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The relationship between supervisor support and individual improvisation

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Abstract

Purpose – The purpose of this paper is to examine the effect of perceived supervisor support on individual improvisation, and the mediating role of the psychological empowerment and improvisation-related self-efficacy in that relationship.

Design/methodology/approach – The data were collected in 2011 from the large municipal organization. The total sample size was 593. The partial least square analysis conducted to estimate the mediation effects of empowerment and self-efficacy on the relationship between supervisor support and individual improvisation.

Findings – The findings of the study show psychological empowerment and improvisation-related self-efficacy as mechanisms through which supervisor support affects individual improvisation.

Research limitations/implications – Limitation of the study is that it concerns only one organization. The study extends understanding of the factors effecting on individual improvisation in organizations and invites management to pay attention to the mechanisms through which they can affect their subordinates. In a broader sense, the results of this study suggest organizations to develop their management system to better empower their subordinates to stimulate creativity, innovation, novel solutions to face the environmental turbulence.

Practical implications – The practical implications of this study invite management to pay attention to the mechanisms through which they can affect their subordinates. In a broader sense, the results of this study suggest organizations to develop their management system to better empower their subordinates, which thereby could stimulate organizational creativity, innovation, and novel solutions to face the environmental turbulence.

Originality/value – The study provides originality by examining the factors effecting on individual improvisation in organizations and by examining the effect of multiple factors, both individual level-and organizational-level factors on individual-level phenomenon (improvisation). The results of the study are valuable for organizations aiming to foster organizational creativity and innovation.

Keywords Self-efficacy, PLS, Psychological empowerment, Supervisor support, Improvisation

Paper type Research paper

Introduction

This study examines the effect of supervisor support on individual improvisation and the mediation effect of empowerment and improvisation-related self-efficacy on that relationship.

Improvisation is an increasingly important ability for employees, teams, and organizations in unexpected and unpredictable environments. It is valuable in exploring opportunities out of the conventional fields, in creating radically new ideas (Fisher and Amabile, 2009; Moorman and Miner, 1998) and in facing unexpected events. At the individual level, improvisation is the ability of an individual to deal in complex and unexpected situations in a creative, contextual, and professional manner. Although, improvisation is recognized as valuable, we found only one quantitative study that had examined the factors that affect individual improvisation (Magni *et al.*, 2009), while the

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others explored the effect of individual improvisation on performance (Magni *et al.*, 2009; Hmieleski and Corbett, 2006; Leybourne and Sadler-Smith, 2006).

Both individual characteristics and contextual factors affect individual creativity and innovation (e.g. Amabile, 1998; Oldham and Cummings, 1996; Woodman *et al.*, 1993). In addition to organizational climate (Anderson and West, 1998) and organizational support (Mumford *et al.*, 2002), the wide body of literature shows various leadership styles and supervisor support can affect individual creative and innovative behaviour (e.g. Yuan and Woodman, 2010; Amabile and Mueller, 2009; Tierney, 2009; Scott and Bruce, 1994). In contrast, at the individual level, individual skills (Leybourne and Sadler-Smith, 2006; Vera and Crossan, 2005; Amabile, 1998), self-management and self-leadership behaviour (Politis, 2006; Manz and Sims, 1987, 1989), psychological empowerment (e.g. Kianto, 2008; Spreitzer, 1995; Velthouse, 1990), and self-efficacy (Tierney and Farmer, 2002; Bandura, 1997) predict individual creative and innovative behaviour.

Studying the factors that have an effect on individual improvisation is important for three reasons:

(1) there is lack of quantitative studies examining the factors and mechanisms that affect individual improvisation in organizations;

(2) few studies have examined the simultaneous effect of individual and contextual-level factors on individual improvisation; and

(3) recent studies have shown contradictory results concerning the mediation effect of psychological empowerment on the relationship between supportive leadership and individual innovative performance (Denti and Hemlin, 2012).

To respond to this need, the research questions of this study were stated as follows:

RQ1. What is the effect of perceived supervisor support on individual improvisation?

RQ2. What is the mediation effect of the psychological empowerment and improvisation-related self-efficacy in relationships between perceived supervisor support and individual improvisation?

This study will extend the understanding of the factors and mechanisms that affect individual improvisation in organizations. The practical contribution of the study invites supervisors and leaders at all organizational levels to pay attention to management practices to foster and empower their subordinates to improvise, which in turn could stimulate innovation, novel solutions, and organizational creativity. More specifically, the study at hand invites organizations to develop their management systems to foster individual improvisation and creativity throughout the organization for organizational goals.

Theoretical background

Individual improvisation

In a work context, individual improvisation means to draw distinctions, perform new ideas, and convert knowledge and insights into action in real time according to the arisen situation. An improvising individual performs his or her work in professional, unique, and original ways demonstrating complex tasks in action. Individual improvisation is individual innovative behaviour (Fisher and Amabile, 2009; Moorman and Miner, 1998), on which behaviour intuition, creativity, and work tasks converge in

a moment. In such action problem identification, idea generation, and implementation happen simultaneously (Fisher and Amabile, 2009; Vera and Crossan, 2005). As a complex and real-time combination of intuition, creativity, and work tasks, improvisation is dynamic individual innovative behaviour. In fact, it is the ability to respond to unexpected events on the spot, and it represents the most dynamic nature of individual innovative behaviour.

Although the factors affecting individual creativity (Amabile and Mueller, 2009; Tierney and Farmer, 2002; Amabile, 1998) and individual innovative behaviour (e.g. Yuan and Woodman, 2010; Tierney, 2009; Scott and Bruce, 1994) have been widely studied, few quantitative studies have focused on individual improvisation. We could find only one study that examined the factors affecting individual improvisation (Magni *et al.*, 2009), while others investigated the effect of improvisation on the individual (Leybourne and Sadler-Smith, 2006) and on project performance (Hmieleski and Corbett, 2006). Magni *et al.* (2009) found team behavioural integration and cohesion had an effect on individual improvisation. Thus, this study based on the current understanding of individual creativity and individual innovative behaviour.

Various leadership and supervisor styles (Yuan and Woodman, 2010; Mumford *et al.*, 2002; Deci and Ryan, 2000; Oldham and Cummings, 1996; Scott and Bruce, 1994; Dansereau *et al.*, 1975) affect individual creativity (Tierney and Farmer, 2009; Tierney, 2009; Amabile, 1998) and individual innovative behaviour (Yuan and Woodman, 2010; De Jong and Den Hartog, 2010; Janssen, 2005; Scott and Bruce, 1994). This study examined whether these findings were valid in terms of individual improvisation. In addition, we discussed the role of individual-level factors on that relationship. More detail, the study examined the mechanisms of psychological empowerment (Spreitzer, 1995; Velthouse, 1990) and self-efficacy (Magni *et al.*, 2009; Zhao *et al.*, 2005; Tierney and Farmer, 2002; Bandura, 1997) in relationships between supervisor support and individual improvisation.

Supervisor support

On the construct supervisor support is attached a wide spectrum of conceptualizations. Motivating supervising (Beausaert *et al.*, 2011), supportive leadership styles (Amabile *et al.*, 2004; Saunders *et al.*, 1992), empowering leadership (Zhang and Bartol, 2010), self-management leadership (Manz and Sims, 1989, 1987), servant leadership (Russell, 2001), and transformational leadership (Bartram and Casimir, 2007; Avolio *et al.*, 2004) are such conceptualization. They all share aim to foster and enhance followers' performance for organizational goals.

Supportive supervising (Saunders *et al.*, 1992) is motivating (Beausaert *et al.*, 2011) to give reasonable autonomy and choices (Tierney, 2009; Kianto, 2008) for employees. It involves employees on the decision-making process (Deci and Ryan, 2000), particularly in situations that concern the work tasks of the employees. Supportive supervising concerns employees' emotions and needs, and it bases on trust and qualified interaction between the supervisor and employee (Kianto, 2008; Tierney *et al.*, 1999; Scott and Bruce, 1994). Furthermore, it is open for initiatives, encourages employees to express their own concerns, ideas, and initiations to explore novel views and solutions to problems, and promotes ideas further (Saunders *et al.*, 1992). It also encourages employees to learn and develop themselves (Kianto, 2008) by providing inspiring challenges (Beausaert *et al.*, 2011; Janssen, 2005; Deci and Ryan, 2000).

It is widely agreed that supervisor support has an effect on individual creativity (e.g. Shalley and Gilson, 2004; Zhou and George, 2003; Tierney and Farmer, 2002; Amabile and Conti, 1999; Oldham and Cummings, 1996) and on individual innovative work

behaviour (Yuan and Woodman, 2010; De Jong and Den Hartog, 2010; Janssen, 2005; Scott and Bruce, 1994). Basing on the previously reviewed literature it was plausible to assume that supervisor support also had a significant effect on individual improvisation, and stated the following hypothesis:

H1. Perceived supervisor support has a direct effect on individual improvisation.

Empowerment

Empowerment has been studied as a leadership-related concept that affects various individual-level constructs, like individual innovation (Pieterse *et al.*, 2010), creativity (Sun *et al.*, 2012; Zhang and Bartol, 2010; Gumusluoglu and Ilsev, 2009), and job performance and job satisfaction (Bartram and Casimir; 2007). Psychological empowerment (later empowerment) concerns individuals' experiences and perceptions regarding the influence on their work, autonomy (Spreitzer, 1995), possibilities to develop themselves (Kianto, 2008), freedom to express initiations, and the challenge of their work in relation to their own expectations (Kianto, 2008; Spreitzer, 1995; Velthouse, 1990). The original construct of psychological empowerment was a four-dimensional construct that included meaning, competence (self-efficacy), self-determination, and impact (Spreitzer, 1995; Velthouse, 1990; Thomas and Velthouse, 1990). Since then, various conceptualizations of psychological empowerment have arisen.

In recent studies, empowerment has been found mediating between transformational leadership and individual creativity (Denti and Hemlin, 2012; Zhang and Bartol, 2010; Gumusluoglu and Ilsev, 2009), although mixed results have been reported (Denti and Hemlin, 2012; Jung *et al.*, 2003, 2008). In addition, it mediates between structural empowerment and creativity (Sun *et al.*, 2012), and between transformational leadership and both job performance and job satisfaction of the followers (Bartram and Casimir, 2007). Furthermore, Zhang and Bartol (2010) studied the role of empowerment on the relationship of empowering leadership and employee creativity and found empowerment impacted employee creativity through the constructs of intrinsic motivation and creative process engagement.

Drawing from the aforementioned literature, we assumed that empowerment was a mechanism through which supervisor support affected individual improvisation and stated the following two hypotheses:

H2a. Supervisor support has a significant effect on empowerment.

H2b. Empowerment has a significant effect on individual improvisation.

Self-efficacy

Self-efficacy, i.e. one's confidence to succeed in particular situations (Bandura, 1997), predicts individual performance (Bartram and Casimir, 2007; Shea and Howell, 2000; Bandura, 1986, 1997; Locke, 1991). In addition to general self-efficacy, various specified concepts for self-efficacy exist, such as creativity self-efficacy (Tierney and Farmer, 2002), entrepreneurial self-efficacy (Zhao *et al.*, 2005; Hmieleski and Corbett, 2006), job self-efficacy (Spreitzer, 1995), and improvisation-related self-efficacy (Magni *et al.*, 2009). Concerning one's personal mastery (self-efficacy) in terms of improvisation, individuals with high confidence are likely to respond and take advantage of emerging opportunities and unexpected events, as well as to stretch these contextual constrains. Further, a high self-efficacy indicates increased motivation for exploration and to step out of one's comfort zone, while a low self-efficacy suggests the likelihood of an individual to behave according to the rules, which prevents exploration of novel

solutions (Bandura, 1997). Thus, an individual's belief regarding his or her ability to experiment outside the structures (Kamoche *et al.*, 2003), familiar practices, and knowledge (Moorman and Miner, 1998) may predict individual improvisation.

Several studies have shown creative self-efficacy as a significant mechanism, i.e. mediator between a variety of individual characteristics, contextual factors, and individual performance (Tierney and Farmer, 2011; Gong *et al.*, 2009; Shin and Zhou, 2007). Entrepreneurial self-efficacy mediates between individual characteristics and entrepreneurial intention (Zhao *et al.*, 2005), while creative self-efficacy mediates between transformational leadership and employee innovative behaviour (Gong *et al.*, 2009; Denti and Hemlin, 2012). Based on the literature review it was plausible to assume that supervisor support effects on individual improvisation through improvisation-related self-efficacy. The following two hypotheses were stated:

H3a. Supervisor support has a significant effect on self-efficacy.

H3b. Self-efficacy has a significant effect on individual improvisation.

Methodology

Data collection and analysis

The source of data was a large municipal (city) organization, which employed approximately 6,000 employees (2011). The city was involved in a long-term, two-and-a-half-year (2009-2011) university-driven development project to improve its renewal capability. The data were collected as a part of a large survey in 2011 with a validated survey set, called The Organizational Renewal Capability Inventory (ORCI) (Kianto, 2008). Directed to all organization members, the questionnaire investigated respondents' perceptions and experiences about the current characteristics and practices that foster and hinder innovation and renewal in their work environment. The original ORCI survey set included 197 items, and the item sets of individual improvisation (Vera and Crossan, 2005; Magni *et al.*, 2009) and self-efficacy (Zhao *et al.*, 2005; Magni *et al.*, 2009) were added to the original item set. The sample size was 593 respondents.

Measures and control variables

The dependent variable, *individual improvisation,* was measured using a four-item scale developed from the seven-item scales of Magni *et al.* (2009) and Vera and Crossan (2005), rated on a seven-point Likert-type scale. A sample item was, "I think on my feet when carrying out actions".

The first independent variable, *supervisor support,* was measured using a five-item scale from the ORCI survey set (Kianto, 2008) rated a seven-point Likert-type scale. A sample item was, "My supervisor encourages me to develop new ideas and be creative".

The second independent variable, *empowerment,* was investigated with a six-item scale of the ORCI survey set (Kianto, 2008) rated a seven-point Likert-type scale. A sample item was, "I have the freedom to decide how I achieve the objectives set for my work".

The third independent variable, *improvisation-related self-efficacy,* was assessed using a four-item concept (Magni *et al.*, 2009; Zhao *et al.*, 2005) captured by a seven-point Likert-type scale. A sample item was, "I am confident; I can deal with unanticipated events on the spot".

The demographic characteristics of age, gender, education, status, and tenure were used as control variables to eliminate their influence on individual perceptions.

In addition, the sector as an organizational-level control variable was used to determine if there were differences within the organization:

(1) dependent variable: *individual improvisation*;

(2) independent variables: *supervisor support*, *empowerment*, *self-efficacy*; and

(3) control variables: *age*, *education*, *gender*, *status*, *tenure*, *and sector*.

The mediation effects of empowerment and self-efficacy on the relationship between supervisor support and individual improvisation was estimated with a partial least square (PLS) analysis. The PLS was chosen as a method to analyze the model as it does not require assumptions of multivariate normality and, it allows multiple predictor variables and mediators in the model (Frazier *et al.*, 2004; Chin, 1998; Baron and Kenny, 1986). In other words, it is possible to examine the relationships of several variables simultaneously. In the PLS analysis, the significance of the path coefficients, estimation of the standard error, and the reliability of the data set were tested via the Bootstrapping procedure (Hair *et al.*, 2011). The mediation effect scores were calculated with the Sobel's (1982) test, which has been shown to perform similarly with the test of Kenny *et al.* (1998) (MacKinnon *et al.*, 2002; Frazier *et al.*, 2004). Test is the most widely employed mediation effect test, and used also by Bontis *et al.* (2007).

Results

Descriptive statistics

With a response rate of 9.5 per cent ($n = 593$) out of 6,241 employees, the data set included samples from all the sectors and groups of employees (Tables I and II). The 9.5 per cent respond rate does not compare favourably to other studies that deal with social sciences research. However, the sample size is large and all groups of employees and sectors are represented in the sample. For example, Harrison (1994) has reported a response rate of 17 per cent. Of the respondents, 82.5 per cent ($n = 498$) were female and 17.5 per cent ($n = 104$) male.

Table I.
The status of the respondents in a 2011 survey

Status	% from respondents	*n*
Top management	0.8	5
Unit management	6.4	38
Supervisor	13.0	77
Expert	14.7	87
Employee	65.1	396
Total	100.0	593

Table II.
The sector of the respondents in a 2011 survey

Sector	% from respondents	*n*	% from personnel
Health services	44.5	264	11.0 (2,242)
Education	29.5	175	7.1 (2,460)
Infrastructure, businesses, entrepreneurship, and work services	17.0	101	8.8 (1,142)
Administration	8.9	40	32.5 (123)
Others	2.2	13	0.2 (6,241)
Total	100.0	593	9.5 (6,241)

Construct statistics

Table III provides descriptive statistics of the items and the constructs of supervisor support (SUPERV1-5), empowerment (EMP1-6), self-efficacy (SEFF1-4), and individual improvisation (IMPRO1-4), which were all captured using a seven-point Likert-type scale.

Model analysis

Measurement model. Composite reliability values of the constructs varied between 0.88 and 0.92, which exceeds the suggested value of 0.70 (Nunnally and Bernstein, 1994; Hair *et al.*, 2011) and demonstrates high levels of internal consistency and reliability of the constructs (Table I).

Convergent validity of the constructs was based on the average variance extracted (AVE) value and showed high levels (> 0.50) of validity (Hair *et al.*, 2011; Fornell and Larker, 1981), as the AVE values of the constructs differed between 0.60 and 0.74 (Table I). The lowest AVE value (0.60) was on empowerment, and the highest was for self-efficacy (0.74).

To assess discriminant validity, we compared the Fornell-Larker criterion (Fornell and Larker, 1981) with cross-loadings (Table IV). More specifically, we compared the square root of the AVE value (on the diagonal in Table IV) with the correlations

Item	Mean	SD	Loading	AVE	Composite reliability	Cronbach's α
SUPERV1	4.30	1.872	0.8730	0.69	0.92	0.88
SUPERV2	4.94	1.894	0.8504			
SUPERV3	4.54	1.902	0.9103			
SUPERV4	4.88	1.884	0.8746			
SUPERV5	4.26	1.723	0.6086			
EMP1	4.55	1.683	0.7255	0.60	0.90	0.87
EMP2	5.23	1.446	0.7820			
EMP3	4.83	1.637	0.8382			
EMP4	4.51	1.753	0.7803			
EMP5	4.58	1.659	0.7993			
EMP6	5.17	1.585	0.7313			
IMPRO1	5.60	0.988	0.8325	0.65	0.88	0.82
IMPRO2	5.22	1.181	0.6811			
IMPRO3	4.67	1.276	0.8747			
IMPRO4	5.25	1.085	0.8165			
SEFF1	5.78	0.988	0.9093	0.74	0.92	0.88
SEFF2	5.00	1.150	0.7904			
SEFF3	5.71	1.111	0.9258			
SEFF4	5.38	1.258	0.8001			

Table III.
Descriptive statistics of the constructs

Construct	Mean	SD	1.	2.	3.	4.
1. Empowerment	4.86	1.3257	*0.78*			
2. Improvisation	5.18	0.9126	0.42	*0.80*		
3. Supervisor support	4.59	1.6780	0.63	0.35	*0.83*	
4. Self-efficacy	5.46	0.9676	0.37	0.74	0.33	*0.86*

Notes: The square root of the AVE value is presented on the diagonal

Table IV.
The correlation matrix of the constructs

between the latent constructs. All the square roots of the AVE values were higher than any correlation between the constructs, and consequently, the discriminant validity was established (Hair *et al.*, 2011). (Figure 1).

Direct effect model. The direct effect of supervisor support on individual improvisation (*H1*) and the effect of control variables are presented in Table V.

The results showed significance in the direct path (*H1*) between supervisor support and individual improvisation ($t = 4.02$), and *H1* was supported. The effects of the control variables of education, gender, status, tenure, and sector were not significant.

Mediation effect model. In the following model, we tested the mediation effects of empowerment (*H2*) and self-efficacy (*H3*) simultaneously on individual improvisation. Table VI presents the path coefficients and the significance of the paths (hypothesis). The *H2a* between supervisor support and empowerment ($t = 11.64$), and *H2b* between empowerment and improvisation ($t = 2.32$) were significant and supported (Table VI). Further, the *H3a* between supervisor support and self-efficacy ($t = 3.35$), and the *H3b* between self-efficacy and improvisation ($t = 9.43$) were significant. Thus, both *H3a* and *H3b* were supported (Table VI). In contrast, the direct path between supervisor support and improvisation (*H1*) was not anymore significant ($t = 0.53$), and in this model, *H1* was not supported. The R^2 values were as follows: for improvisation, $R^2 = 0.580$; for

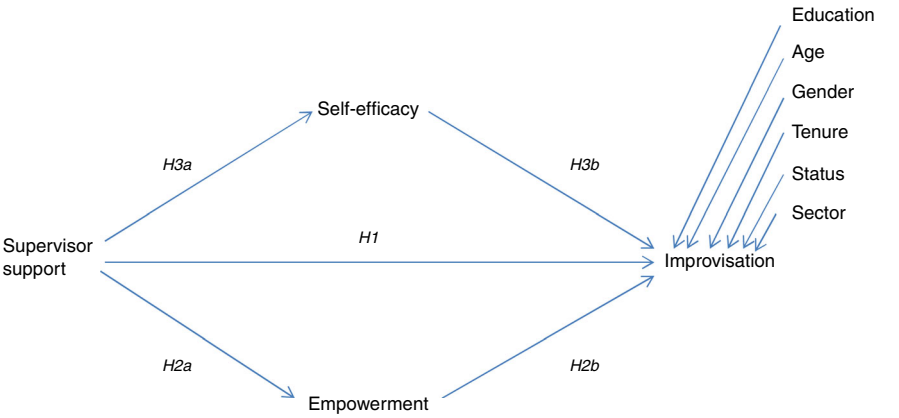

Figure 1.
The model and the hypothesized paths

Path	Path coefficient	SE	*t*-value
H1: *Supervisor support*→IMPRO	0.353	0.088	4.02***
Control variables			
Educat→IMPRO	−0.011	0.036	0.30
Gender→IMPRO	−0.015	0.034	0.44
Status→IMPRO	−0.032	0.030	1.06
Tenure→IMPRO	0.013	0.054	0.24
Sector→IMPRO	0.043	0.033	1.25
Age→IMPRO	−0.001	0.056	0.01

Notes: Significance on the *t*-values (one-tailed). **$p < 0.05$; ***$p < 0.01$

Table V.
The effect of supervisor support on individual improvisation

Path	Path coefficients	SE	*t*-Value
H1: *Supervisor support*→IMPRO	0.036	0.0677	0.53
H2a: *Supervisor support*→*Empower*	0.629	0.0540	11.64***
H2b: *Empower*→IMPRO	0.143	0.0613	2.32**
H3a: *Supervisor support*→*Selfe*	0.330	0.0987	3.35***
H3b: *Selfe*→IMPRO	0.680	0.0722	9.43***
Control variables			
Educat→IMPRO	−0.033	0.0302	1.10
Gender→IMPRO	−0.033	0.0233	1.40
Status→IMPRO	0.003	0.0253	0.11
Tenure→IMPRO	−0.016	0.0346	0.45
Sector→IMPRO	0.010	0.0246	0.38
Age→IMPRO	0.012	0.0364	0.33

Notes: Significance on the *t*-values (one-tailed). $^{**}p < 0.05$; $^{***}p < 0.01$

Table VI.
The mediating effect of self-efficacy and empowerment on individual improvisation

empowerment, $R^2 = 0.395$; and for self-efficacy, $R^2 = 0.109$. These findings indicated that in the tested model, supervisor support explained 39.5 per cent of empowerment and 10.9 per cent of self-efficacy, and the whole model explained 58.0 per cent of the individual improvisation. The mediating effect value tested with the Sobel-test showed significance for the path of supervisor support, self-efficacy, and improvisation ($z = 3.153 > 1.96$ at level, one-tailed probability: 0.00080). In addition, for the paths for supervisor support, empowerment, and improvisation, the Sobel-test showed significance with a $z = 2.2774 > 1.96$ (one-tailed probability: 0.0011).

Discussion

The results showed direct and significant effect of supervisor support on individual improvisation (*H1*). The finding is consistent with the studies of individual creativity (e.g. Shalley and Gilson, 2004; Tierney and Farmer, 2002; Amabile *et al.*, 2004; Oldham and Cummings, 1996) and individual innovative behaviour (e.g. De Jong and Den Hartog, 2010; Yuan and Woodman, 2010; Janssen, 2005).

In the model where the mediators were introduced into the model the both indirect paths via empowerment (*H2a*, *H2b*) and via self-efficacy (*H3a*, *H3b*) were significant (Figure 2). Instead, the direct path between supervisor support and individual improvisation was non-significant ($t = 0.53$) and *H1* was not supported in this model. Mediation exists if the direct path is reduced when the mediator (indirect path) is introduced into the model (Frazier *et al.*, 2004). The coefficient of direct path (*H1*) of this model was near zero (0.036, $t = 0.53$) after the mediators were introduced into the model, which indicates full mediation (Figure 2). Hence, empowerment and self-efficacy seem to act as mechanisms through which supervisor support affects individual improvisation.

Concerning the mediating effect of empowerment in the relationship between supervisor support and individual improvisation, the results of this study are consistent with the studies conducted with the near constructs of individual improvisation (individual creativity and individual innovative behaviour) and broader construct of transformational leadership. These studies have shown empowerment as a key mechanism through which transformational leadership affects individual creativity (Denti and Hemlin, 2012; Zhang and Bartol, 2010;

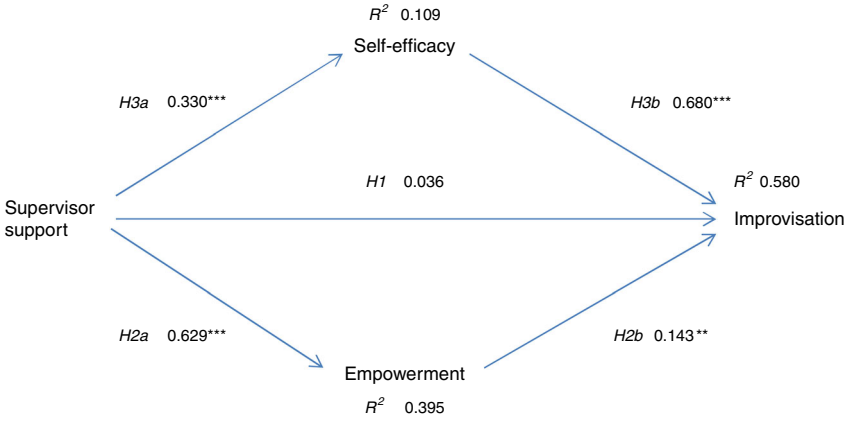

Figure 2.
The model and the significance of the paths

Gumusluoglu and Ilsev, 2009) and job performance of the employees (Bartram and Casimir, 2007). Hence, this study confirmed a similar effect when supervisor support was in consideration. Further, the results of this study supported the mediating role of empowerment in the relationship between supervisor support (supporting leadership) and individual performance, which showed contradictory results in previous research (Denti and Hemlin, 2012; Jung *et al.*, 2003, 2008). Thus, the finding of this study indicate, that supervisors can influence by empowering their subordinates. It means providing sufficient autonomy, freedom to explore, and conduct experiments, influence one's own work, providing opportunities for developing and challenging job tasks.

Concerning the mediating effect of self-efficacy the results of this study were in line with the previous studies, which showed self-efficacy as mediator between a variety of factors (individual and contextual) and individual creative performance (Gong *et al.*, 2009; Shin and Zhou, 2007; Tierney and Farmer, 2011; Zhao *et al.*, 2005; Denti and Hemlin, 2012). This study showed self-efficacy as a mechanism through which supervisor support influence on individual improvisation (i.e. on the dynamic innovative behaviour of individuals). Thus, supervisor support affects individual improvisation through the mechanisms of empowerment and self-efficacy.

Conclusions

The overall purpose of this study was to examine the effect of supervisor support on individual improvisation, and the effect of mediators, such as empowerment, self-efficacy, in that relationship. The constructs for the model were based on the existing literature, and the model was tested with the data collected from one large municipal organization. Due to the lack of studies examining the enablers of individual improvisation, this study drew from the studies of their closest concepts, individual creativity, and individual innovative behaviour. More detail, the study understood individual improvisation as a dynamic individual innovative behaviour (Fisher and Amabile, 2009) where intuition, creativity, and work tasks converge in action. In such action, an individual draws from various sources of knowledge to contribute to situations as they emerge. The very nature of improvisation demands autonomy, self-determination, and freedom to carry out actions in an unplanned and original manner as situations emerge. Being the first study

to examine the effect of supervisor support on individual improvisation, the study at hand showed that supervisor support had an effect on individual improvisation through the mechanisms of empowerment and self-efficacy.

The study had three main theoretical implications: First, drawing from the literature of the near constructs of individual improvisation, this study expanded understanding of individual innovative behaviour by stating the construct of individual improvisation theoretically as a parallel construct with its near concepts. Second, this study showed the mechanisms (empowerment and self-efficacy) through which supervisor support affected individual improvisation. Third, this study provided understanding through a structural model of the organizational dynamics enabling creativity and innovation in organizations.

The practical implications of this study rest on its key finding, which showed supervisor support affected individual improvisation through the mechanisms of empowerment and self-efficacy. Since individual improvisation is increasingly important in dealing with unexpected and contradictory situations, as well as in demonstrating novelty in organizations, managers at all organizational levels should pay attention to the mechanisms through which an individual's potential for dealing in complex and emerging situations could be enhanced and increased. Further, since individual improvisation also plays a crucial role in collective creative processes, such as organizational creativity and innovation (Fisher and Amabile, 2009), new product development (Moorman and Miner, 1998), product design (Sutton and Hargadon, 1996), and change management (Orlikowski, 2002), supervisors have a key role in fostering the enablers of collective creative processes, organizational creativity, and renewal. In a broader sense, the study at hand invites organizations to develop their management systems to foster creativity and innovative behaviour of individuals throughout the organization to meet their organizational goals.

The limitations of the study guide the future studies as well. The first limitation of this study is that it is based on the analysis of the only one organization. In future studies, more cases in different types or organizations should be conducted. An additional limitation concerns the scales for measuring individual improvisation, which are rare and underdeveloped. For example, they lack the social dimension of individual improvisation. The lack of social dimension of individual improvisation makes it less sensitive to team work, which could enhance individual improvisation. In addition, essential features of improvisation remain examined. This study used a scale derived from the team level improvisation scale of Vera and Crossan (2005) modified by Magni *et al.* (2009). In the future, appropriate scales to measure individual improvisation should to be developed.

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Further reading

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Appendix

Item		Mean	SD
EMPOW1	I have a freedom to decide how I achieve the objectives set for my work	4.55	1.683
EMPOW2	I can develop myself through my work	5.23	1.446
EMPOW3	I can influence the decision concerning my work	4.83	1.637
EMPOW4	I can influence the decision made in my work group	4.51	1.753
EMPOW5	I often have opportunities to explore and try out new ideas in my work	4.58	1.659
EMPOW6	My tasks are currently adequately challenging	5.17	1.585
IMPRO1	I respond in a moment to unexpected problems	5.60	1.033
IMPRO2	I think on my feet when carrying out actions	5.22	1.181
IMPRO3	I continuously try new approaches to act and solve problems	4.67	1.276
IMPRO4	I identify opportunities for new solutions	5.25	1.085
SEFF1	I am confident I can deal with unexpected events	5.78	0.988
SEFF2	I am confident I can find creative ways to solve problems	5.00	1.150
SEFF3	I am confident I can take quick decisions	5.71	1.111
SEFF4	I am confident I can take risky decision	5.38	1.258
SUPERV1	My supervisor encourages me to develop new ideas and be creative	4.30	1.872
SUPERV2	Conversations with my supervisor take place in an atmosphere of equality	4.94	1.894
SUPERV3	My supervisor actively supports my development at work	4.54	1.902
SUPERV4	I feel that my supervisor respects and makes use of my expertise and knowledge	4.88	1.884
SUPERV5	My needs and goals are important for my supervisor	4.26	1.723

Table AI.
The items of the measured constructs

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