Intellectual stimulation and team creative climate in a professional service firm

STRUCTURED ABSTRACT

Purpose: To investigate the precise role of intrinsic motivation and autonomy in relation to intellectual stimulation in creating a creative climate in a professional services firm. The intention is to discover whether neo-classical approaches in Nordic knowledge-work contexts that have stressed the primacy of employee monitoring and control find support, in order to assist practitioners.

Design/method: We propose and test a model for the relationship of interest. Our theoretical model is tested through analysis of multilevel data gathered across in two iterations over 2 years from 177 employees and 64 teams in one company.

Findings: We find that intrinsic motivation and autonomy fully mediate the relationship between intellectual stimulation and creative climate. Autonomy exercises a stronger mediating effect than intrinsic motivation.

Limitations: The single company research context's specificity; causal relationships between variables cannot be empirically investigated; the verified research model cannot claim to represent how the organization actually functions, for which qualitative work is required.

Implications: Theories stressing the primacy of employee autonomy are supported over those emphasising a need for management to monitor and control autonomy-seeking employees

Originality/value: We contribute by showing the primacy of perceived employee autonomy in creating a creative climate among knowledge workers.

Keywords: creative climate; intrinsic motivation, autonomy, intellectual stimulation; professional service firms

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We examine the relationships between intellectual stimulation, creative climate, employee intrinsic motivation, and autonomy in project teams in a leading professional service firm (PSF). Research examining these relationships in PSFs has been scarce, although it is important since the rise of the knowledge economy has made the management of creative employees a prominent issue in many companies worldwide.

We respond to recent calls for research in the area. van Knippenberg and Sitkin (2013) called for more research on the specific dimensions of transformational leadership (such as intellectual stimulation) and how they relate to employee behaviours. More specifically, Mainemelis et al. (2015) describe it as alarming that limited research exists on the distinct contribution of intellectual stimulation. PSFs such as those providing services to other companies in law, accounting and the very broad field of consultancy are knowledge-intensive firms (Nordenflycht, 2010). PSFs constitute sites where such calls are especially relevant because they require intellectual stimulation, employee autonomy, and intrinsic motivation in meeting client needs and developing customized solutions to novel client problems (Malhotra, 2003). PSF employees often operate as consultants to customers working in a broad range of industrial sectors with a wide range of requirements. It has been argued that PSFs therefore need leaders that promote autonomy, decentralization, and informality to be successful (Afsar et al., 2017; Bos-Nehles et al., 2017; Millar et al., 2017), although which leadership behaviours facilitate this remains only weakly understood. Therefore, we suggest that leaders that use intellectually stimulating leadership behavior will have an impact on employee's team autonomy and intrinsic motivation, which may affect their creative climate. In short, exactly *how intrinsic motivation and autonomy relate to leadership styles in stimulating a creative climate* is our research issue.

We contribute to recent discussions of the management of knowledge workers (Bergström et al., 2009; Bos-Nehles et al., 2017; Boxall et al., 2014; Cäker and Siverbo, 2014; Millar et al., 2017; Thompson and Heron, 2005). Knowledge workers expect high levels of work autonomy. It has been observed that some Swedish companies have sought to manage such workers either by the use of intense monitoring and control systems (Bergström et al., 2009) or by using a combination of technocratic controls, organisational structure and communication (Cäker and Siverbo, 2014). In the case of consultancies such as the research site featured here, customer billing procedures are extremely detailed and serve as a method of employee monitoring and control as well as one for charging clients (Malhotra et al., 2016). Whether this is an optimal or indeed the only approach required is an issue.

In our next section, we outline the national and company contexts. Subsequently, we develop and then empirically test a model of the relationship between intellectual stimulation and creative climate that incorporates autonomy and intrinsic motivation as mediators.

NATIONAL AND COMPANY RESEARCH CONTEXTS

Within the Nordic region, Norway's model of work and employment relations is strongly distinctive in workplace regulation terms. High levels of statutory employment protection and unionization, extensive employee involvement in corporate governance and wide employee discretion in work processes are founded on extensive employee power resources while democratic cultures are common in Norwegian working environments (Dobbin and Boychuk, 1999; Gallie, 2007; Gooderham et al., 2015). This is confirmed by Botero et al's (2004) index of international labour regulation. The index transcends a simple measure of legal regulation, to encompass the effects of systems of employee representation and their influence in practice (Botero et al., 2004). The index therefore reflects more than the constraints imposed by

regulatory structures, but also measures the power of norms in the sense of mutually-reinforcing obligations between actors. Thus, the national institutional context creates a very stable and secure environment for employees, even those working for companies such as that under consideration here, which is informed by international PSF practice.

The company under consideration is a Norwegian member firm, affiliated to a multinational professional service firm. The multinational firm has more than 225,000 professional employees worldwide (locally, 1,200). The global network is one within which independent firms collaborate internationally to provide audit, consulting, financial advisory, risk management, and tax services. By providing these services to multiple customers, insights into customer's needs are gained, specialized expertise is developed, and reputation and legitimacy for solving novel and complex problems is built (Boussebaa et al., 2012). The firm thereby develops national-level customized–co-produced services into standardized services over time. Each member firm in the global network is a separate and independent legal entity, subject to the laws and professional regulations of the particular country or countries in which it operates. Thus, local management is relatively autonomous and operates with a high level of operational and HR freedom within the multi-national. It is not typical of Norwegian companies in that it is not party to the national collective pay bargain and pay is individually-negotiated and occasionally large bonuses are individually-awarded. It is also atypical in having a woman CEO; despite Norwegian law requiring a quota of women on boards, women CEOs are not common (Smith et al., 2006).

The global network offers independent national firms' staff a variety of career models to choose from based on their preferences, strengths, geographic location and business need. The models are quite flexible: they vary for each function and in some cases across different member firms around the world. Traditional titles for Consulting are Analyst, Consultant, Senior

Consultant, Manager, Senior Manager, Director and Partner. Thus, negotiated choice is absorbed into employee expectations. Senior management fully recognizes the importance of creativity in the company's work, but targets for income from consulting are also demanding in relation to those of comparator firms. Time accounting is therefore comparatively strict. Thus, there are trade-offs between creativity and company demands and this is reflected in high employee turnover.

Most activities occur in project teams in which employees from different business areas and professions collaborate. Employees will often face a situation in which they have to relate to several managers and different conceptions of problems to be addressed, both in the employing organization and at the client firm. The staffing of a project consists of a partner who has overall responsibility, a project leader, and employees. Projects may also have a manager at the client firm. All employees in the firm are assigned an internal 'mentor' employed by the firm, who has responsibility for appraisal, competence, and career development. The role of the mentor has been widely introduced in PSFs internationally to enable companies to retain talents below the Partner rank and improve work-life balance and in this sense our PSF reflects international practice (Malhotra et al., 2016). In our company, employees generally have much more contact in their daily activities with the project manager(s) than the mentor and we therefore expect as a result that the emphasis is on task completion rather than staff development. The company typically promotes itself as 'passionate' about helping new graduates to launch their careers. Although an 'up-and-out' principle was previously the firm's main principle of human resource management, in the case study company, as in other PSFs internationally current policy is more flexible (Malhotra et al., 2016), and some employees are long-serving; improved work-life balance is claimed. The turnover rate however remains high in comparison with non-PSF companies, but typical for comparable PSFs. It averages 12-13 per cent per year, although in

some departments it reaches 20 per cent. This reflects a perception of employment in the company as a useful if high-pressure environment in which employees can obtain useful early career experience. At the same time, a core of employees is relatively stable. Teams tend to involve combinations of more and less experienced employees.

Overall, the case study PSF constitutes a hybrid of international PSF practice and Norwegian national specificities. Strong national regulation constitutes the backdrop to the more neo-liberally inspired management practice common in PSFs.

HYPOTHESIS DEVELOPMENT

Creativity involves the creation of a valuable, useful new product, service, idea, procedure, or process by individuals working together in a complex social system (Woodman, 2014). Creativity is distinct from innovation (Shalley and Gilson, 2004) as it is more closely related to human personality and higher order cognition. However, both have been seen as part of a continuous set of related capacities (Mainemelis et al., 2015). Mumford and Gustafson (1988) reviewed the literature on creativity and innovation concluding that an individual's willingness to innovate is dependent on the organizational climate. Ekvall (1996) defines climate as the observed and recurring patterns of behavior, attitudes, and feelings that characterize life in the organization. Thus, organizational climate arises in the interactions between individuals and routines, rules, procedures, strategies, policies, and the physical environment.

Intellectual stimulation and creative climate

Bass (1985) proposed that intellectual stimulation is a specific dimension which may be used to influence creativity. Intellectual stimulation occurs when the leader stimulates their

followers' effort to be innovative and creative by questioning assumptions, reframing problems, and approaching old situations in new ways. Thus, intellectual stimulation encourages creativity and stimulates problem solving. Employees are encouraged to try new approaches, and their ideas are not criticized because they differ from their leaders' ideas (Bass and Riggio, 2006). Intellectually stimulating leaders may adopt an explorative thinking style and think "outside the box" (Jung et al., 2003).

At the individual level, research (including two meta-analyses), supports a positive relationship between intellectual stimulation and creativity (Hammond et al., 2011; Wang et al., 2011). At the team level, several studies also report a similarly positive relationship (Eisenbeiss et al., 2008; Gumusluoglu and Ilsev, 2009; Shin and Zhou, 2003; Shin and Zhou, 2007). For instance, it has been found that the psychological capital of team members is positively correlated not only to creativity, but often emerges from positive leadership behaviors such as intellectual stimulation (Zhou and George, 2001). This relationship therefore appears well-established and relatively uncontentious, but it is necessary initially to confirm that this general relationship obtains in our case study company. Therefore, we propose as our cornerstone hypothesis:

Hypothesis 1: Intellectual stimulation is positively related to creative climate.

The mediating role of intrinsic motivation

In our next two hypotheses, we posit that intrinsic motivation and high levels of autonomy mediate the effect proposed in hypothesis 1.

Intrinsic motivation refers to the desire to expend effort based on interest in and enjoyment of the work itself (Gagné and Deci, 2005). Intrinsic motivation is a potent predictor of a set of positive outcomes including work performance, satisfaction, organizational commitment, and creativity (Amabile et al., 1996; Gagné and Deci, 2005).

The first step towards our next hypothesis posits a link between intellectual stimulation and intrinsic motivation. Although transformational leadership as a general practice has been empirically associated with intrinsic motivation, few studies have explicitly examined the specific dimension of intellectual stimulation (van Knippenberg and Sitkin, 2013). van Knippenberg and Sitkin (2013) also point out that extant research argues for direct relationships between different transformational leadership, aspects of organizational justice and intrinsic motivation. In our context, where employees frequently perceive their employment primarily as an important initial phase in their wider career development, intellectual stimulation may be viewed as an aspect of organizational justice. Shin and Zhou (2003) found in a sample of managers and employees from 46 companies that intrinsic motivation partly mediated the relationship between transformational leadership and creativity. Collectively, these studies suggest that intellectual stimulation encourages self-initiation and absence of control that will stimulate the feeling of intrinsic motivation.

The second step in our argument towards H2 posits a relationship between intrinsic motivation and creative climate. Amabile (1996) suggests that an individual's intrinsic task motivation plays an important role in creativity. Her 'intrinsic motivation principle of creativity' specifies that intrinsic motivation is conducive to creativity, while extrinsic motivation can be detrimental. Using similar argumentation, Csikszentmihalyi (1996) proposed that creativity arises in "autotelic" activities, where rewards stem from engagement in the activity itself, rather than from an external source. Recent findings confirm these observations. When individuals are intrinsically involved in their work, they are more likely to devote all of their attention to the problems they encounter (Zhang and Bartol, 2010).

Thus, we propose Hypothesis 2: Intrinsic motivation mediates the relationship between intellectual stimulation and creative climate.

The mediating role of autonomy

Autonomy is a relative term, since *a priori*, no organization can permit complete employee autonomy and retain organisational coherence. Job autonomy refers to the degree to which the job provides substantial freedom, independence and discretion to the individual in scheduling work and in determining the procedures to be used in carrying it out (Hackman and Oldham, 1976). In this context, we refer to employee perceptions of autonomy. We include decisions about what work will be done by individuals in our definition. This substantial degree of autonomy may be less common in other organisations, but has a role in consultancy work, because of the need to customize solutions the needs of clients (Donelly, 2006; Mastekaasa, 2011), in which problem definitions may be open to debate and have job content consequences. We therefore operate with a radical conceptualization of what autonomy entails as it fits the firm research context.

A relatively high degree of autonomy compared to other knowledge work is in part dictated by the nature of PSFs work. Consultants in these organisations have many different customer companies with very varied problems that require creative solutions; they therefore exert considerable centrifugal influence on them (Kristensson et al., 2004; Kristensson et al., 2008). On the other hand, it has been argued that a countervailing need exists in project-led organisations: to maintain organizational coherence. The danger in project organizations according to Whitley (2006) is of organisational incoherence, whereby the overall organisation suffers from a weak identity. Moreover, Barrett (2005) emphasizes that knowledge workers are often autonomy-seeking and identify more with their profession than with specific companies,

thereby weakening identification and potentially commitment. Several researchers argue therefore that intellectual stimulating leaders must find an optimal balance between autonomy and structure (Bos-Nehles et al., 2017; Millar et al., 2017). Optimality appears likely to be contextually specific; ours is of one PSF, typical of a significant sub-set of knowledge-based organisations. Thus, autonomy is related to a reduction of the organizational constraints associated with routines, formal control systems, and specific job demands.

Leadership style may also impact autonomy. Griffin (1981) found empirically that leader behaviors intended objectively to promote autonomy were related to how employees actually perceived autonomy in fulfilling their tasks. Griffin et al. (1987) then used 200 undergraduate students in a study in the US. He increased perceptions of autonomy by reducing guidelines and letting participants make their own decisions in relation to tasks. As argued above in relation to H1, employees encouraged to adopt new approaches may also, *a priori* and almost axiomatically, seek autonomous solutions across the range of tasks, from task definition to practical approaches to solutions. The mechanism involved may be that intellectual stimulation has a general effect that promotes demands for team autonomy, particularly in a context where acquisition of expertise is at a premium. In line with previous research, Piccolo and Colquitt (2006) established that autonomy mediated the relation between transformational leadership and forms of creativity tied to citizenship behavior. Therefore, we argue that intellectual stimulation may stimulate the wish for autonomy, and provide employees with enhanced responsibility and decision making. To complete the theoretical loop, autonomy may also enhance a creative climate. Perceived job autonomy plays a central role in Amabile's (1996) theory of creativity where a highly autonomous work environment is suggested to lead to individual creativity. Shalley and Gilson (2004) argue that a certain level of perceived autonomy is crucial for idea exploration. Moreover, Zhou (1998) found autonomy to be an important antecedent of creativity. Hence, support exists

for our conjectured mediating relationship. It therefore appears reasonable to conjecture that perceived autonomy will have a similar mediating effect in the relationship between intellectual stimulation and creativity. The mediating relationship is proposed rather than the moderating possibility because intellectual stimulation is posited to increase demand for autonomy and this in turn is proposed to lead to an improved creative climate.

We therefore propose Hypothesis 3: A high degree of perceived autonomy will positively mediate the relationship between intellectual stimulation and creative climate.

Our three hypotheses are summarized in a theoretical model for testing, depicted in Figure 1.

Insert Figure 1 here

METHODS

Samples and Procedure

The survey was distributed through a Web-based tool. We obtained the team leadership structure from the company. Each employee was informed about the study's aims. We used a code to ensure that employees could be matched to teams after data collection. We employed a longitudinal design and measured employee's perceptions of their direct supervisor's leadership behaviors in a Time 1 survey (September 2013), and creative climate in a Time 2 survey (November 2015). Management theory does not make any specific recommendation regarding appropriate time lags (Mitchell and James, 2001). Our aim was to reduce problems with common method bias (Podsakoff et al., 2003) and ensure a sufficient period for measuring creative climate.

At Time 1, we distributed 1,053 questionnaires and 559 were completed, a response rate of 53%. At Time 2, following the same procedure, we distributed 1,192 questionnaires and 619 were completed, a response rate of 52 %. After matching the two data sets, a total of 64 teams with 177 employees remained as participants in the study. Of these, 45 % were women. The sample was between 22 to 62 years of age, with the average age being 39 years. Employees had worked on average 8 years with the company, within a range from 1 to 33 years. The sample had a mean of 5.3 years of university/higher education, ranging from 1 to 12 years. Team size ranged from 2 to 39 employees, with the average team size being 9.5 employees. Responding team size was 2 to 9 employees with the average team size being 2.8. The minimum number of responding team members necessary for inclusion in our analysis was 2 employees per team.

Measures

We measured leadership behaviors by asking respondents to report on questions about their immediate manager. We followed the recommendations of Podsakoff et al. (2013) by varying the number of scale anchor points to reduce biases associated with common rater effects. Therefore, we used a five-point scale on the independent and mediating variables and a seven point anchor for the dependent variable, creative climate.

Intellectual stimulation. We assessed intellectual stimulation using the 3-item version of intellectual stimulation from the Multifactor Leadership Questionnaire (MLQ Form 5x) developed by Bass and Avolio (1995). Items were rated on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Internal consistency for intellectual stimulation was .93, indicating excellent internal homogeneity.

Intrinsic motivation. We assessed intrinsic motivation by using three items adapted from self-regulation by Ryan and Connell (1989). Employees were asked to rate their attitude toward work. Examples of intrinsic motivation include “Because I enjoy the work itself”, “Because it’s fun”, and “Because I find the work engaging”. Items were rated on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Internal consistency for intrinsic motivation was .94.

Autonomy. We assessed Autonomy using the three item measure developed by Hackman and Oldham (1975). Examples of autonomy include “I can choose work tasks”, “I can choose the way I conduct the work tasks”, “I have great freedom to think and act independently of others”. Items were rated on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Internal consistency for autonomy was .83.

Creative climate. We assessed creative climate using a six-item short scale, adapted from Ekvall's (1996) creative climate instrument. For example, "Workers in the company can come up with new ideas and opinions without being criticized." Items were rated on a seven-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Internal consistency for creative climate was .92.

Control variable. Team size influences innovative team processes (Curral et al., 2001; Daley, 1978). We therefore obtained the size of the leadership teams from the company and included it as a control variable.

Analyses

Data were analyzed in several phases using SPSS (v. 23). First, prior to hypothesis testing, we conducted a confirmatory factor analysis (CFA) using MPLUS on the above four measures to examine their construct validity. Individual items were used as observed indicators. We examined

the overall model fit by Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). Second, we performed a description of aggregation analysis. Third, we conducted descriptive analysis of study variables. Finally, in order directly to test our hypotheses, we conducted a linear regression analysis to test our proposed direct and mediating effects. We then used the PROCESS tool to further test the mediating effects (Preacher and Hayes, 2004).

RESULTS

Overall, our analysis is at the team level, aggregating data from respondents' answers at the individual level. To ensure discriminant validity of the hypothesized four-factor model we conducted a CFA analysis of intellectual stimulation leader behavior, Autonomy, intrinsic motivation, and creative climate. As expected, we found that the model fits the data well (χ^2 (84) = 135.987; $p \leq .001$; $\chi^2/df = 1.62$; CFI = .97; TLI= .97; RMSEA = .06; SRMR = .04).

Insert Tables 1 here

Prior to the aggregation analysis, we replaced missing data in the independent and mediating variables. Following Biermann, Cole and Voelpel (2012), we calculated interrater agreement (James et al., 1984) and interclass coefficients (Bliese, 2000) to justify the aggregation of individual survey responses to the team level. Table 1 reports the $r_{wg(J)}$ and interclass coefficients. All $r_{wg(J)}$ values when using a (uniform) null distribution were above the critical .70 value threshold (James et al., 1984). In addition, we provide information about a $r_{wg(J)}$ an

alternative measure, i.e. specific distribution and interclass correlation (Biemann et al., 2012; LeBreton and Senter, 2008) to give an adequate justification of the decision to aggregate the data. Intrinsic motivation and creative climate were non-significant to the F-test of the ICC measure. The relatively low ICCs may stem in part from the small number of employees per team (e.g., Liao et al., 2009), yet such values do not prevent aggregation if it is justified by theory and supported by other aggregation indices (Chen and Bliese, 2002). We aggregated employees' responses to the team level.

Insert Tables 2 here

Table 2 provides the descriptive statistics and correlations within the study and control variables. As shown in this table's diagonal, each variable has an acceptable degree of internal consistency reliability. Correlations among the study variables are generally consistent with prior research with respect to their direction and magnitude. To test our hypotheses and overall model (Figure 1), we conducted a linear regression analysis, presented in Table 3. As Table 3 shows, intellectual stimulation predicted creative climate ($\beta = .40$, $p < .01$), lending support to Hypothesis 1.

Insert Table 3 here

To test Hypotheses 2 and 3, we followed Baron and Kenny's (1986) procedure to test for mediating effects of autonomy and intrinsic motivation in the relationship between intellectual stimulation and creative climate. First, intellectual stimulation was positively related to intrinsic motivation ($\beta = .42$, $p < .01$) and autonomy ($\beta = .51$, $p < .01$). Second, intellectual stimulation was positively related to creative climate ($\beta = .40$, $p < .01$). Third, when the effects of intrinsic

motivation, autonomy, and intellectual stimulation were considered together (step 3), intellectual stimulation (β = .09, n.s.) was non-significant, but intrinsic motivation (β = .34, $p < .01$) and autonomy (β = .33, $p < .02$) affected creative climate. The result showed that intrinsic motivation and autonomy fully mediated the relationship between intellectual stimulation and creative climate, lending support to Hypotheses 2 and 3.

Insert Table 4 here

To further test our mediational model we used Preacher and Hayes (2004) and the PROCESS tool to examine the indirect effect of autonomy using 10.000 bootstrap resamples and a 95% confidence interval. As Table 4 shows, the model supported the indirect effect in Hypothesis 2, in which intrinsic motivation mediated the relationship between intellectual stimulation and creative climate (indirect effect = .16, SE = .07, 95% bias-corrected CI [.05, .33]). The model also supported the indirect effect in Hypothesis 3, in which autonomy mediated the relationship between intellectual stimulation and creative climate (indirect effect = .18, SE = .08, 95% bias-corrected CI [.18, .57]). Table 4 also shows the total effect of intellectual stimulation (Total effect = .44, SE = .13, 95% bias-corrected CI [.18, .70]) and the direct effect (direct effect = .10, SE = .14, 95% bias-corrected CI [-.18, .37]). The difference between the total direct effect and the direct effect is explained through the two mediators. The result shows that the indirect effects of intellectual stimulation on creative climate were significant and fully mediated through intrinsic motivation and autonomy, supporting Hypotheses 2 and 3.

Finally, we examined the contrast between intrinsic motivation and autonomy of the indirect effects, showing that the specific indirect effect through intrinsic motivation is not larger than the specific indirect effect through autonomy (contrast effect = .03, SE = .11, 95% bias-

corrected CI [-.19, .22]), since the BCa 95% contains zero. We conclude that intrinsic motivation and autonomy are significant mediators.

DISCUSSION AND CONCLUSION

We aimed to uncover whether and how intellectual stimulation facilitates employee perceptions of intrinsic motivation and autonomy in creating a creative climate in a team setting. Consistent with our hypotheses, our results suggest three important conclusions. First, that intellectual stimulation is an important leadership behavior for creating a creative climate in the context of this PSF. This confirms other studies that found transformational leadership to be important for creativity at the team level (Eisenbeiss et al., 2008; Gumusluoglu and Ilsev, 2009; Shin and Zhou, 2003; Shin and Zhou, 2007). The finding implies that letting employees generate new ideas by using intellectually stimulating leadership behavior facilitates a creative climate among employees.

Second, we find that intrinsic motivation fully mediates the relationship between intellectual stimulation and creative climate. This is consistent with previous findings that transformational leadership is associated with an increase in employees intrinsic motivation (Shin and Zhou, 2003), which in turn is important for creativity (Amabile, 1996; Csikszentmihalyi, 1996; Zhang and Bartol, 2010). The finding implies that the more employees experience encouragement to come up with new ideas, it increase their intrinsic motivation. This is further associated with creative climate.

Third, autonomy also fully mediated the relationship between intellectual stimulation and creative climate. This is consistent with previous research that transformational leaders influence how employees perceive autonomy (Piccolo and Colquitt, 2006), which in turn may be associated

with creativity (Amabile, 1996; Shalley and Gilson, 2004; Zhou, 1998). However, our results go further than these previous findings. First, we show that the role of perceived autonomy is powerful since autonomy fully mediates the relationship, i.e something other than a moderating relationship is in evidence here as indeed is the case with intrinsic motivation. Second, our results expand Bass' (1985) claim with regard to the salience of need satisfaction in the leadership process. We have shown that transformational leadership works best if it directly addresses employees' need for autonomy. The more the leader enhances employee's perception of autonomy, the more employees are likely to experience a climate that foster and generates new ideas. However, its promise may not be fully realized unless the full significance of these mediators is recognized by managers in practice. It involves managers understanding the importance of actors other than themselves in creating a creative climate. It simultaneously involves them being prepared to cede a certain amount of direct control over employees.

Theoretical implications

Our findings contribute to the literature on creativity climate and leadership behaviors in two ways. First, van Knippenberg and Sitkin (2013) called for leadership research that more specifically addresses the specific dimensions in transformational leadership theory and which examines mediating effects. Our results confirm that intellectual stimulation is an important leadership behavior when creating a creative climate in the case study firm, but also that more is required of managers if a creative climate is to be achieved: recognizing the role of other actors. By allowing and stimulating employees to generate new ideas and appreciate innovation, intellectually stimulating leaders enrich team autonomy and employees intrinsic motivation at work. Finally, with respect to the issue of autonomy versus organizational coherence (Whitley,

2006)—the latter constituting a possible reason for placing limits on autonomy which we identified at the outset--, the primacy of a relatively high level of autonomy is affirmed.

Second, we contribute a novel perspective to recent discussions of the management of knowledge workers (Bergström et al., 2009; Bos-Nehles et al., 2017; Boxall et al., 2014; Cäker and Siverbo, 2014; Millar et al., 2017; Thompson and Heron, 2005) by testing a mediation model. Our contribution underlines how leadership behavior shape leaders' central mediating role on creative climate. The results empirically confirmed that both a relatively high level of job autonomy and intrinsic motivation are important for enhancing creative climate in this type of company, providing specificity to the general conclusions reached by other researchers (Afsar et al., 2017; Bos-Nehles et al., 2017; Millar et al., 2017). The strongest mediating effects are those for autonomy rather than intrinsic motivation, underlining the importance of the former to employees. Our results taken with those of others show that even within the Scandinavian model of capitalism, approaches to the management of knowledge workers show both considerable diversity and a fundamental internal tension. In the Swedish cases studied by Bergström et al. (2009) and Cäker and Siverbo (2014), classical LME monitoring approaches exist in well-developed forms. In our case, the employee demand is for forms of leadership that stimulate a high degree of autonomy. Although--as in the Swedish cases studied--this does not exclude developed monitoring systems (which may themselves encourage the demand for autonomy), our results suggest that the widespread wish for autonomy described by other researchers as fundamental to worker satisfaction is highly valued by employees (Lange, 2012). This suggests that employee wishes exist in tension with an important aspect of company control systems within this PSF operating within the Scandinavian model.

Practical implications

Obstfeld (2012) argues that the leadership behaviors needed to build a creative climate require unusual managerial attributes. Our findings underline the salience of this argument as they show that a capacity in practice to balance employee autonomy with employee monitoring and control in results-driven organisations may be one such skill. Yet ceding a degree of management control may be counter-habitual for managers, given the durable emphasis on the need for management information and pressure to meet performance targets in many project organisations including this particular PSF (Whitley, 2006). When hiring and training managers, PSFs should therefore note that intellectually stimulating leaders need to be able to explicitly address and recognize followers' strong need for autonomy; it appears to be even more important than their intrinsic motivation. Similarly, concerns for organizational coherence may be best addressed by measures other than any which could tend to restrict employee autonomy for example those which intensify reporting mechanisms. To promote feelings of autonomy and intrinsic motivation, intellectually stimulating leaders should articulate a vision which is prepared to question the status quo and generate new ideas continuously, while building trust and confidence among employees to try out new ideas.

Our findings also have implications for leadership development. Training programs can be designed in such a way that leaders are shown how to provide guidance in a non-controlling way, as demonstrated by Deci, Connell, & Ryan (1989) in a longitudinal field study. In that instance, they linked intrinsic motivation in one organization to increased employee job satisfaction. Their research context was different from ours. Nevertheless, we argue that such training would also be appropriate for enhancing creative climate in PSFs. This would especially

be the case if it stressed the vital significance of job autonomy and intrinsic motivation as mediating factors.

Limitations and future research

Our research has several limitations. First, we begin by referring to the context of our research site, a firm whose management recognizes the importance of creativity in its work and in which a sizeable group of employees seeks experience and development as a priority. In addition, our research is located in a Nordic institutional setting. All of our findings must be seen in that context; rather than generalizability across all companies, we see our findings as principally relevant to other similar consulting companies, especially operating in a Nordic setting. Further similar organisations should be studied for comparative purposes and to assess the extent of our findings' generalisability. Secondly, because we employed a correlation research design, we used theory to propose causal relationships and cannot verify the causal relationships between variables. Our model is simply an analytical tool for empirically investigating which relationships exist. Third, the model cannot claim to represent how the organization actually functions, for which qualitative work is required. A fourth limitation is that we used employee survey methods to measure variables, and, consequently, cannot entirely rule out common method bias as a potential threat to validity. However, we ensured variation between the variables and we varied the scale anchor points to reduce common method bias rater effects (Podsakoff et al., 2013). Our findings were remarkably consistent despite the time lag that we used (Podsakoff et al., 2003). Moreover, neither the differential relationships for the mediating processes nor the link between our mediating and outcome variables could be accounted for by common method bias.

In further research terms, our findings could be used to explore explanatory mechanisms related to leadership and creative climate. The type of leadership used, job autonomy, and intrinsic motivation should be modeled as contextual variables in an attempt to build a general theory of sources of creative climate. Future research could also investigate job autonomy and intrinsic motivation from multiple sources to further develop an integrated view of employee perceptions of job characteristics.

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Table 1. Aggregation results for consensus composition models

	$r_{WG(J).uniform}$			$r_{WG(J).measure\text{-}specific}$					
Measure	Mean	SD	Shape	σ^2_E	Mean	SD	F ratio	ICC(1)	ICC(2)
Intellectual stimulation (5)	.89	.18	Moderate skew	2.14	.79	.27	1.33$^+$	.11	.25
Intrinsic motivation (5)	.93	.09	Moderate skew	2.14	.83	.28	1.14	.05	.13
Autonomy (5)	.90	.15	Moderate skew	2.14	.78	.27	1.82**	.23	.45
Creative climate (7)	.88	.24	Moderate skew	2.14	.74	.33	1.29	.09	.22

Note. Standard deviation of $r_{WG(J)}$ values. Shape = the shape of an alternative null distribution; σ^2_E = variance of an alternative null distribution. Variance estimations for measure specific null distribution (i.e. slight skew, normal, and moderate skew) were taken from LeBreton and Senter (2008).

* $p < .05$. **p<.01.

Table 2. Descriptive Statistics and Correlations of Studied Variables

Variable	N	M	SD	1	2	3	4	5
1. Team size	64	7.58	5.69	-				
2. Intellectual stimulation	63	3.69	.67	.07	-			
3. Intrinsic motivation	64	4.05	.50	.07	.42**	-		
4. Autonomy	64	3.49	.58	.19	.52**	.42**	-	
5. Creative climate	64	5.25	.73	.06	.40**	.51**	.52**	-

* $p < .05$. ** $p < .01$.

Table 3. Results for hierarchical regression analyses for mediation on creative climate

	Intrinsic motivation		*Autonomy*		*Creative Climate*		
	Step 1	*Step 2*	*Step 1*	*Step 2*	*Step 1*	*Step 2*	*Step 3*
Control							
Team size	.07	.04	.19	.15	.05	.02	-.04
Direct effects							
Intellectual stimulation		.42**		.51**		.40**	.09
Mediators							
Intrinsic motivation							.34**
Job autonomy							.33*
Adjusted R^2	-.012	.153	.020	.268	-.014	.131	.332
ΔR^2	.004	.176**	.036	.256**	.003	.156**	.216**
F	.271	6.587**	2.254	12.347**	.162	5.676**	8.712**
ΔF	.271	12.850**	2.254	21.675**	.162	11.164**	10.038**
N	62		62		62		

Note. Standardized regression coefficients are shown.

* $p < .05$. ** $p < .01$.

Table 4. Bootstrap results for Total, Direct and indirect effects on creative climate

		Creative climate		Bootstrapping; BCa 95 % CI	
		Effect	SE	Lower Limit	Upper Limit
Total effect	Intellectual stimulation	.4362**	.1306	.1751	.6974
Direct effect	Intellectual stimulation	.0956	.1384	-.1813	.3726
Indirect effects	Total indirect	.3406	.0956	.1806	.5682
	Intrinsic motivation	.1576*	.0676	.0533	.3271
	Autonomy	.1830*	.0749	.0909	.4791
	Contrast (Auto-Intrinsic)	.0254	.1060	-.1930	.2224

Note. N = 63. Unstandardized regression coefficients are reported. 10 000 bootstrap samples.

Covariates included in analysis: Teamsize.

Figure 1. Hypothesized Model