resulted in an overall response rate of 42%. The overall response rate was deemed acceptable because the response rate was above 50% for each wave (Baruch & Holtom, 2008).

Preliminary analysis revealed very little missing data (i.e., less than 1%) in our original sample (n = 165). Following the guidance of Little and Rubin (1989), who deemed listwise deletion is an appropriate approach when missing data is less than 5 percent, as well as others in

the creativity space who have also used listwise deletion (Zhang et al., 2020), we used listwise deletion to handle the missing data. Specifically, we removed two respondents from the dataset, as they did not complete all line items in the surveys. As such, our final sample involved 163 respondents.

The final sample was well-educated (76% held a university degree or higher) and male-dominated (71%). The male-dominated nature of this sample was consistent with the overall gender composition of the organization (i.e., 71% of the workforce comprised male employees), which underscores the adequacy of this sample (Baruch & Holtom, 2008). The majority (68%) of respondents were between the ages of 18 and 35 years old, which compares to the overall composition of the organization in that 50% of the workforce was between 18 and 35 years old. The average organizational tenure was 1.4, whereas the average number of years in the field was 11.9 years. Almost one quarter (24%) of managers were responsible for managing between 2 and 19 employees.

Measures

Time 1 variables. Manager status was measured using organizational records. The organization indicated whether yes (i.e., coded as 1) the employee is responsible for managing employees, or no (i.e., coded as 0) the employee is not responsible for managing employees.

Participation in fun activities (employee-rated) was measured using Tews et al.'s (2014) 5-item scale. An example item of participation in fun activities is "Public celebrations of work achievements (e.g., public recognition for outstanding results)". Similar to the approach adopted by Tews and colleagues (2014), some items were slightly modified for the current context to capture the essence of fun activities in this organization through conversations with the Vice President of Human Resources (HR). For example, we modified the original item of

"Competitions (e.g., team sales and productivity contests)" into the modified item of "Competitions (e.g., Halloween costume contest, fitness challenge)" to better suit the current context. The Vice President of HR further verified that these fun activities were optional (i.e., none of the activities were mandatory). Individuals responded to items using a 5-point Likert scale ranging from 1 (never) to 5 (all the time). Cronbach's alpha is .75. Similar to Tews et al. (2014), we theorized the effect of fun activities at the individual-level of analysis (as opposed to the group-level). The intraclass correlations (ICC) were assessed to ensure that the amount of variance explained by group membership [i.e., ICC(1)] and the interrater reliability among participants within each unit compared to those participants between units [i.e., ICC(2)] to reflect individual-level phenomena. In line with Bliese's (2000) recommendations for multi-level research, the results reveal that participation in fun activities [ICC(1) = .15; ICC(2) = .34] reflects an individual-level phenomenon.

Time 2 variables. We measured the prevalence of workplace friendships (employee-rated) using a 6-item scale (Nielsen, Jex, & Adams, 2000). Respondents were asked to assess 6 items (e.g., "I have formed strong friendships at work") using a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Cronbach's alpha is .86.

Time 3 variables. Creativity was operationalized in the third survey using Madjar, Greenberg, and Chen's (2011) two-dimensional measure of creativity (employee-rated). Individuals responded to three line items about incremental (e.g., "I am good at adapting already existing ideas") and three line items about radical (e.g., "I suggest radically new ways for doing my work") creativity using a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree). These subscales were combined to measure the overall level of creativity.

We conducted confirmatory factor analysis (CFA) on the line items to ensure that we could use them as an overall measure of creativity. Two models were compared. The first was a model that considered a single factor of creativity ($\chi^2 = 28.096$; $df = 8$; $\chi^2/df = 3.512$; CFI = .95; TLI = .91; RMSEA = .13; SRMR = .07) and the second considered a two-factor model of creativity ($\chi^2 = 13.94$; $df = 7$; $\chi^2/df = 1.99$; $\Delta\chi^2 = .14.16$***; CFI = .98; TLI = .97; RMSEA = .07; SRMR = .06). This comparison reveals that the two-factor model outperforms the single factor model of creativity. As such, we retained the two-factor model of creativity. Cronbach's alphas are .79 and .84 for incremental and radical creativity, respectively.

Other variables. Age, gender, education, and team size were collected at Time 1 and included as control variables in the analyses. Age and gender were controlled for in the analyses based on research that shows these demographic variables are correlated with creativity (Tse, To, & Chiu, 2018). Following the lead of Shin and colleagues (2012), we controlled for education and team size as both may influence creative thought processes that are necessary to generate useful and novel ideas.

Data Analysis

We first validated our study measures by performing CFA using AMOS (version 25) on the hypothesized measurement model, which included four latent variables (i.e., participation in fun activities, workplace friendships, incremental creativity, radical creativity). All study variables were ordinal and, all paths were freely estimated and error variances were constrained to one. The fit of the model was assessed based on the following metric recommendations. The chi-square goodness of fit to degrees of freedom ratio (χ^2/df) should be less than 2 (Tabachnick & Fidell, 2007). The comparative fit index (CFI) and Tucker-Lewis index (TLI) should be at least .90 (Bentler, 1990; Browne & Cudeck, 1993). Root mean square error of approximation

(RMSEA) is recommended to be less than .07 (Steiger, 2007). Lastly, the standardized root mean square residual (SRMR) should be less than .08 (Hu & Bentler, 1999). Maximum Likelihood was selected as the estimator in AMOS. We tested the mediation hypotheses using nested structural equation models (Shrout & Bolger, 2002) and the moderation hypotheses using latent interaction structural equation modelling (SEM) techniques (Steinmetz, Davidov, & Schmidt, 2011). We tested the significance of the hypothesized direct, indirect, and moderating paths using bootstrapping procedures (Shrout & Bolger, 2002). Bootstrapping is a technique where numerous samples with replacement are drawn in order to determine the confidence interval of an indirect effect (Collier, 2020). Specifically, we used 5,000 bootstrapping samples.

RESULTS

The means, standard deviations, and correlations between study variables are summarized in Table 1. One correlation is above .4 (i.e., between incremental and radical creativity), which indicates a low likelihood of multicollinearity. Our CFA for the hypothesized measurement model revealed adequate fit (χ^2 = 52.13; df = 48; χ^2/df = 1.086; CFI = .99; TLI = .99; SRMR = .05; RMSEA = .03). We compared the hypothesized measurement model to a one-factor model in which all of the hypothesized variables were set to load on a single underlying factor (χ^2/df = 1.11; $\Delta\chi^2$ = 4.41 (p < .05); CFI = .98; TLI = .98; SRMR = .05; RMSEA = .03). In comparison to the one-factor model, the hypothesized measurement model showed superior goodness-of-fit metrics, and a significant change in the chi-square test.

INSERT TABLE 1

Direct and Indirect Effects

SEM analysis revealed adequate fit (χ^2 = 145.82; df = 87; χ^2/df = 1.67; CFI = .92; TLI = .90; SRMR = .09; RMSEA = .06) for the hypothesized structural model. This research proposes

a mediating effect between participation in fun activities and individual creativity via workplace friendships. To assess whether there are both direct and indirect effects on this relationship, the hypothesized model was compared to an alternative model that involved an additional direct path between participation in fun activities and each dimension of creativity (i.e., incremental, radical). The alternate model did not demonstrate superior model fit than the hypothesized model (χ^2 = 142.69; df = 85; χ^2/df = 1.68; $\Delta\chi^2$ = 3.13 (*n.s.*); CFI = .92; TLI = .90; SRMR = .09; RMSEA = .06). For parsimony, the hypothesized structural model was retained.

INSERT FIGURE 2

SEM results are summarized in Figure 2. The results show a significant positive relationship between participation in fun activities to workplace friendship (β = .530, CI [.278, .710], p < .01) and between workplace friendship and incremental creativity (β = .187, CI [.031, .340], p < .05). The relationship between workplace friendship and radical creativity was insignificant (β = .124, CI [-.063, .266], *n.s.*). The first hypothesis posited that workplace friendships mediates the relationship between participation in fun activities and creativity, namely, incremental creativity and radical creativity. The results show that, via workplace friendships, participation in fun activities has a positive indirect effect on incremental creativity (β = .099, CI [.019, .213], p < .05). The indirect effect of participation in fun activities on radical creativity, via workplace friendships, was insignificant (β = .066, CI [-.030, .153], *n.s.*). Therefore, partial support is offered for Hypothesis 1.

Moderation Effects

Latent interaction SEM techniques were used to test the moderation hypotheses (Steinmetz et al., 2011). The second hypothesis posited that manager status moderates the

relationship between participation in fun activities and workplace friendships. To examine the

moderating role of manager status, we first centered our independent and moderating variables

(Shrout & Bolger, 2002) and then multiplied them to develop an interaction term (i.e.,

participation in fun activities X manager status). Results show manager status significantly

moderates the relationship between participation in fun activities and workplace friendships (β =

-.238, CI [-.372, -.098], p < .05). The simple slopes shown in Figure 3 reveals that participation

in fun activities is a significant positive predictor of workplace friendships for non-managers (γ =

.618, CI [.432, .792], p < .01), whereas the same relationship is insignificant for managers (γ =

.061, CI [-.249, .326], *n.s.*). These results show that the direct effect between fun activities and

workplace friendships is weaker for managers compared to non-managers. Given that we

hypothesized that this direct effect would be weaker for managers, the results provide support for

Hypothesis 2.

INSERT FIGURE 3

Lastly, Hypothesis 3 posited that the positive indirect effect of participation in fun

activities on employee creativity – incremental creativity and radical creativity – via workplace

friendships will be weaker for managers than non-managers. Hypothesis 3 was supported by the

data for one dependent variable (i.e., incremental creativity), however, it was not supported by

the data for the other dependent variable (i.e., radical creativity). The results show that, for non-

managers, there is a positive indirect effect of participation in fun activities on incremental

creativity (γ = .073, CI [.022, .141], p < .05) but not radical creativity (γ = .074, CI [-.015, .147],

n.s.) via workplace friendships. For managers, the indirect effect of participation in fun activities

on incremental creativity ($\gamma = .007$, CI [-.034, .044], *n.s.*) and radical creativity ($\gamma = .007$, CI [-.031, .043], *n.s.*) via workplace friendships was insignificant.[1]

DISCUSSION

Despite the budding area of workplace fun research and the plethora of studies that shed important insights into how creativity manifests in organizations, there have been limited efforts to blend these two streams of research. We expand this dialogue with a field study that examines the indirect effect of participation in fun activities on creativity via workplace friendships. The results support this mediation for incremental creativity, but the mediation path for radical creativity was insignificant. The results further suggest that the relationship between fun activities and workplace friendships was indeed weaker for managers compared to non-managers. Lastly, the results show that participation in fun activities contributes to incremental creativity via workplace friendships, particularly for non-managers.

Theoretical Contributions

First, although creativity research demonstrates that input constraints (e.g., time constraints) may affect creativity (Byron, Khazanchi, & Nazarian, 2010) through motivational and cognitive processes (e.g., Chen et al., 2020), research on the effect of input constraints on creativity via social processes is nascent (Acar et al., 2019). We advance this literature by showing that, even though participation in fun activities may result in time constraints for employees, they also allow employees to strengthen their workplace friendships, which is critical to foster their creativity. In other words, while participation in fun activities may be an input constraint, it importantly allows for social interactions that strengthen workplace friendships,

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[1] One additional analysis was conducted. Given evidence of the quadratic relationship between strength of relations and knowledge creation (McFadyen & Cannella, 2004), we examined our moderated mediation model involving a quadratic effect between workplace friendships and creativity. This additional analysis revealed no significant effects.

which leads to more useful and novel ideas. Specifically, the results reveal that participation in

fun activities indirectly relates to incremental creativity, but not radical creativity. This study

furthers this line of inquiry by showing that social interactions unrelated to work (i.e., fun

activities) can also spark individual creativity.

Second, although there are some mixed effects with respect to the effects of fun activities

on employee behaviors (Michel et al., 2019), our research seeks to unearth some of this

complexity by investigating the mediating effect of the social role of workplace friendships.

Drawing from social capital research (Nahapiet & Ghoshal, 1998), our results suggest that, to

relish the positive effects of fun activities, employees should build their relational social capital,

which includes their workplace friendships. Stated differently, employees who develop relational

social capital from participating in fun activities are well-suited to engage in incrementally

creative thought processes. In doing so, we address some of the mixed evidence in the literature

that suggests there may be negative effects associated with fun activities, but our research

suggests that perhaps this vein of research is missing an important piece of the puzzle – that is,

the distinct opportunities inherent in these fun activities to connect with others to develop

workplace friendships.

Third, we further seek to contribute to the literature that suggests employees do not share

a universal experience when it comes to fun activities (Michel et al., 2019) by investigating the

differential experiences of managers and non-managers. Our results show that the direct effect of

participation in fun activities on workplace friendships is weaker for managers compared to non-

managers. In other words, the results support our argument that there are social norms related to

managerial roles that can govern the experience of fun activities for managers, which suggests

that the experience of fun activities unfolds in different ways for different types of employees,

such as those with managerial status. The results further reveal that participation in fun activities leads to strengthened workplace friendships particularly among non-managers, thereby leading to greater incremental (but not radical) creativity. These results offer an important extension to the literature as it advances the nascent area of research on how employees differently experience fun activities (e.g., Lamm & Meeks, 2009). This study shows that managers and non-managers do *not* have the same experience with fun activities, which underscores the need for organizations to think more carefully about how they design fun activities to meet the needs of both of these employee groups.

Limitations and Avenues for Future Research

In line with much of the literature (Yuan, Li, Mai, Ye, & Yu, 2020), we framed workplace friendship as a positive and valued relational dimension of social capital. Nevertheless, we recognize that workplace friendships may not always result in positive outcomes (e.g., Methot, Lepine, Podsakoff, & Christian, 2016). Therefore, more research is needed to examine the boundary conditions that might strengthen and hamper the positive effects of workplace friendships on creativity. Furthermore, it may also be fruitful to delve into the potential unique effects of workplace friendships on incremental and radical creativity by examining the role of potential mediators and possible moderators. To illustrate, future research should examine the boundary conditions that may strengthen (or attenuate) the effect of workplace friendships on incremental creativity. Furthermore, one statistical limitation of this research was that we used Maximum Likelihood as an estimator in our CFA even though our data were ordinal in nature (i.e., our scales used 5-point Likert scales). Future research should consider using diagonally weighted least squares mean and variance (WLSMV) – an estimator

that is not available in AMOS – for ordinal data because it has been specifically designed for ordinal data.

Furthermore, although this field study was intentionally conducted within the high-tech sector in the Western context, there remains a need to examine how these relationships may unfold in a different work (i.e., not high-tech) and cultural context (e.g., Eastern context). Given the importance of fun activities and creativity throughout many organizations, future research should investigate how workplace friendships form longitudinally as a result of employee participation in fun activities. Lastly, we call for more research to replicate the study results. Although we used a three-wave, two-source dataset, which reduces some common method concerns (Podsakoff et al., 2012), we encourage researchers to use additional sources of data (e.g., supervisor-rated creativity) to further reduce potential common method concerns, where possible.

Practical Implications

Managers should seek to ensure that all fun activities comprise meaningful opportunities for employees to informally connect with others and should actively seek to encourage employees to participate in these fun activities. However, it must be further recognized that this research reveals that non-managers are more likely to benefit as a result of their participation in fun activities. Managers must recognize that these fun activities must be designed to focus on strengthening workplace friendships to generate more creative ideas from employees. In other words, simply offering fun activities does not generate more creativity, but these activities must create stronger workplace friendships. As such, organizations must ensure that these fun activities provide employees with frequent opportunities to connect with others to strengthen these friendships.

Lastly, there is widespread recognition that many managers are working long and intense hours, which underscores the need for targeted social support to help these managers navigate their challenging work terrains (Parris, Vickers, & Wilkes, 2008). Knowing that there are more strict parameters surrounding workplace friendships among managers (Berman et al., 2002), senior organizational leaders should seek to offer unique opportunities for managers to strengthen their workplace friendships to garner the social support needed to help them make it through their challenging work. For example, organizations may offer manager-only fun activities, or they may encourage and support managers who want to make connections at industry conferences with other managers in the field. Taken together, we not only encourage senior organizational leaders to foster creativity by developing friendship-inducing fun activities, but we also encourage researchers to continue to contribute to this important dialogue with ideas that make an impact.

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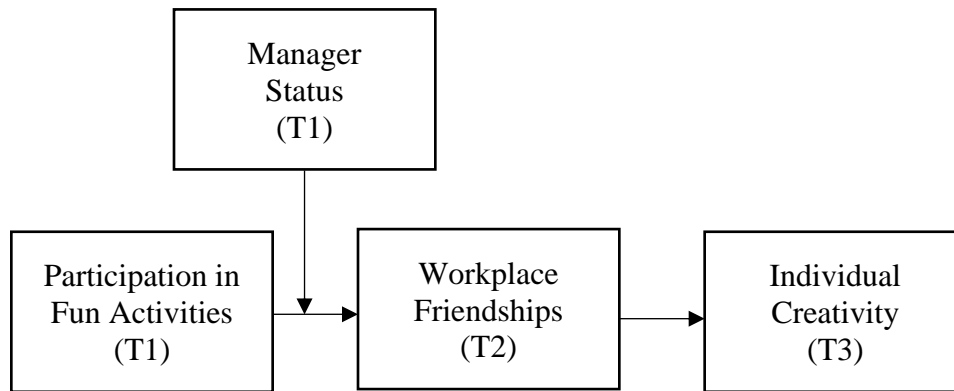
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Figure 1: *Hypothesized model*

```
        ┌─────────────────┐
        │    Manager      │
        │    Status       │
        │    (T1)         │
        └────────┬────────┘
                 │
                 ▼
┌──────────────┐  ┌──────────────┐  ┌──────────────┐
│Participation │  │  Workplace   │  │  Individual  │
│in Fun        │→ │ Friendships  │→ │  Creativity  │
│Activities    │  │    (T2)      │  │    (T3)      │
│(T1)          │  │              │  │              │
└──────────────┘  └──────────────┘  └──────────────┘
```

Note. T indicates time period data was collected. Participation in fun activities, workplace friendships, and creativity are based on self-report data. Manager status is based on organizational records.

Figure 2: *Structural equation modeling results*
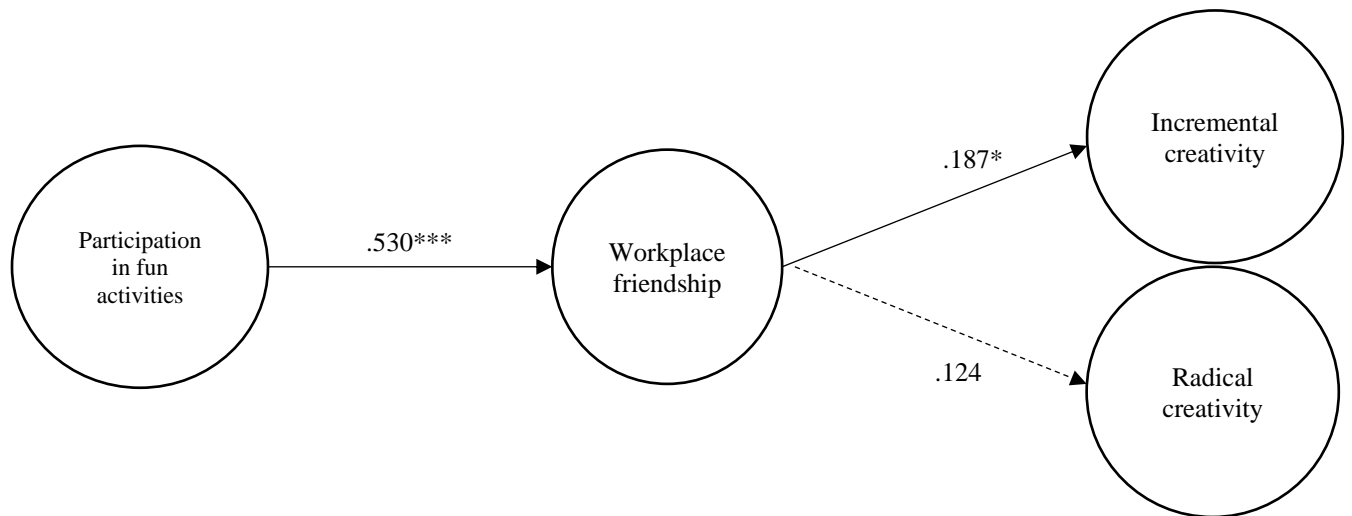
Note. n = 163. Standardized regression coefficients are shown. * $p < .05$. *** $p < .001$. Gender, age, education, and team size were included as control variables. There was a significant indirect effect of participation in fun activities on incremental creativity ($\beta = .099$, CI [.019, .213], $p < .05$) but not on radical creativity ($\beta = .066$, CI [-.030, .153], *n.s.*).

Figure 3: *Manager status moderates the relationship between participation in fun activities and workplace friendship*
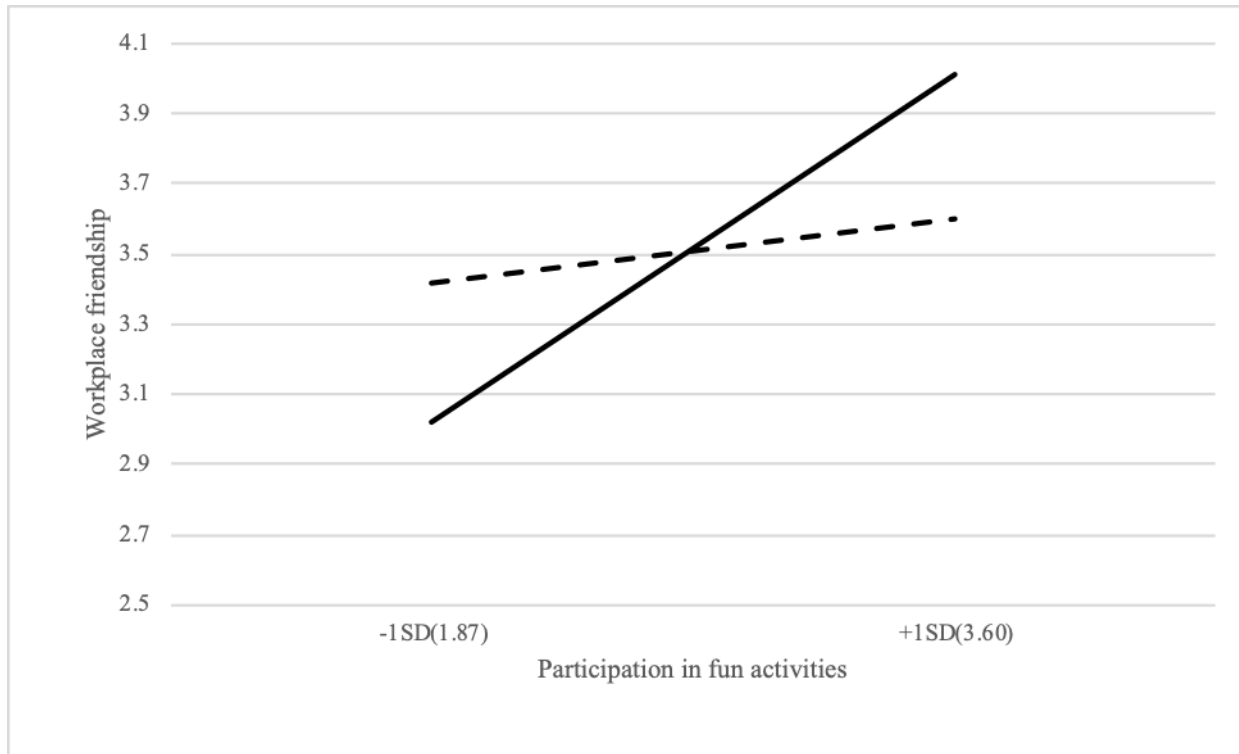
Note. The straight (i.e., non-dashed) line refers to non-managers. The dashed line refers to managers.