The Impact of Organizational Structure and Work Autonomy in Fostering Entrepreneurial Tendencies and Job Performance

Abstract

Purpose. Research examining the influence of organizational factors on entrepreneurial tendencies and performance within organizations is scarce. This study investigated the effect of organizational structure and work autonomy on entrepreneurial tendencies, locus of control, and performance.

Methodology. Data were obtained online using validated self-report questionnaires in a sample of 181 currently employed individuals.

Findings. The results showed organizational structure components to be related to work autonomy and performance, but not to individual level variables. However, work autonomy related to entrepreneurial tendencies and locus of control, indicating potential indirect effects of organizational structure on individual level variables via work autonomy. Entrepreneurial tendencies and locus of control were positively related to performance.

Originality/Value. Whilst the mediating effect of a number of individual level traits has been examined in the past, very little research has looked at how organizational factors may influence entrepreneurial tendencies. Fostering entrepreneurial tendencies in employees may facilitate corporate entrepreneurship and performance within organizations.

Keywords: Entrepreneurial tendencies, Work autonomy, Organizational structure, job performance

The Impact of Organizational Structure and Work Autonomy in Fostering Entrepreneurial Tendencies and Job Performance

The impact of organizational structure and work autonomy on workers' job performance is well documented in the literature (e.g., Palma, Hinna, & Mangia, 2017; Priyadarshi & Premchandran, 2018; Robbins & Judge, 2008; Siengthai & Pila-Ngarm, 2016). Research indicates that both the structure and design of work (e.g., having autonomy at work), in addition to individual characteristics of employees, contribute to people's performance at work (e.g., Hurrell & Murphy, 1992; Katz & Kahn, 1978). It is also suggested that organizational level factors may have both a direct and an indirect influence on performance, via individual level factors (Bond & Bunce, 2003; Hackman & Oldham, 1976). The influence of organizational factors on a number of individual level variables have been examined in the past (Kristof-Brown, Zimmerman, & Johnson, 2005). However, very little research has looked at how factors such as structure and autonomy may influence *entrepreneurial tendencies* of employees, and how that in turn may impact their level of performance. Given that corporate entrepreneurship and innovation have become major strategic goals within organizations (Kuratko, 2007), it seems timely that empirical research pays due attention to the factors that facilitate and inhibit these processes. Although authors have hypothesized that organizational structure and autonomy would have an impact on entrepreneurial tendencies and performance (e.g., Gupta, Macmillan, & Surie, 2004), few studies have examined this assertion empirically. This was the aim of this study. What follows is a brief description of each of the variables assessed in the study, as well their hypothesized interplay in influencing job performance.

Organization-level factors and job performance

Organizational Structure

One key aspect of the organization that is likely to affect employees' job performance is organizational structure, defined as "the recurrent set of relationships between organization members" (Donaldson, 1996, p. 57), and which includes policies, procedures, and rules. As such, organizational structure defines the division of work among members of an organization and co-ordinates their activities towards achieving organizational objectives (Mintzberg, 2007). Two core components of organizational structure are *formalization* and *centralization* (Robbins & Judge, 2008). Formalization refers to the extent to which jobs within an organization are standardized, typically through written regulations (Hall, 1991), whereas centralization is the degree to which the formal authority to make discretionary choices is concentrated on an individual, unit, or hierarchical level.

Extensive research over recent decades has demonstrated the impact of these components of organizational structure on job performance outcomes. For instance, Pandey and Welch (2005) highlight that formalized organizational structures pose decision constraints, at both top management and subordinate levels, which in turn lead to feelings of work alienation and decreased performance among employees. This notion is in line with studies showing that when organizations employ excessively centralized and formalized processes, employees and teams can engage in counterproductive behaviors such as 'groupthink', which are detrimental to performance (Korac-Kakabadse, Korac-Kakabadse, & Kouzmin, 1999). Greater number of hierarchical levels of authority (centralization) can also exacerbate transactional leadership behaviors, which in turn lead to feelings of work alienation among employees (Sarros, Tanewski, Winter, Santora, & Densten. 2002). Lastly, high levels of centralization have been shown to limit an organization's ability to generate

internal knowledge and use it to build competitive advantage (Pertusa-Ortega, Zaragoza-Sáez, & Claver-Cortés, 2010). Overall, higher levels of centralization and formalization have been shown to be negatively related to various metrics of organizational performance. In the present study, we aim to provide further evidence for the relationship between organizational structure and job performance.

Work Autonomy

At a lower organizational level of analysis, job design specifies the nature as well limits of the activities and tasks that each individual member of an organization is expected to accomplish. A key factor of job design that has been linked to job performance is work autonomy (Morgeson, Delaney-Klinger, & Hemingway, 2005). Autonomy can be defined as the degree to which a job provides an employee with significant freedom, independence, and discretion to plan out their work and determine their procedures in the job (Hackman & Oldham, 1975). Several theories of work design and occupational performance have hypothesized that providing people autonomy over their work serves to improve both individual as well as organizational level outcomes, including job satisfaction, performance, and productivity. For instance, the job characteristics model (Hackman & Lawler, 1971), the sociotechnical systems approach (e.g., Emery & Trist, 1960), action theory (Frese & Zapf, 1994; Hacker, Skelland, & Straub, 1968), and the demands-control model (Karasek, 1979), all include autonomy as an important predictor of performance at work. Terry and Jimmieson (1999) reviewed the research literature concerned with testing these models/theories and found strong support for this notion. In particular, the authors note that there appears to be consistent evidence for higher levels of worker autonomy being associated with positive organizational outcomes. These views have been further substantiated by longitudinal research conducted by

Bond and Bunce (2003), which showed that increasing autonomy at work could improve people's mental health, absenteeism levels, and self-rated performance. As such, we hypothesize that:

H1: Organizational level variables will be significantly related to job performance, with structure components — centralization, formalization, and size — being negatively related to job performance and work autonomy being positively related to job performance.

Individual level variables and job performance

Entrepreneurial Tendencies

Though organizational level factors are recognized to impact workforce functioning, a comprehensive model of job performance is inevitably incomplete without individual level factors. Indeed, a number of meta-analyses have confirmed the influence of broad personality traits (i.e. the Big Five) as well as, narrow, or domain-specific, traits (e.g., dependability) on individuals' job performance (Dudley, Orvis, Lebiecki, & Cortina, 2006). With growing technological and innovation related pressures, more recent research endeavors have also placed an increasing emphasis on the importance of innovative and entrepreneurial tendencies of employees for various performance related criteria (Ahmetoglu, Akhtar, Tsivrikos, & Chamorro-Premuzic, 2018).

In particular, research has shown that *entrepreneurial tendencies* of employees predict both innovation-related behaviors (e.g., implementing new methods or changing organizational procedures to accomplish tasks), as well as outputs within organizations (e.g., patents registered, inventions sold, number of new products and services introduced, etc.) (Ahmetoglu et al., 2011; Ahmetoglu, Harding, Akhtar, & Chamorro-Premuzic, 2015; Akhtar, Ahmetoglu, & Chamorro- Premuzic, 2013; Almeida, Ahmetoglu, & Chamorro-Premuzic, 2014; Leutner et

al., 2014), indicating that they contribute to important performance related individual differences among employees. Entrepreneurial tendencies have been defined as enduring psychological and behavioral tendencies related to recognizing and exploiting opportunities, innovating, and creating change (Ahmetoglu & Chamorro-Premuzic, 2017; Ahmetoglu, Leutner, & Chamorro-Premuzic, 2011; Shane & Venkataraman, 2000). The extent to which an individual shows a tendency to engage in these behaviors indicates how entrepreneurial he or she is. As such, entrepreneurial tendencies can be manifested not only among entrepreneurs, but also in the general population (e.g., employees, managers, students etc.).

Although entrepreneurial tendencies have been positively related to various metrics of success within organizations, less literature exists to indicate how this variable relates to the more traditional construct of job performance at work (Ones & Viswesvaran, 2011). Yet, there are two reasons to hypothesize such a relationship. First, given that there is a conceptual overlap between innovative/entrepreneurial performance and job performance variables (in particular corporate entrepreneurship), it is reasonable to expect that entrepreneurial tendencies will also be related to traditional job performance constructs, albeit more modestly. Second, previous research has found a positive and moderately strong relationship between entrepreneurial tendencies and the motivational construct of work engagement (Schaufeli & Bakker, 2004), indicating that more entrepreneurial employees tend to also be more engaged at work (Ahmetoglu et al., 2014; Ahmetoglu et al., 2018). Given that more engaged employees perform better in work contexts (Rich, Lepine, & Crawford, 2010), it is possible to conjecture that entrepreneurial tendencies are related to job performance also through this motivational mechanism (Ahmetoglu et al., 2018).

Locus of Control

Another individual-level trait that has been found to be important for job performance and is theoretically linked to entrepreneurial tendencies is locus of control. Locus of control describes the extent to which people believe that they influence events in their lives. Those with an internal locus of control perceive that they can manage situations using their own decisions and behaviors, whilst those with an external locus of control believe that what happens to them is beyond their influence: a result of luck or fate (Rotter, 1966).

Internal locus of control has been found to be related to job performance, because when individuals with a high internal locus of control perceive discrepancies between goals and achieved performance, they exert more effort and persistence in achieving intended goals than individuals with an external locus of control (Jex, 1998). Furthermore, internal locus of control is believed to play a key role in entrepreneurial behaviors since these behaviors often involve changing the environment, which a person can only accomplish if they have sufficient belief that they are able to control, or exert, such change (Rauch & Frese, 2007).

As such, locus of control and entrepreneurial tendencies are both theoretically linked and expected to be individual level antecedents of job performance. Analyzing both variables simultaneously in a structural equation model, therefore, would be critical for understanding their relationship, as well as the relative importance (i.e. incremental validity) of each construct in relation to job performance. Based on the arguments presented above, we hypothesize:

H2: Individual level variables — entrepreneurial tendencies and locus of control — will be significantly and positively related to one another, as well as to job performance.

The interplay between organizational and individual level variables on job performance

Organizational level variables aim to shape and organize the roles and activities of individual members within a firm towards maximizing performance (Mintzberg, 2007). Thus, job performance is an aggregation of employees' tendencies and behaviors, and as such the effects of organizational level variables on job performance is likely to be explained through the effect of these variables on individual tendencies. In other words, organizational structure and work autonomy are likely to have an effect on job performance by providing (or removing) opportunities for employees to manifest certain tendencies or behaviors.

Despite the lack of empirical research directly examining how the organizational level variables structure and autonomy influence individual entrepreneurial tendencies, locus of control, and, in turn, job performance, there are good theoretical reasons to expect these variables to be related. For instance, research indicates that structural components, such as high levels of formalization and centralization, as well as larger number of organizational members, can limit internal knowledge-sharing capabilities, which play an important role in employees' entrepreneurial tendencies (Harper, 2008; Kim and Lee, 2006). Making the organization's structure less resistant to change can also facilitate entrepreneurial activities among employees, by "altering the formal structure and implementing the formal strategy and providing feedback" (Hornsby, Kuratko, and Zahra, 2002, p. 257). Furthermore, entrepreneurial leadership is central to an organization's entrepreneurial orientation, and involves moving away from the focus on control, planning, and organization. In turn, employees' reflexive and adaptive behaviors result in value being created from empowerment and the decentralization of formal practices (Gupta, Macmillan & Surie, 2004). Indeed, empirical models of innovation-focused leadership further support the links between structural components of organizations (i.e. decentralization of

processes) and entrepreneurial tendencies among employees (Fernald, Solomon, & Tarabishy, 2005; Ryan & Tipu, 2013).

Similarly, the literature suggests that one of the processes by which entrepreneurial people's performance can be enhanced is by allowing for exploration and individual initiative – that is, granting work autonomy in order to capitalize on the individual's creative and opportunistic insights (Mumford, Scott, Gaddis, and Strange, 2002). While organizations looking to be more entrepreneurial do not necessarily need a flat hierarchy, research suggests that designing jobs that grant autonomy in completing tasks and being adaptive is key to innovation (Ensley, 2007; Judge, Fryxell, & Dooley, 1997). For instance, Burgess (2013) emphasized the inhibitory effects of systems limiting employee autonomy on flexibility and learning, as well as acquiring necessary resources and authority to implement entrepreneurial strategies. Similarly, research on entrepreneurial leadership highlights the importance of attributing appropriate levels of autonomy to employees in order to encourage collaboration and entrepreneurial performance (Hmieleski & Ensley, 2007).

Granting employees more work autonomy and empowering them through structural and job design elements is (almost by definition) also likely to increase their belief that they can exert more influence on their environment and events around them. Thus, employee's locus of control is also likely to be influenced by similar organizational level elements such as structure and work autonomy. This, in turn, should have a ripple effect on job performance through increased goal focus and persistence. Accordingly, it is reasonable to hypothesize that larger organizational size and higher levels of structure will negatively influence entrepreneurial tendencies, locus of control, and in turn job performance. Conversely, higher levels of work autonomy should be positively related to entrepreneurial tendencies, locus of control, and job performance. This is reflected in our last hypothesis:

H3: Lower levels of organizational structure and higher levels of work autonomy, will be significantly and positively related to entrepreneurial tendencies, locus of control and, in turn, job performance.

Method

Participants

The present study used 181 participants recruited through online professional social networking websites (74 male and 107 female), all of whom were in full-time employment. The average age of participants was in the category of 25 to 32 years with a range of 18 to 61 years. The respondents came from a cross-section of organizations in a range of sectors, predominantly finance, security, aviation, telecommunication, insurance, and retail. The job roles of these incumbents consisted of 127 employees, 25 managers, 15 line-managers, 6 business-partners, 10 directors, and 4 CEOs. Most participants were from the UK although a number of other nationalities were included in the sample.

Measures

Measure of Entrepreneurial Tendencies and Abilities (META: Ahmetoglu, et al., 2011). This is a 61-item self-report measure which assesses the four factors of entrepreneurial tendencies. The four factors include Proactivity ("I see business opportunities where others do not"), Creativity ("Other people think I am highly innovative"), Opportunism ("If I see an opportunity, I jump on it"), and Vision ("I think a lot about my future plans"). Participants are instructed to mark their responses to each item on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree). Principal component analysis revealed four oblique factors corresponding to Proactivity, Creativity, Opportunism, and Vision, with each item loading on the hypothesized factor in line with previous research (e.g., Ahmetoglu et al., 2011; Almeida et al., 2014). Previous studies have demonstrated the scale to have good internal consistency

(Leutner et al., 2014), and in the present study all four subscales had internal consistencies above α = .76 (see Table 1). META is the most widely accepted measure of entrepreneurial tendencies in the literature (Cuesta, Suárez-Álvarez, Lozano, García-Cueto, & Muñiz, 2018).

Work locus of control scale (WLCS: Spector, 1988). The 16-item work locus of control scale was used in the current study. The measure has been found to relate to several organizational variables, including job performance and satisfaction (Spector, 1988). Participants were asked to rate their locus of control at work along a 6-point Likert scale (1 = disagree very much; 6 = agree very much). Sample items from the questionnaire include: "A job is what you make of it" and "Promotions are given to employees who perform well on the job".

Organization Structure Questionnaire (Pugh, Hickson, Hinings, & Turner, 1969). This is an 11-item questionnaire assessing three dimensions of organizational structure. The first dimension is concerned with the size of the organization, measured in number of employees (10 - 10,000+). The second dimension assesses the formalization of the organization along a 5-point Likert scale (1 = very inaccurate; 5 = very accurate), with example items including "There is a complete written job description for most jobs in my organization". The third dimension assesses the centralization procedures within the organization with items including "How many decisions are made at lower levels of your organization? ".

Work Design Questionnaire (WDQ: Morgeson & Humphrey, 2006). This is a 9-item questionnaire measuring three dimensions of work autonomy. The three dimensions are work-scheduling ("The job allows me to make my own decisions about how to schedule my work"), decision-making ("The job allows me to make a lot of decisions on my own"), and work-methods ("The job allows me to decide on my own how to go about doing my work"). Responses are rated along a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree).

Job Performance (Johari, Mit, & Yahya, 2009). This is a 25-item self-report questionnaire, which measures two components of job performance, namely, task ("I perform tasks that are expected of me") and contextual performance ("I help others who have problems with their work"). Participants were asked to give responses about their performance at work along a 7-point Likert scale (1 = strongly disagree; 7 = strongly agree). In the current study, we operationalized job performance as a latent variable, combining task and contextual performance to reflect the literature treating this construct similarly (see Ones & Vishveswaran, 2011).

Procedure

Data were collected from employees using an online survey. The survey began with 18 demographic questions followed by items that measured META, the organization's structure, job performance outcomes, locus of control, and autonomy. Participants received a short debriefing on the research aims and reasons for studying the themes upon completion of the survey.

Results

Descriptive statistics, internal consistencies, and bivariate correlations for all measures are shown in Table 1. All scales that were used in the study demonstrated good internal consistencies (Cronbach's alpha values above 0.7 are considered appropriate; George & Mallery, 2003).

Insert Table 1 here

There was a significant positive correlation between the META factors and task as well as contextual performance. All META factors except proactivity also significantly and positively correlated with all work autonomy variables, namely work scheduling, decision-making, and work methods. Finally, META correlated with locus of control as well as age. In addition, there are significant correlations between all work autonomy variables and task as well as contextual performance. Locus of control correlates with all variables in the model. Moreover, task performance correlates with all organizational structure variables and two out of the three organizational structure variables correlate with all work autonomy variables. Given these results, the relationship between organizational structure, work autonomy, locus of control, META, and performance was further tested using structural equation modeling.

Structural Equation Modeling (SEM)

Structural equation modeling was carried out using AMOS 5.0 (Arbuckle, 2003). Given the inter-correlations between the performance measures and between the META facets a latent model was tested, where all four META facets were loaded onto a latent META total factor (c.f. Ahmetoglu et al., 2011), the two performance measures were loaded onto a latent performance factor, and all work autonomy measures were loaded onto a latent work autonomy factor. The loadings for all latent factors included in the model are presented in Table 2. In this model, age, gender, organizational structure, and work autonomy, were specified as exogenous variables, locus of control, and META as both exogenous and endogenous, that is mediators, and Job Performance as endogenous. The choice of ordering is rarely straightforward in SEM (Kenny, 1979; Pearl, 2000); accordingly, the directionality of the model is conceptual rather than causal, considering that gender, age, organizational structure, and work autonomy are arguably less likely to be affected by the psychological and performance variables in the model, namely, locus of control, META, and performance.

Insert Table 2 here

The model's goodness of fit was assessed via the χ^2 statistic (Bollen, 1989; tests the hypothesis that an unconstrained model fits the covariance or correlation matrix as well as the given model; ideally values should not be significant); the goodness of fit index (*GFI*; Tanaka & Huba, 1985; a measure of fitness, where values close to 1 are acceptable); the comparative fit index (*CFI*; compares the fit of a target model to the fit of an independent model — a model in which the variables are assumed to be uncorrelated; values greater than .95 indicate a very good fit; Bentler, 1990); and the root mean square residual (*RMSEA*; Browne & Cudeck, 1993; values of .08 or below indicate reasonable fit for the model).

In the hypothesized model, saturated paths from the exogenous variables to the mediators and the dependent variable (i.e., performance factor), and from the mediators to the dependent variable were added (paths were only added if correlations between the variables were found to be significant in the correlational analysis). This model, which included 10 paths between exogenous and endogenous variables, did not fit the data well: χ^2 = (83 *df*, $p < .01$) 185.65, *GFI* = .88, *CFI* = .90, *RMSEA* = .08. Accordingly, steps were taken to identify misspecifications. Modification indices, expected parameter change and standardized residuals were considered to evaluate whether paths should be deleted or added to the model. Only paths that made substantive sense in predicting outcomes were added to the model, and fit statistics were investigated after each addition and deletion.

Based on the modification indices and expected parameter change, five direct paths were added to the model; these were from the three organizational structure dimensions to Job

Performance, Age to Job Performance, Gender to Task Performance, and Size to Decision-Making. Moreover, a correlational path between locus of control and META was included. These paths were added one at a time, and all other path coefficients and fit statistics were examined after each addition to determine its effect on these values. In addition, several paths were found to have non-significant values and were subsequently removed from the model one parameter at a time, starting with the lowest t-value. The modified model, showed adequate fit to the data: χ^2 = (79 *df*, $p < .01$) 139.38, *GFI* = .92, *CFI* = .95, *RMSEA* = .06. AMOS-squared multiple correlations indicated that the relevant predictors accounted for 50 percent of variance in job performance.

Insert Figure 1 here

Fig 1. The modified model.

Notes: The paths to/from indicators of the latent factors, as well as age and gender, are ommitted to improve readability.

As can be seen in Figure 1, centralization was negatively related to work Autonomy as well as job performance. Formalization and size were positively related to job performance. There was no relationship between organizational structure and individual level variables. Autonomy was positively related to both the META and locus of control variables, as well as job performance. Finaly, META and locus of control were positively correlated; both individual level variables were also positively related with job performance, demonstrating comparable effect sizes.

Discussion

The aim of the current study was to examine the effect of organizational structure and work autonomy on entrepreneurial tendencies and performance. The results partially supported the hypotheses of the study. Both organizational structure and autonomy exhibited a direct influence on work performance, a finding consistent with previous research demonstrating the importance of these variables in the workplace (Robbins & Judge, 2008; Bond & Bunce, 2003). However, whereas centralization was negatively related to performance, formalization and work autonomy were positively related to job performance, only partially supporting the directionality of H1. In line with H2, entrepreneurial tendencies and locus of control were positively related to each other, as well as job performance. Lastly, H3 was only partially supported; contrary to expectations, organizational structure did not impact on individual level variables. On the other hand, work autonomy influenced both entrepreneurial tendencies and locus of control, indicating that there may be indirect effects of organizational structure on these individual level variables, via the more proximal organizational variable, work autonomy (Diefendorff & Chandler, 2010). As hypothesized in a number of theories of work design and occupational performance (Robbins & Judge, 2008), the current results demonstrate the importance of autonomy both for individual level attitudes and behaviors (i.e. entrepreneurial tendencies and locus of control) and job performance. In particular, the results indicate that higher autonomy at work enables people to become (or feel) more entrepreneurial, have higher sense of empowerment (locus of control), and in turn perform better. This is in line with theoretical work suggesting that granting autonomy to employees is a key factor in facilitating corporate entrepreneurship and innovation within organizations (Robbins & Judge, 2008; Lee & Lim, 2009; Covin & Wales, 2012).

As expected, components of organizational structure were significantly related to work autonomy and job performance variables. Consistent with the literature, higher centralization and larger size of organizations are both negatively related to work autonomy (Robbins & Judge, 2008; Engel, 1970; Kalleberg & Van Buren, 1996). In addition, centralization also inversely affected job performance, meaning that less decision discretion at the lower levels of the organization resulted in lower employee performance. This is consistent with literature on engagement which indicates that higher empowerment is related to higher job performance (Christian, Garza, & Slaughter, 2011; Salanova, Agut, & Peiró, 2005). Interestingly, formalization and size were positively related to job performance. That is, the more formalized and clear the rules were, and the bigger the organization was, the better people performed at work. It seems therefore that providing clear rules and guidelines may not actually harm performance, but not empowering individuals to make decisions may; in other words, it is not organizational structure in itself that negatively impacts job performance, but rather how this organizational structure is reinforced via management and leadership practices.

As expected, entrepreneurial tendencies also significantly and positively influenced job performance. Given that there is a conceptual overlap between entrepreneurial activity within organizations (i.e. corporate entrepreneurship) and job performance, this finding is not completely surprising. Yet the practical implications of this relationship are important. It suggests that entrepreneurial employees may be desirable for organizations, not only in terms of boosting innovation and corporate venturing, but also traditional work performance and productivity. Furthermore, the fact that more than 50 percent of employees in the current study were from organizations with 1,000 incumbents and above, demonstrates that the benefit of entrepreneurial tendencies is not restricted to small organizations. These results indicate, thus, that having opportunistic, innovative, proactive, and visionary tendencies is predictive of

general, in addition to, or as well as, domain-specific performance (i.e. entrepreneurial output).

In line with previous research (Peterson & Albrecht, 1996), locus of control was also significantly and positively related to job performance. Perhaps unsurprisingly, the influence of autonomy on locus of control was greater than on entrepreneurial tendencies, given that an inherent element of locus of control is sense of control over things and events (i.e. autonomy). Also confirming the expectations of this study, there was a significant and positive correlation between locus of control and entrepreneurial tendencies. This is in line with research which suggests that locus of control is a central trait for entrepreneurship (Rauch & Frese, 2007). The current research, thus, reinforces previous research by demonstrating that locus of control is related to entrepreneurial tendencies, also outside the realm of business creation and success. Of note is the observation that entrepreneurial tendencies (i.e. META score) demonstrates incremental validity in the prediction of job performance even when locus of control is taken into account. The fact that the weight of the paths between META and Job Performance and locus of control and job performance are equal, further attests to the importance of entrepreneurial tendencies (in addition to locus of control) in these settings.

Limitations and future research

One limitation to this study was the use of self-report in assessing job performance. It would be desirable for future research to either include performance ratings from managers, peers, and subordinates, or objective performance indicators. At the same time, research indicates that other ratings are not always more reliable than self-ratings of performance, suggesting that self-ratings may be as valid indicators of performance as other ratings (Rauch, Wiklund, Lumpkin, & Frese, 2009).

Future research would also need to investigate the impact of changes in work autonomy (and organizational structure) in longitudinal studies, to confirm the causality of the current research. This could be established by two-wave quasi-experimental designs (e.g., Bond & Bunce, 2003), where changes in autonomy at time 1 predict increases in entrepreneurial tendencies and improvements in performance metrics at time 2. This would confirm the causal direction of the relationship between organizational factors, individual-level factors (i.e. entrepreneurial tendencies and locus of control) and performance.

Finally, it would also be interesting for future research to investigate the impact of organization-level factors such as structure and work autonomy on innovation outputs within organizations (i.e. corporate entrepreneurship). Future research could explore the ways in which structural factors can encourage corporate entrepreneurship behaviors among employees by creating an entrepreneurial culture (Ireland, Kuratko, & Morris, 2006; Hornsby, Kuratko, Holt & Wales, 2013).

Implications

The current study has a number of practical implications. First, whilst the benefits of organizational variables such as structure and work autonomy on job performance are well established (Robbins & Judge, 2008; Engel, 1970; Kalleberg & Van Buren, 1996), the current study suggests that these variables also have an important impact on the performance of entrepreneurial individuals. Thus, granting entrepreneurial people autonomy to plan their own schedules, organize the order in which things are done, and empower them to take decisions may be a great way to increase their performance at work. As Mumford et al. (2002) suggest, allowing entrepreneurial individuals to explore and take initiative is a great way to capitalize on their creative and opportunistic insights. Of course, the results do not indicate h*ow much* autonomy should be granted to such individuals. It would be reasonable to expect that too much

autonomy may have an adverse impact on performance. This assertion remains to be investigated by future research.

A second implication of the results is that recruiting and hiring people with higher entrepreneurial tendencies may be beneficial not only for corporate entrepreneurship and innovation, but also for 'traditional' job performance (i.e. task and contextual performance). That is, entrepreneurial individuals may be valuable assets to organizations because they innovate more *and* perform better than individuals with lower entrepreneurial tendencies. Thus recruiting and selecting such individuals, as well as individuals higher on locus of control, may be a fruitful HR strategy. Likewise, it may be desirable to develop and train the entrepreneurial tendencies in current employees in order to improve the innovativeness and performance of the workforce.

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Table 1

Descriptive statistics, Cronbach's alpha coefficients and bivariate Pearson correlation coefficients for all measures employed in the study

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	M	SD	α
1. O																34.2	6.9	0.77
2. P	.65**															55.5	8.5	0.76
3. C	.52**	.61**														54.0	9.0	0.83
4. V	.63**	.57**	.60**													191.1	10.0	0.86
5. TP	.23**	.23**	.22**	.31**												85.2	14.0	0.71
6. CP	.31**	.31**	.38**	041**	.71**											49.1	10.8	0.95
7. WS	.18**	.10	.16*	.16*	.39**	.41**										11.2	3.6	0.93
8. DM	.16*	.08	.28**	.20*	.39**	.43**	.72**									11.2	3.3	0.94
9. WM	.17*	.08	.25**	.22**	.41**	.43**	.80**	.85**								11.1	3.4	0.65
10. LC	.26**	.29**	.34**	.34**	.55**	.51**	.42**	.40**	.45**							67.6	10.6	0.95
11. F	.02	.03	.06	.14	.21**	.16*	.04	.09	.12	.20**						18.0	6.1	0.90
12. C	-.11	-.07	-.11	-.06	-.17*	-.12	-.24**	-.31**	-.23**	-.25**	-.07					5.5	1.4	0.71
13. Size	.04	.07	.09	.00	-.19**	-.14	-.19**	-.27**	-.20**	-.09	.31**	-.12				2.8	2.5	0.77
14. Age	-.18*	-.14	-.16*	-.26**	.19*	.12	.16*	.08	.16*	.09	.16*	.09	.07					
15. Gender	-.03	.01	-.07	.07	.27**	.15*	.14	.09	.10	.14	.11	.02	-.09	.01		1.6	0.5	

Note: P = Proactivity, V = Vision, C = Creativity, O = Opportunism, TP = Task Performance, CP = Context Performance, WS = Work Scheduling, DM = Decision Making, WM = Work Methods, F = Formalization, C = Centralization, LC = Locus of Control. **Correlation is significant at .01 level (2-tailed). * Correlation significant at .05 level (2-tailed).

Table 2

Loadings of observed variables onto latent variables included in the study

	Observed variable	Loading
Autonomy	Work Scheduling	.87
	Decision Making	.92
	Work Methods	.95
META	Opportunism	.70
	Proactivity	.64
	Creativity	.75
	Vision	.90
Job performance	Task performance	.82
	Contextual performance	.84

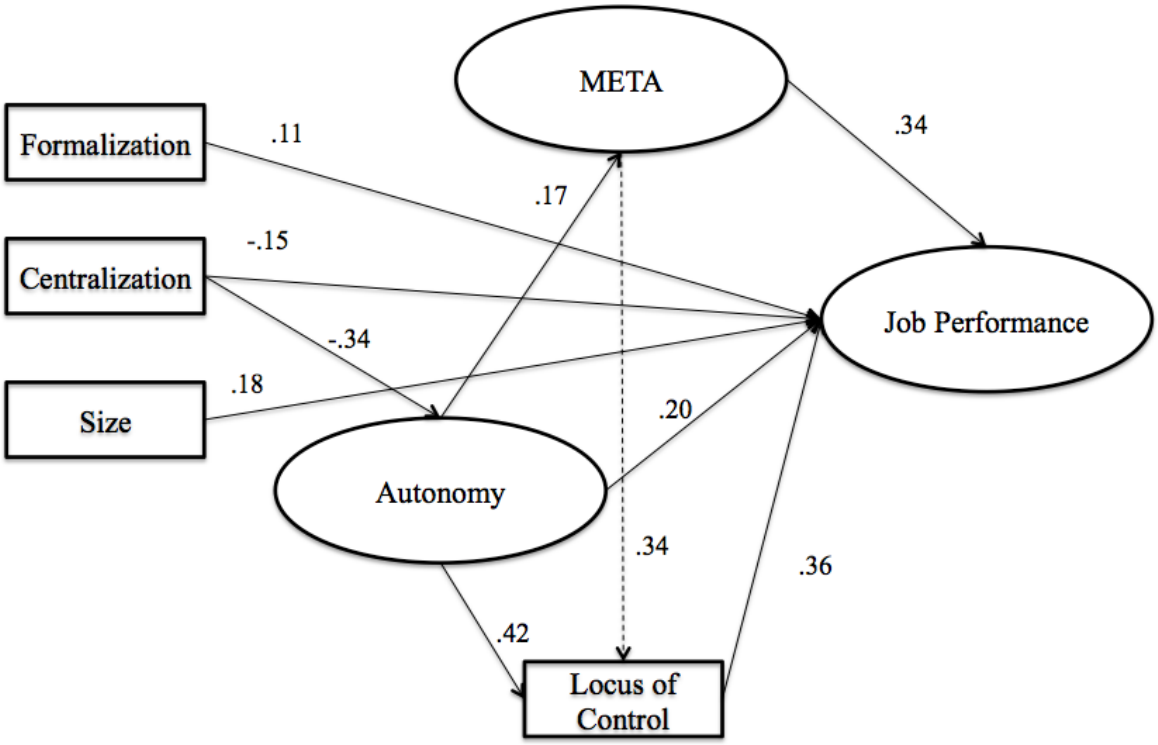

Figure 1.

The modified model

Note: The paths to/from indicators of the latent factors, as well as age and gender, are omitted to improve readability.