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Motivate to innovate

How authentic and transformational leaders influence employees' psychological capital and service innovation behavior

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Abstract

Purpose – This study aims to empirically test a research model investigating the effects of authentic leadership (AL) and transformational leadership (TL) on follower service innovation behavior (SIB) with follower psychological capital (PsyCap) as a partial mediator.

Design/methodology/approach – Using data from a sample of 336 full-time frontline employees across 15 five-star hotels in Seoul, South Korea, over a time lag of one month, hypothesized relationships were analyzed with structural equation modeling.

Findings – The results suggest that AL has a greater effect on follower PsyCap and SIB than TL. In examining the role of PsyCap as a partial mediator, the results support the hypotheses that AL and TL trigger follower SIB directly but at the same time boost follower PsyCap, thus enhancing follower SIB.

Practical implications – The greater impact of AL on follower PsyCap and SIB suggests that the practice of corporate human resource management should place an emphasis on AL traits in leadership development. This study offers a useful perspective on the development of follower PsyCap and SIB by linking leadership traits.

Originality/value – By discussing AL and TL together within a single research framework, the study extends organizational psychology research by linking TL and AL to two important organizational psychological and performance variables, and exploring their comparative effects.

Keywords HRM, Leadership, Hospitality, Psychological capital, Positive psychology,
Service innovation behaviour

Paper type Research paper

1. Introduction

In service organizations, as in any labor-intensive industry, employees and, in particular, frontline employees, play a fundamental role (Wirtz *et al.*, 2008). Rothfelder *et al.* (2013)

point out the importance of frontline employees: they work in a consumer-centric manner at the heart of a service organization and are recognized as the face of the company. Driving service quality and customer satisfaction directly, frontline employees are the foundation of customer loyalty and a service organization's competitive advantage (Ottenbacher, 2007; Kim *et al.*, 2012; Kim and Oh, 2004). A growing number of studies from scholars such as Slåtten *et al.* (2011) are drawing the conclusion that frontline employees should be at the center of the management's and leadership's attention in service industries.

In the service and hospitality domain, the effects of leadership and leader, and leadership styles on employees have been the subject of several studies in the last decade as different leadership styles affect employees in various ways and in terms of outcomes (Quintana *et al.*, 2015). Leadership can influence the leader–follower relationship (Brownell, 2010), employees' current job satisfaction (Rothfelder *et al.*, 2013), service quality commitment (Clark *et al.*, 2008), job engagement (Pienaar and Willemse, 2008), professional performance (Leroy *et al.*, 2012), creativity (Wong and Pang, 2003), innovative behavior (Slåtten *et al.*, 2011; Slåtten and Mehmetoglu, 2011) and company performance (Kim and Brymer, 2011).

The hospitality literature suggests that with increasing competition, product and service innovations have become of upmost importance (Ahmad and Scott, 2014; Orfila-Sintes and Mattsson, 2009), and frontline employees have become the key, encouraged by their superiors to be creative and to improve and/or innovate service delivery and products toward excellence (Wong and Ladkin, 2008). As a result, service innovation behavior (SIB; synonymously, service innovation) has been gaining attention (Hu *et al.*, 2009; Kim and Lee, 2013) in innovation-related behavioral research. SIB is understood as an active behavior where employees take the initiative to improve existing, and develop new, products, processes and markets or to deliver organizational innovations and quality assurance. De Jong and Den Hartog (2007), as well as Slåtten *et al.* (2011), see creativity as part of innovation behavior.

By relating the critical leadership role in influencing SIB, the current study examines the impact of two factors that trigger frontline employees' SIB at the individual level:

(1) Different leadership styles, in this case, refer to transformational leadership (TL) and authentic leadership (AL), which are not incompatible but have different focuses: TL pushes followers to perform beyond expectations, while AL is ethical, transparent, open and empowering and involves subordinates in decision-making (Avolio *et al.*, 2009; Walumbwa *et al.*, 2008).

(2) Psychological capital (PsyCap) is linked to the different leadership styles, namely, TL and AL (Gooty *et al.*, 2009; McMurray *et al.*, 2010; Rego *et al.*, 2012).

Therefore, the study aims to formulate, examine and analyze:

- the impacts of different leadership styles (i.e. TL and AL) on followers' PsyCap and SIB;
- effect of PsyCap on SIB; and
- effect when followers' PsyCap acts as a partial mediator of the impacts of TL and AL on SIB.

To test the relationships, we use a quantitative positivistic research design using data gathered in two waves from frontline service workers of five-star hotels.

2. Theoretical background and *Hypotheses*

2.1 Selected leadership styles: transformational leadership and authentic leadership

The concept of TL was developed by Burns (1978) and describes how a transformational leader inspires followers, changes cognitions and pushes followers to a higher level of motivation, empowering them to see and achieve goals. According to Bass (1985), TL has four elements: "idealized influence" describes how leaders articulate their vision and gain the deep respect, trust and admiration of their followers; "inspirational motivation" denotes how leaders communicate, combining high expectations with optimism to arouse followers' motivation; "intellectual stimulation" involves leaders encouraging the development of followers' intelligence and problem-solving capacity to approach challenges in a new way; and "individualized consideration" describes how leaders provide personal support (Bass, 1985).

On the basis of their theoretical work in positive psychology, Luthans and Avolio (2003, p. 243) introduced the concept of AL, defining it as:

> [. . .] a process that draws from both positive psychological capacities and a highly developed organizational context, which results in both greater self-awareness and self-regulated positive behaviors on the part of leaders and associates, fostering positive self-development.

Later, four constructs of AL were identified: "self-awareness" denotes the appropriate understanding of one's own strengths, weaknesses and sense-making processes; "internalized moral perspective" refers to acting in line with one's moral standards and self-regulated behaviors; "relational transparency" means demonstrating one's authentic self by sharing information and displaying emotions; and "balanced processing" describes the process of analyzing information objectively before making a decision (Avolio *et al.*, 2009; Walumbwa *et al.*, 2008).

Such theorizing of TL and AL shows that the two are not incompatible but simply have a different focus: TL emphasizes the behaviors that inspire followers to perform beyond expectations, while AL is characterized by a transparent and ethical leader who shares information openly and seeks followers' input when making decisions (Avolio *et al.*, 2009; Walumbwa *et al.*, 2008). The literature presents TL as process/behavior-based leadership and AL as personal trait-based leadership (Northhouse, 2012; Tonkin, 2013). As such, it could be assumed that TL and AL influence employees through different mechanisms (Northhouse, 2012; Tonkin, 2013). Recent work has examined the positive influence of AL on followers' job performance (Leroy *et al.*, 2012), employee creativity (Rego *et al.*, 2012) and the leader–follower relationship (Gardner *et al.*, 2005a), while research on the positive impact of TL has covered job satisfaction (Rothfelder *et al.*, 2013) and leadership efficiency (Tracey and Hinkin, 1996). However, because of the recency of AL, little literature exists on how these two leadership styles work differently and how they generate different outcomes. Walumbwa *et al.* (2008) compared the effects of TL and AL empirically. Their results showed that AL has a greater boosting effect on organizational citizenship behavior, organization commitment and satisfaction with supervisors than TL. Tonkin (2013) showed that AL has a significantly positive impact on followers' altruism with transformational leadership as a control variable.

2.2 Follower PsyCap

Luthans (2002) defined the concept of positive organizational behavior as positive human resource strength and the psychological capacity for performance improvement. This definition led to the introduction of the concept of PsyCap, which denotes the positive psychological state of an individual's development. Luthans *et al.* (2007a) identified four dimensions of PsyCap: "self-efficacy" is an individual's confidence in his/her ability to

undertake tasks successfully; "optimism" is a positive assessment of the future; "hope" is a motivational state in which the individual overcomes obstacles and moves forward; and "resilience" is the ability to manage setbacks, pursue goals and achieve success (Luthans *et al.*, 2007b).

PsyCap is a state-like construct, serving as a job-related positive psychological resource within an individual's cognitive and attitudinal perspective (Luthans *et al.*, 2007b). This implies that PsyCap can be conceptualized as stable over time yet capable of further development (Gardner *et al.*, 2005a), in contrast to most other personal traits, which are seen as unchangeable natural tendencies.

In the hospitality literature, a few recent papers have investigated PsyCap. Jung and Yoon (2015) examined the positive effect of employees' PsyCap on job satisfaction and organizational citizenship behaviors. Karatepe and Karadas (2015) found that employees' higher PsyCap indicates higher satisfaction. Paek *et al.* (2015) reported the positive effect of PsyCap on employees' work engagement and morale. Lin (2013) presented the negative impact of PsyCap on job burnout. These studies have linked PsyCap to other organizational variables but not to leadership styles or SIB.

2.3 Hypotheses development and research model
Recent studies have linked leadership styles to followers' psychological factors (Gooty *et al.*, 2009; McMurray *et al.*, 2010; Rego *et al.*, 2012). Current research supports the notion that PsyCap can be predicted and developed positively through effective leadership (Newman *et al.*, 2014). Logically, the characteristics of TL suggest that it is the right booster to increase the four constructs of PsyCap (i.e. self-efficacy, optimism, hope and resilience). Considering the essence of TL, the strong demonstration skills exhibited by transformational leaders when setting out a vision could inspire followers to set higher goals, assess and expect positive results (linked to optimism and hope), gain confidence in their ability to perform tasks successfully (linked to self-efficacy) and show motivated effort and perseverance in the face of obstacles (linked to resilience) (Gooty *et al.*, 2009; Luthans *et al.*, 2007a).

Empirical support for the effect of TL on follower PsyCap can be found in the literature. Gooty *et al.* (2009) showed that the perception of TL is positively related to follower PsyCap. McMurray *et al.* (2010) reported that TL, in combination with transactional leadership, heightens follower PsyCap. These findings emphasize that the nature of TL, enthusing followers and linking vision and goals, develops follower PsyCap. As such, TL stimulates an increase in the four elements of PsyCap and, thus, the overall follower PsyCap. The above discussion leads to the first hypothesis:

H1. TL positively influences follower PsyCap.

The key characteristics of AL indicate that authentic leaders can positively foster the development of follower PsyCap, implying an increase in followers' self-efficacy, optimism, hope and resilience. First, leaders' authenticity in sharing information can encourage followers to engage more actively and share their ideas (Walumbwa *et al.*, 2011). As a result, followers may feel greater ownership of their tasks and organization. Thus, AL could develop followers' self-efficacy and resilience (Leroy *et al.*, 2012; Luthans *et al.*, 2007b). Authentic leaders' internalized moral perspective can also encourage followers' trust (Gardner *et al.*, 2005b). Followers are likely to believe that authentic leaders will help them to develop further, leading to transparent and fair rewards for followers' superior performance. This implies an increase in followers' optimism and hope.

Luthans and Avolio (2003) argued that authenticity is represented partially by PsyCap. Gardner *et al.* (2005b) emphasized the self-awareness and self-regulation aspects of AL in

boosting follower PsyCap. Luthans *et al.* (2007b) emphasized that the authenticity and transparency of AL boost followers' self-efficacy, optimism, hope and resilience. However, because of the recency of the concept, only a limited number of empirical works have examined AL and shown that it intensifies follower PsyCap. In one such study, Rego *et al.* (2012) demonstrated that AL boosts follower PsyCap. Walumbwa *et al.* (2011) conducted a group-level test and reported the positive influence of AL on employees' collective PsyCap. Clapp-Smith *et al.* (2009) showed that follower PsyCap and perceptions of AL act as antecedents of firm performance. On the basis of our discussion and previous studies' reasoning and results, this study hypothesizes the following:

H2. AL positively influences follower PsyCap.

Under the umbrella of innovation-related behavioral research, SIB has been a recent focus of attention (e.g. Hu *et al.*, 2009; Kim and Lee, 2013) and has been described as employees taking the initiative to develop new products, processes or markets; delivery or organizational innovations; or quality assurance.

Despite a popular research stream of innovation in service and the pivotal role of employees' contributions in improving service quality, only a few recent studies deal specifically with employees' SIB. For example, some studies investigate leadership effect on innovation behavior of followers on the basis that such behavior is largely determined by interaction with, and stimulation by, other staff and that leaders are powerful influencers of behaviors at work (De Jong and Den Hartog, 2007; Northhouse, 2012). This line of research started with an examination of TL and followers' innovation behaviors from a leader–member exchange perspective (Basu and Green, 1997). This work was followed by studies of the impact of leader support on employees' innovation behavior (Janssen, 2005), the role of leaders in employees' innovation behavior (De Jong and Den Hartog, 2007) and the link between TL/transactional leadership and innovation behavior and creativity (Gumusluoglu and Ilsev, 2009; Pieterse *et al.*, 2010). In the hospitality domain, only Wang *et al.* (2014) appear to have investigated the TL–employee creativity link. The important components of leadership for boosting innovation behavior are vision, innovative role modeling, intellectual stimulation, empowerment, support of innovation, recognition, rewards, resources, monitoring, challenges and task assignment (Bass, 1985; De Jong and Den Hartog, 2007; Gumusluoglu and Ilsev, 2009; Janssen, 2005).

The core of TL is the articulation of a higher vision and helping followers to be enthusiastic about goals and achieve them. It, therefore, stimulates followers' intellectual ability to perform in creative ways (Bass, 1985; Gumusluoglu and Ilsev, 2009; Wang *et al.*, 2014). Gumusluoglu and Ilsev (2009, p. 462) described TL as "creativity-enhancing forces", which work by recognizing and encouraging followers, arguing that the intrinsic motivation articulated by TL is a core component of creating new ways of working. Several empirical studies on the relationship of TL and followers' innovation behavior show the positive influence of the former (Gumusluoglu and Ilsev, 2009; Wang *et al.*, 2014), while Pieterse *et al.* (2010) reported TL's limited positive influence on employees' innovation behavior. On the basis of these arguments, the following hypothesis can be formulated:

H3. TL positively influences follower SIB.

Considering the characteristics of AL's traits, one could hypothesize that AL positively influences employees' SIB. Through openness, sharing and supporting their staff (Walumbwa *et al.*, 2008), authentic leaders offer psychological support (Cerne *et al.*, 2013; Gardner *et al.*, 2005b) and psychological safety (Rego *et al.*, 2012; Walumbwa *et al.*, 2008), regarded as critical factors for employee voice behavior. Specifically, AL is presented by

analyzing information objectively, setting high standards of moral conduct and promoting transparency in engaging with followers. Through these traits, authentic leaders can reinforce the trust of their followers, which leads to increased psychological support and safety so that followers feel free to take risks (Northhouse, 2012; Rego *et al.*, 2012) and express themselves (Rego *et al.*, 2012; Walumbwa *et al.*, 2008). This engagement encourages employees to voice unusual ideas or freely express any opinion without fear. Van Dyne and LePine (1998) defined employee voice behavior as an expression of constructive challenge, considered as an important discretionary behavior, leading to the voluntary revelation of problems and suggestions for innovative ideas/behaviors (Walumbwa *et al.*, 2008).

Cerne *et al.* (2013) empirically examined AL positively influences members' creativity and overall innovation. Rego *et al.* (2012) reported that AL predicts employees' creativity, both directly and via mediators. Given the above reasoning and empirical results, the following hypothesis can be posited:

H4. AL positively influences follower SIB.

The literature identifies the role of positive PsyCap as an antecedent and consequent variable, generally in an individual context such as a leader–follower relationship. An individual's PsyCap predicts his/her performance (Gooty *et al.*, 2009; Jafri, 2012; Luthans *et al.*, 2007a), innovation behavior (Jafri, 2012), job satisfaction (Luthans *et al.*, 2007a), turnover (Avey *et al.*, 2009) and stress and well-being (Avey *et al.*, 2009). Research that attempts to connect PsyCap with innovation behavior is scarce because the former is a new construct. Two exceptions are the studies of Jafri (2012) and Sweetman *et al.* (2011), which examined the impact of PsyCap on innovation behavior/performance and creative performance. Therefore, further examination of how significantly the two constructs are linked would be meaningful. The positive relationship between each of the four dimensions of PsyCap (i.e. self-efficacy, optimism, hope and resilience) and innovation behavior have been supported by separate studies.

Individuals with a high level of self-efficacy are resourceful and creative. Individuals who are optimistic about outcomes continue to work through obstacles (Kluemper *et al.*, 2009). In the process of making continued efforts to solve problems, individuals not only use existing resources but also identify new approaches. Empirical studies show that optimism predicts employees' innovation behavior (Li and Wu, 2011). Hope is also a positive predictor of innovation behavior/creativity. Hopeful employees are intrinsically motivated and search for creative solutions when existing ones fail (Rego *et al.*, 2009). Innovation behavior requires the ability to persevere and move forward in a challenging situation and find new ways to solve problems: that is, resilience (Luthans *et al.*, 2007b; Sweetman *et al.*, 2011). This leads to the following hypothesis:

H5. Follower PsyCap positively influences SIB.

The positive influences of:
(a) TL and AL on follower PsyCap (*H1* and *H2*);
(b) TL and AL on SIB (*H3* and *H4*); and
(c) PsyCap on SIB (*H5*) logically lead to the assumption that follower PsyCap acts as a partial mediator of the link between each form of leadership and follower SIB.

In other words, the role of PsyCap as a job-related personal resource construct is to act as a partial mediator of the relationship between (a) TL and follower SIB and (b) AL and follower SIB. The assumption of a mediating effect of follower PsyCap is consistent with previous

works that reported it to mediate leadership and job outcomes and to play a mediating role between TL and both in-role performance and organizational citizenship behavior (Gooty *et al.*, 2009) and between AL and employees' creativity (Rego *et al.*, 2012). On the basis of the above discussion, the following hypotheses can be proposed:

*H6.* Follower PsyCap partially mediates the relationship between TL and follower SIB.

H7. Follower PsyCap partially mediates the relationship between AL and follower SIB.

The research model setting out all the hypothesized relationships among the study variables is shown in Figure 1. To reduce potentially confounding effects, consistent with previous studies on the variables of PsyCap and SIB (Hu *et al.*, 2009; Rego *et al.*, 2012), the current research controls for several participant profile variables reported to influence PsyCap and SIB (i.e. gender, age, education and job position). TL and AL are leader-level variables, and follower PsyCap and SIB are follower-level variables.

3. Method
3.1 Sample and procedure
The judgmental sampling in which population elements are considered by the researcher's judgment was applied to determine the study sample (Judd *et al.*, 1991). Considering the study's focus on employees' SIB, data were gathered from full-time frontline employees (e.g. in the food and beverage, front desk, door/bell and guest relations sections) of five-star hotels in Seoul, South Korea including representing all job positions in the hotels. All ranks

Figure 1.
Hypothesized
research model
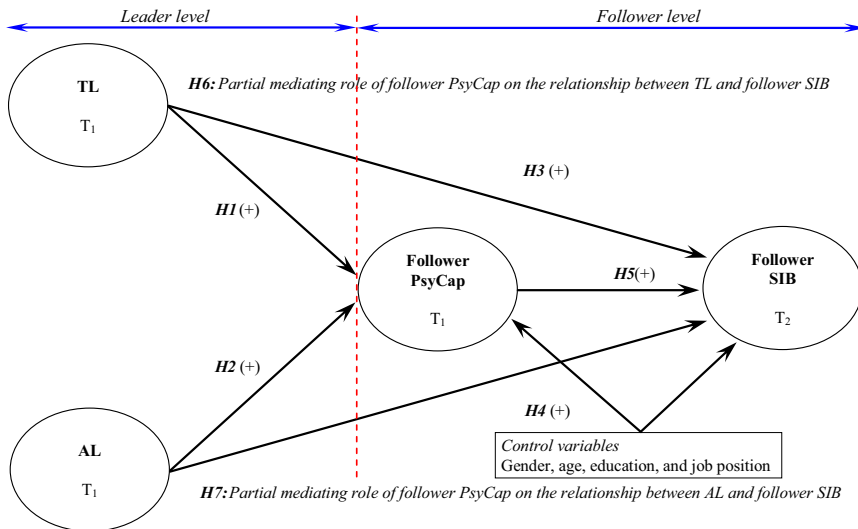
Notes: To reduce potential common method variance, the two leadership styles of TL and AL and follower PsyCap were surveyed in the first-wave survey stage (T1), and follower SIB was surveyed in the second-wave survey stage (T2). TL = transformational leadership; AL = authentic leadership; PsyCap = psychological capital; SIB = service innovation behavior

of frontline employees should seek new service techniques and methods (i.e. SIB) to meet customers' various needs (Hu *et al.*, 2009). While first-line employees have intense contact with customers, supervisors/managers interact directly with customers when needed. The researchers contacted the human resource managers of all the five-star hotels in Seoul, and 15 of them agreed to allow the research team to administer a survey.

Common method variance is the "variance that is attributable to the measurement method rather than to the constructs the measures represent" (Podsakoff *et al.*, 2003, p. 879). If not controlled in empirical studies, common method variance potentially threatens the magnitude of relationships among variables. We attempted to address this concern: data were gathered in different waves, which go along with recent studies (Paek *et al.*, 2015). In the T_1 survey (February 2013), employees reported their direct supervisor's TL and AL and their own level of PsyCap. Their profile information was also reported: gender, age, education, department and job position. Participants in the T_2 wave (March 2013) who had completed T_1 questionnaires were asked to survey again and rate their SIB. The hotels' human resource managers helped to organize a randomly selected list of 400 potential respondents. Managing complete confidentiality, a list of the names and identification number of each employee with his/her hotel and department was prepared, while the identification number was written on their questionnaire. Through this procedure, the questionnaires at T_1 and T_2 could be matched. Managers distributed the questionnaires, and respondents returned the sealed envelopes to a box in their hotel's personnel department. The completed surveys were sent back from hotels to research administrators for data input. Respondents received a small gift upon completion of their questionnaire at both T_1 and T_2.

At T_1, 400 questionnaires were distributed and 361 were returned. Fifteen questionnaires were discarded because they were incomplete, leaving a sample of 346. For the T_2 survey, the 346 workers who participated in the first questionnaire received the questionnaires and 340 questionnaires were returned. After four were discarded owing to missing data and outliers, 336 surveys were kept for the final data set. This resulted in a response rate of 84.0 per cent. Table I presents the respondents' demographic profiles.

3.2 Measures

TL and AL, follower PsyCap and the control variables were surveyed at T_1, and follower SIB was measured at T_2. The authors adapted validated items for all the constructs from prior studies (Appendix).

T_1 survey. TL was operationalized via a 20-item scale adapted from Bass and Avolio's (2000) Multifactor Leadership Questionnaire (MLQ-Form 5X). The MLQ-Form 5X measures TL as a second-order factor comprising five first-order factors: attributed idealized influence, behavioral idealized influence, inspirational motivation, intellectual stimulation and individualized consideration. Responses to the items were measured on a five-point Likert scale (0 = *not at all* to 4 = *very frequently, if not always*).

Neider and Schriesheim's (2011) Authentic Leadership Inventory (ALI) was used to assess employees' perception of their direct supervisor's AL, measuring AL as a second-order factor comprising the four first-order factors of self-awareness, relational transparency, internalized moral perspective and balanced processing. Responses to a total of 16 items were measured on a five-point Likert scale (0 = *not at all* to 4 = *very frequently, if not always*).

Follower PsyCap was determined by the 24 items developed by Luthans *et al.* (2007b), measuring PsyCap comprising four first-order factors: self-efficacy, optimism, hope and resilience. A seven-point Likert scale (1 = *strongly disagree* to 7 = *strongly agree*) was used to rate the items.

Characteristics	Frequency (*n*)	(%)
Gender		
Male	137	40.8
Female	199	59.2
Age (years)		
Under 30	183	54.5
30-39	125	37.2
40 and older	28	8.3
Education level		
High school	14	4.2
Two-year college	195	58.0
University	103	30.7
Graduate school	24	7.1
Department		
Rooms	156	46.4
Food and beverage	165	49.1
Others	15	4.5
Job position		
First-line level	252	75.0
Supervisor level	57	17.0
Assistant manager level	17	5.0
Manager level or above	10	3.0

Table I.
Respondents' profiles
(*n* = 336)

Finally, the respondents' demographic variables (i.e. gender, age, education and job position), were taken as control variables as potentially significant related with, and potentially confounding on the variables follower PsyCap and SIB (Hu *et al.*, 2009; Rego *et al.*, 2012).

T₂ survey. Follower SIB was measured using a six-item scale taken from Hu *et al.* (2009), recorded on a seven-point Likert scale (1 = *strongly disagree* to 7 = *strongly agree*).

4. Results
4.1 Psychometric properties of the measures
The TL, AL and follower PsyCap constructs are second-order factors comprising five, four and four first-order factors, respectively. The confirmatory factor analysis (CFA) results indicated that the second-order factor AL fitted the data well [$\chi^2_{[100]}$ = 285.700, Q = 2.857; goodness of fit index (GFI) = 0.905; root mean square error of approximation (RMSEA) = 0.074; normed fit index (NFI) = 0.909; comparative fit index (CFI)] = 0.936), while TL and follower PsyCap did not. A scrutiny of the results of TL and follower PsyCap suggested the deletion of three indicators (AII1, IS4 and IC4) from the TL measure and two (OP3 and RE6) from the PsyCap measure owing to correlation measurement errors. The revised model of the TL ($\chi^2_{[114]}$ = 333.155, Q = 2.922; GFI = 0.894; RMSEA = 0.076; NFI = 0.885; CFI = 0.921) and follower PsyCap ($\chi^2_{[205]}$ = 521.315, Q = 2.543; GFI = 0.884; RMSEA = 0.068; NFI = 0.905; CFI = 0.939) second-order factors fitted the data well as almost all the fit statistic values exceeded the threshold to adapt models (Hair *et al.*, 2010). All factor loadings from the measurement items to the first-order factors and from the first- to the second-order factors were significant at the 0.001 level for TL, AL and follower PsyCap. Therefore, we

determined that the overall psychometric properties of the TL, AL and PsyCap second-order factor scales were acceptable.

For a full CFA model assessment, as shown in Table II, we created domain-representative parcels to serve as indicators of the second-order latent constructs (i.e. TL, AL and follower PsyCap) in the CFA for model parsimony (Bandalos and Finney, 2001). The fit results of the full measurement model indicated that the indices did not fit the data well. On the basis of a reexamination through correlation measurement errors, one indicator (SIB1) was deleted. After SIB1 was discarded (Table II), the results, which included four factors and 18 indicators, revealed that all indicators loaded heavily on their underlying factors and demonstrated a good fit: $\chi^2_{[129]} = 346.941$, Q = 2.829; GFI = 0.899; RMSEA = 0.074; NFI = 0.945; and CFI = 0.964. All factor loadings were greater than 0.50 and significant ($p < 0.001$). The average variance extracted (AVE) and composite reliability values exceeded the thresholds of 0.50 and 0.70, respectively (Fornell and Larcker, 1981). The coefficient alpha values exceeded the cut-off level of 0.70 (Nunnally, 1978). Internal consistency reliability and convergent validity were achieved on the basis of these results.

As shown in Table III, we compared the AVE and the squared correlation between variables (Fornell and Larcker, 1981). The results revealed that the squared correlation between pairs of constructs was less than the AVE for these constructs. Thus, discriminant validity was achieved (Fornell and Larcker, 1981).

4.2 Model test results
To conduct a rigorous test of the hypothesized relationships, we included pathways from respondents' gender, age, education and job position as control variables to follower PsyCap

Factor and indicators	AVE	CR	Alpha	Standardized loadings	t-values
Transformational leadership	0.732	0.953	0.887		
TL1				0.777	18.092
TL2				0.833	20.522
TL3				0.885	–
TL4				0.776	18.079
TL5				0.673	14.439
Authentic leadership	0.828	0.959	0.918		
AL1				0.949	–
AL2				0.864	27.398
AL3				0.777	21.012
AL4				0.713	17.699
Follower PsyCap	0.708	0.931	0.912		
PsyCap1				0.748	16.533
PsyCap2				0.861	–
PsyCap3				0.877	21.693
PsyCap4				0.906	12.093
Follower service innovation behavior	0.559	0.912	0.883		
SIB2				0.738	16.339
SIB3				0.810	–
SIB4				0.797	18.162
SIB5				0.793	18.039
SIB6				0.739	16.371

Notes: All standardized factor loadings are significant at $p < 0.001$. PsyCap = psychological capital; AVE = average variance extracted; CR = composite reliability

Table II.
Full measurement model

| Variables	1	2	3	4	5	6	7	8	M	SD
1. Gender									0.408	0.492
2. Age	0.052								1.539	0.645
3. Education	−0.091	0.057							2.408	0.685
4. Job position	0.043	0.062	0.138*						1.361	0.715
5. Transformational leadership	0.049	0.042	0.014	0.034	(0.732)	0.379	0.484	0.277	2.561	0.636
6. Authentic leadership	−0.082	0.037	0.051	0.186*	0.616**	(0.828)	0.498	0.398	2.365	0.609
7. Follower PsyCap	−0.035	0.045	0.012	0.034	0.696**	0.706**	(0.708)	0.368	5.123	0.853
8. Follower service innovation behavior	−0.034	0.039	0.124*	0.195*	0.526**	0.631**	0.607**	(0.559)	5.051	0.784

Notes: Correlations among the study variables are presented in the lower off diagonal, calculated values of the shared variance (i.e. squared correlations) among the study variables are presented in the upper off diagonal, and AVE values are presented in parentheses along the diagonal. PsyCap, psychological capital; AVE, average variance extracted; *$p < 0.05$; **$p < 0.01$

Table III.
Descriptive statistics, correlations and the result of the discriminant validity test

and SIB. The results indicated acceptable fit: $\chi^2_{[192]} = 433.502$, Q = 2.498; GFI = 0.892; RMSEA = 0.067; NFI = 0.922; and CFI = 0.951. All of the hypotheses regarding direct paths and mediating role were supported (Figure 2).

4.2.1 Direct effects. The path coefficients from TL ($\gamma_{11} = 0.418$, $t = 9.617$) and AL ($\gamma_{12} = 0.452$, $t = 10.291$) to follower PsyCap were significant and positive at $p < 0.001$, thus supporting *H1* and *H2*. The results show that the impact of AL on follower PsyCap was *greater* than that of TL. The results also provide support for *H3* and *H4* because TL ($\gamma_{21} = 0.120$, $t = 2.102$, $p < 0.05$) and AL ($\gamma_{22} = 0.342$, $t = 5.846$, $p < 0.001$) influences significantly and positively on follower SIB. The results demonstrate that the impact of AL on follower SIB is *greater* than that of TL. Finally, consistent with our predictions, follower PsyCap ($\beta_{21} = 0.275$, $t = 4.346$, $p < 0.001$) was significantly and positively related to follower SIB, thus supporting *H5*.

Education level was positively related to follower PsyCap ($\gamma_{15} = 0.113$, $t = 1.985$) and SIB ($\gamma_{25} = 0.227$, $t = 2.173$). Job position was positively related to follower SIB ($\gamma_{26} = 0.301$, $t = 4.784$). The proposed model accounted for 61 per cent of the variance in follower PsyCap and 47.5 per cent of that in follower SIB.

4.2.2 Partial mediating effects. Although mediation hypotheses have traditionally been tested using the four-condition approach outlined in the work of Baron and Kenny (1986), recent studies MacKinnon *et al.* (2002) and Preacher and Hayes (2004) have shown that in certain cases a mediating effect may be indicated even though none exists. In addition, Baron and Kenny's (1986) method can identify the presence of a mediating effect, but it is not a direct statistical test (Kraemer *et al.*, 2002). To address these issues, and to be certain of whether there was a mediating effect in our data, this study used two statistically rigorous
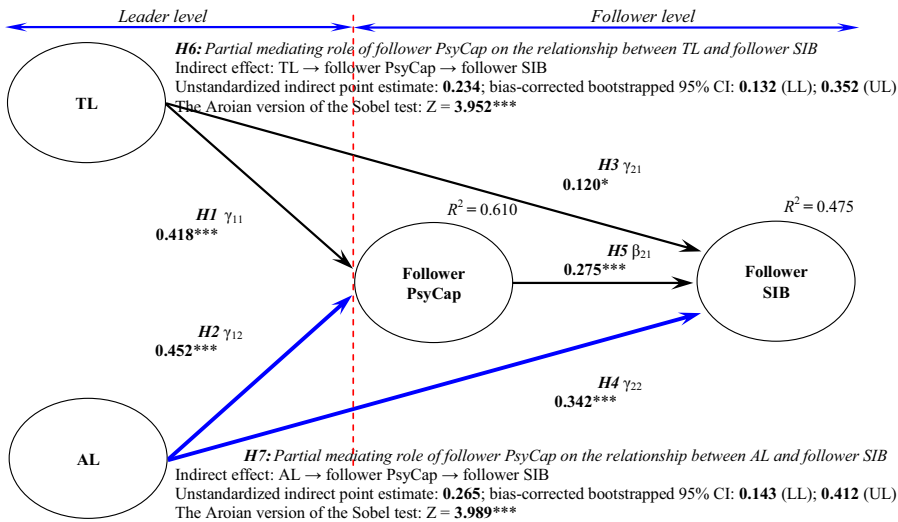
Notes: Sample size: 336; number of bootstrap resamples: 5,000. For the sake of simplicity, the measurement portion of the model and the paths related to the control variables (i.e. gender, age, education and job position) are not shown in the figure. TL, transformational leadership; AL, authentic leadership; PsyCap, psychological capital; SIB, service innovation behavior; CI = confidence interval; LL = lower limit; UL = upper limit; *$p < 0.05$, ***$p < 0.001$

Figure 2.
Model test results

methods: the Aroian version of the Sobel test (Baron and Kenny, 1986) and the bias-corrected bootstrapping method (Preacher and Hayes, 2004). Although there have been researchers who support using one single method, we followed the argument of MacKinnon *et al.* (2002), which the combined approach of applying both the Aroian version of the Sobel test, and the bootstrapping method is more suitable than one method. Meanwhile, use of a single method has been supported in the following studies: MacKinnon *et al.* (2002) concluded that the Sobel method was the most accurate among the 14 different ones they tested, and Preacher and Hayes (2008) demonstrated that the bootstrapping approach is a more powerful and suitable to determine the significance of a mediating effect than the traditional causal steps (Baron and Kenny, 1986) and product-of-coefficients approaches, such as the Sobel test (Sobel, 1982).

The Aroian version of the Sobel test showed the significant and positive effect ($z = 3.952$, $p < 0.001$) for the path from TL to SIB via PsyCap as a mediator (Figure 2). When using the bootstrapped confidence interval (CI), mediation is indicated by the exclusion of zero from the CI around the indirect effect. The indirect effect of TL–follower PsyCap–follower SIB (unstandardized indirect point estimate: 0.234; 95 per cent CI [0.132; 0.352]) did not contain zero. The z score (3.989) for the path from AL to follower SIB through follower PsyCap was also significant and positive ($p < 0.001$). The indirect effect of AL–follower PsyCap–follower SIB (unstandardized indirect point estimate: 0.265; 95 per cent CI [0.143; 0.412]) also did not contain zero. The results demonstrate that follower PsyCap is acting as a significant partial mediator of the relationship between TL and follower SIB and that between AL and follower SIB. Thus, the aforesaid results collectively support *H6* and *H7*. In particular, the results show that the mediating impact of AL on follower SIB via follower PsyCap is *greater* than that of TL on follower SIB via follower PsyCap.

5. Conclusion
5.1 Significance of the findings and contributions to theory and research
First, as meaningful but relatively unexplored constructs, the positive effects of AL on work-related variables among followers have been proposed by only few studies in the hospitality literature (Leroy *et al.*, 2012; Rego *et al.*, 2012; Tonkin, 2013); an empirical examination of these effects is the contribution of this study. Despite its significance, SIB has only recently and rarely been addressed in the hospitality literature, which offers here a distinct perspective, as service-related outcomes are the central concern in hospitality (Kim and Lee, 2013). Research on service-related performance outcomes has been very limited in the general management context, let alone the hospitality context. Generic outcome variables, on the other hand, have been extensively investigated. By using follower SIB as an outcome variable, this study extends the literature, offering new and important insights to academics and practitioners. The positive impacts of AL and TL on PsyCap and SIB have not been tested in the literature before, and so, the current study adds to previous studies that have examined the positive effects of AL and TL on other job-related outcomes (Leroy *et al.*, 2012; Rego *et al.*, 2012; Rothfelder *et al.*, 2013; Tracey and Hinkin, 1996).

Second, Walumbwa *et al.* (2008) and Tonkin(2013) focus on general management. Within the same research framework, this study contributes specifically to the hospitality literature. As the study's results show that AL has a *stronger* effect on followers' resources (i.e. PsyCap) and performance (i.e. SIB) than TL, it is possible that the characteristics of AL and its influence on followers may produce a shift in perceptions of what constitutes a desirable leader, namely, a preference for authenticity over transformational skills (Northhouse, 2012; Tonkin, 2013). This study implies that AL's characteristics have a stronger psychological appeal for followers than the key elements of TL. TL aims at higher goals and stimulates an

intellectual engagement with it, while AL stems from the leader's authenticity (Bass, 1985; Gumusluoglu and Ilsev, 2009).

As such, the presented results provide a starting point for a discussion on the impact and advantages of AL over TL at the hospitality frontline. For example, AL may make followers perform better and more positively because actions are taken for the best interests of the followers, not only for the organization. As AL comes with an internalized moral perspective and relational transparency, being concerned about followers and acting more ethically toward them, employees echo with a positive performance the best interests of the company (Brownell, 2010). In addition, more empowerment would be critical for hospitality frontline employees as the jobs of these employees have a high level of heterogeneity and interaction (Slåtten and Mehmetoglu, 2011). In other words, within every unique service encounter and customer interaction, empowerment supports employees to be flexible and creative/ innovative (i.e. SIB components). Specifically, authentic leaders' transparent engagement with employees and the trust and respect they show toward them backs up employees, unlike transformational leaders, who would not advocate mutual well-being under certain demands but rather would emphasize extraordinary outcomes.

Third, few studies have discussed the need for AL at a time when leaders' ethical and trustworthy practices are becoming increasingly essential in hospitality. According to Brownell (2010), a strong service climate is created by fostering ethical practices and a culture of mutual trust and respect, especially in a globalized corporate environment. Studies that link AL and PsyCap components directly are very scarce in the hospitality literature. Previous findings may support the highly feasible connection between leaders' high ethics/morals and followers' psychological positivity. In accordance with Kim and Brymer (2011), this study finds that the high ethical components of AL foster follower's service performance and PsyCap.

Lastly, the results highlight that AL and TL show *stronger* effects on follower PsyCap than on SIB and *much stronger* effects on follower PsyCap than those of follower PsyCap on SIB. Here, the role of PsyCap as an outcome of leadership styles is stronger than its role as an antecedent of SIB, although PsyCap is proposed as a partial mediator here. Therefore, this study shows that leadership styles are very closely tied to followers' psychological factors, such as PsyCap (McMurray *et al.*, 2010; Newman *et al.*, 2014). However, the relatively weak influence of PsyCap on SIB could be a management concern in terms of how to stimulate SIB from PsyCap effectively.

5.2 Managerial implications

First, the *greater* impact of AL than TL conveys significant information to hospitality industry practitioners about the recruitment, development and retention of staff, both frontline and supervisory, suggesting the abandonment of the conventional leader–follower relationship. Therefore, it is suggested that corporate human resource management practices be reviewed, putting greater emphasis on AL than on other leadership traits, and optimized to identify, retain and promote management staff with desirable qualities related to AL traits. Therefore, recruitment and promotion screening processes need be adjusted to focus on identifying AL-type candidates and employees efficiently. In addition, turning the corporate culture toward AL, for example, by emphasizing authenticity as a desirable leader/employee trait through corporate communication and culture dissemination, would be worthwhile.

Second, we suggest a practical application related to the development of higher follower PsyCap. On the basis of our results, a systematic mapping of members' PsyCap level and managers' AL trait fit could be considered for the recruitment, assignment and promotion of

managers within their companies, where managers with higher AL traits are allocated to teams that require PsyCap development the most. While PsyCap can be developed through intervention, positive psychological capacities can be improved by short training programs (Luthans *et al.*, 2006). The idea of interventions is to train employees, and make them experience how to develop their attitudes, knowledge and skills to manage work-related situations positively. A concurrent training program designed to increase PsyCap can gain a synergetic effect through a systematic mapping of members' PsyCap level and leaders' AL traits.

Despite our positive suggestions, the literature has highlighted some concerns regarding boosting innovation behavior. People often fear sanctions and disadvantages when they express their emotions in a transparent and authentic fashion. Followers experience this fear when talking and/or presenting to their managers (Yagil and Medler-Liraz, 2014). Managers have the same tendency, which can be a serious obstacle when promoting AL practices. Therefore, an organization should consider the benefits of managers sharing their weaknesses and negative information in a transparent and honest manner.

5.3 Limitations and avenues for future research
Although this study is based on a robust analysis, it has certain limitations signaling directions for future research. First, as our data came from five-star hotels in South Korea, cultural effects may have affected interactions between leaders and followers. Samples with greater cultural and geographical diversity may extend our findings. During the testing of the models in this study, one indicator of SIB among six items was deleted to improve the model fit. Hu *et al.* (2009) used Taiwanese data, where all six SIB items were valid. Thus, work-related cultural differences between Taiwan and South Korea may affect the model fit slightly differently. However, the positive effect of TL on SIB found in this study is consistent with other studies from the South Korean research and development industry (Shin and Zhou, 2003).

Second, while using a one-month time-lagged research design for data collection is more robust than employing a one-off data collection, an extended data collection period in future studies could examine causalities more rigorously.

Lastly, this study used individual-level variables to measure the outcomes of leadership styles. Future studies could examine the effect of AL and TL on organizational-level performance variables such as organizational innovation to give further reliable insights (Somech, 2006).

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Appendix. Sample scale items

Transformational leadership

(1) Attributed idealized influence (TL1):
- AII1. My association with my leader instills pride in me.
- AII2. My leader goes beyond his/her self-interest for the good of the group.
- AII3. #
- AII4. #

(2) Behavioral idealized influence (TL2)
- BII1. My leader talks about her/his most important values and beliefs.
- BII2. My leader specifies the importance of having a strong sense of purpose.
- BII3. #
- BII4. #

(3) Inspirational motivation (TL3)
- IM1. My leader talks optimistically about the future.
- IM2. My leader talks enthusiastically about what must be accomplished.
- IM3. #
- IM4. #

(4) Intellectual stimulation (TL4):
- IS1. My leader examines critical assumptions to question whether they are appropriate.
- IS2. My leader seeks different perspectives when solving problems.

- IS3. #
- IS4. #

(5) Individualized consideration (TL5):
- IC1. My leader spends time teaching and coaching.
- IC2. My leader treats me as an individual rather than just a member of the group.
- IC3. #
- IC4. #

Authentic leadership

(1) Self-awareness (AL1):
- SA1. My leader solicits feedback to improve his/her interaction with others.
- SA2. My leader accurately describes the way that others view his/her abilities.
- SA3. #
- SA4. #

(2) Relational transparency (AL2):
- RT1. My leader clearly states what he/she means.
- RT2. My leader admits mistakes when they occur.
- RT3. #
- RT4. #

(3) Internalized moral perspective (AL3):
- IMP1. My leader shows consistency between his/her beliefs and actions.
- IMP2. My leader uses his/her core beliefs to make decisions.
- IMP3. #
- IMP4. #

(4) Balanced processing (AL4):
- BP1. My leader asks for ideas that challenge his/her core beliefs.
- BP2. My leader carefully listens to alternative perspectives before reaching a conclusion.
- BP3. #
- BP4. #

Follower psychological capital

(1) Self-efficacy (PsyCap1):
- SE1. I feel confident analyzing a long-term problem to find a solution.
- SE2. I feel confident about presenting my work area in meetings with management.
- SE3. #
- SE4. #
- SE5. #
- SE6. #

(2) Optimism (PsyCap2):
- OP1. When things are uncertain for me at work, I usually expect the best.
- OP2. If something can go wrong for me workwise, it will.[R]
- OP3. #

- OP4. #
- OP5. #[R]
- OP6. #

(3) Hope (PsyCap3):
   - HO1. If I found myself in a jam at work, I could think of many ways to get out of it.
   - HO2. At present, I am energetically pursuing my goals.
   - HO3. #
   - HO4. #
   - HO5. #
   - HO6. #

(4) Resilience (PsyCap4):
   - RE1. When I face a setback at work, I have trouble recovering from it and moving on.[R]
   - RE2. I usually manage difficulties one way or another at work.
   - RE3. #
   - RE4. #
   - RE5. #
   - RE6. #

Follower service innovation behavior

- SIB1. At work, I come up with innovative and creative notions.
- SIB2. At work, I propose my own creative ideas and convince others.
- SIB3. . . .
- SIB4. . . .
- SIB5. . . .
- SIB6. . . .

Notes: Instructions given to respondents in organizations usually include the definitional statement "Please note that the term 'leader' means your direct supervisor". # Items are copyrighted. [R] denotes reversed-scored item.

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