Economic and social LMX and innovative work behaviour: the moderating effect of paradox mindset

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Abstract

Purpose – In this study the authors investigate the relationship of both social (SLMX) and economic (ELMX) leader–member exchange with innovative work behaviour (IWB) and the potential moderating effect of having a paradox mindset. A paradox mindset facilitates the recognition of tensions and the integration of competing demands and goals, which may fuel IWB.

Design/methodology/approach – At two points in time the authors gathered survey data from employees working in the mid and back office of a Dutch bank.

Findings – SLMX associates with innovative behaviour, whilst ELMX does not. However, when paradox mindset is included as a moderator, the authors find negative interaction effects of paradox mindset with both ELMX and SLMX.

Practical implications – The findings indicate that management should be aware of the impact that having a paradox mindset has on the innovative work behaviour of employees. Managers are well advised to assess the extent to which an employee entertains a paradox mindset and adjust the type of leadership appropriate to the situation, and in particular adjust the intensity of their exchange relationship with these employees.

Originality/value – Paradox mindset acts as a substitute for an employee's social relationship with the leader, as paradox mindset captures most of the variation in IWB, thereby drawing influence away from SLMX. This finding complements studies showing that a person's mindset can greatly influence innovative work behaviour.

Keywords Social and economic leader–member exchange, Paradox mindset, Innovative work behaviour

Paper type Research paper

1. Introduction

Innovation is crucial for organisations to compete in today's dynamic organizational environments that contain various conflicting interests and goals. It is no longer sufficient to organise innovation in dedicated departments; it is important that all employees show innovative work behaviour to some extent. Since innovation is related to both generating creative ideas and implementation of ideas, undertaking innovative activities brings about various tensions and contradictions for employees. These include the need to be open to divergent and convergent thinking, and adopt a promotion as well as a prevention focus

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(Bledow *et al.*, 2009; George and Zhou, 2001; Lockwood *et al.*, 2002). Moreover, organizational management cannot simply assume that employees engage in innovative work behaviour (IWB). IWB reflects the generation, promotion and implementation of ideas (Janssen, 2000). It can be conceived as extra-role behaviour, i.e. desired behaviour that is not formalised in job descriptions (Organ *et al.*, 2005). IWB comes forth from the motivation and willingness of employees to go beyond formal paths, whereby employees often do not know whether they will be rewarded by the organisation for displaying these behaviours (Caniëls and Veld, 2019).

Studies have shown that embracing high-quality leader–member exchange relationships (LMX) (Basu and Green, 1997) facilitates IWB and develops an innovative climate. The LMX concept describes the dyadic exchange relationship between leader and subordinate. This relationship shapes the attitudes and behaviours of subordinates (for a review article, see Dulebohn *et al.*, 2012). LMX theory poses that leaders develop different quality relationships with each of their subordinates (Liden *et al.*, 2006; Yu *et al.*, 2018). The differences in these relationships may result in differences in behaviour and attitudes of subordinates, including IWB. When experiencing high-quality LMX, an employee is willing to develop and to demonstrate extra-role behaviour (Basu and Green, 1997; Agarwal *et al.*, 2012). It is likely that even when employees face paradoxical tensions and contradictions in their activities, they continue to display IWB, because of the high-quality exchange relationship with their leader. Prior studies in this field have evaluated LMX on a continuum from low-quality to high-quality relationships (Graen and Uhl-Bien, 1995). However, the relationship between LMX and IWB may need a more nuanced conceptualisation of LMX. Recent studies have shown that LMX has two dimensions. The first dimension, social LMX (SLMX) is defined as an exchange relationship between leader and subordinate that is characterised by feelings of diffuse obligation and less need for immediate payoffs as both leader and subordinate trust that the other will reciprocate (Berg *et al.*, 2017; Caniëls and Hatak, 2019). Leaders and employees share an informal, emotional bond. The second dimension, economic LMX (ELMX), is defined as an exchange relationship between leader and subordinate that is characterised by a more marketplace, transactional, and contractual nature (Kuvaas *et al.*, 2012). It is based on formal status differences, downward influence and discrete agreements which demand repayment within a certain period of time (Agarwal *et al.*, 2012). The prevailing thought is that SLMX may support IWB (see, e.g. Berg *et al.*, 2017), whilst ELMX may counteract it. However, these claims have not been validated by empirical research.

With respect to tensions and contradictions that accompany innovation, scholars suggest that employees can cope with these tensions by embracing a paradoxical frame of mind (Miron-Spektor *et al.*, 2011; Rosing and Zacher, 2016) or even a paradox mindset (Miron-Spektor *et al.*, 2018; Koryak *et al.*, 2018). By embracing a paradox mindset, individuals acknowledge the contradictions inherent in innovation, yet they understand that creativity and implementation are complementary or mutually reinforcing processes. Having a paradox mindset facilitates the recognition of tensions and the integration of competing demands and goals leading to learning and potentially leading to creative self-efficacy (Shao *et al.*, 2019) and hence IWB (Orth and Volmer, 2017).

Given the importance of IWB for the innovation process of organisations, there is a need to gain insights about how an organisation (via LMX) can stimulate IWB of their employees. In the present study, we posit the following. As individuals face the complex task of self-regulating conflicting demands of innovation, it may be so that the degree in which employees adopt a paradox mindset interacts with the nature of their relationship with their leader. In other words, an employee's paradox mindset may have a moderating effect on the relationship between LMX (social and economic) and IWB. The aim of our exploratory study is to investigate the extent to which SLMX and ELMX predict IWB and to explore whether

the adoption of a paradox mindset moderates this relationship. We do this by undertaking a two-wave study of 160 mid- and back-office employees of a Dutch bank.

With our study, we address two research gaps that are present in current studies about the LMX-IWB relationship. First, by explicitly disentangling the two dimensions of LMX (i.e. SLMX and ELMX) we provide a more nuanced image of the LMX-IWB relationship, as compared to studies that view LMX as a continuum. Second, prior studies have identified the importance of paradox tensions for the innovation process (Miron-Spektor *et al.*, 2018), yet studies about its effects on the innovation process are lacking. Specifically, little is known about the effect of paradox mindset on the relationship between a supportive social leader–member exchanges and IWB. Therefore, our study contributes to current knowledge by exploring whether the LMX-IWB relationship is moderated by the extent to which employees entertain a paradox mindset.

The structure of this paper is as follows. Based on a brief review of the relevant literature, we present our research model with related hypotheses in section 2. Section 3 discusses the data, variables and research method to validate our research model, whilst section 4 describes the statistical results. Finally, we discuss the findings and the implications for practice and (future) research in section 5.

2. Theory and hypotheses

2.1 Innovation and IWB

Innovation is not only the development of new and useful ideas by individuals, teams and organisations, but also the deliberate introduction of them (Bledow *et al.*, 2009). Innovation is therefore fundamentally paradoxical in nature (Miron *et al.*, 2004) as it is characterised by the conceptual dichotomy between creativity (i.e. idea exploration and generation) and implementation (idea championing, realisation and exploitation), which are intertwined and mutually dependent processes (Gilson *et al.*, 2005). This dichotomous nature of innovation is also reflected in the innovative work behaviour (IWB) of individuals. IWB is a multi-dimensional construct comprising the required behaviours of employees to effectively contribute to the innovation process, i.e. it is defined as the intentional behaviour of an employee to create and implement new ideas, products, processes and procedures (Janssen, 2000; West and Farr, 1989). Hence, IWB includes both creativity-oriented work behaviour and implementation-oriented work behaviour. Creativity-oriented work behaviour refers to explorative behaviour to recognise opportunities and generate ideas, whilst implementation-oriented work behaviour refers to exploitative behaviour to promote, realise and execute an idea. Individuals must exhibit both explorative and exploitative behaviour to be innovative (Rosing and Zacher, 2016). IWB requires proactive, promotive behaviour, but – dependent on the specific innovation stage and corresponding challenges – also challenging behaviour. These behaviours are often not part of the role expectations and are usually not recognised in formal reward systems. They refer to *extra-role* behaviour, because in dynamic environments it is not possible to specify all desired employee behaviours (Van Dyne and LePine, 1998). Studies show that innovative work behaviour is predominantly the result of the intrinsic motivations of employees (Amabile, 1988). In a sense, IWB is the outcome of employees' perceptions of psychological contract fulfilment on their part in reaction to various job-related benefits (De Spiegelaere *et al.*, 2012), such as job autonomy (Ramamoorthy *et al.*, 2005), job control (Axtell *et al.*, 2000) and job demand (Janssen, 2000).

Many studies have investigated antecedents of IWB related to personality and individual characteristics, such as problem-solving style (Scott and Bruce, 1994), openness to experience (George and Zhou, 2001), proactive behaviour (Parker *et al.*, 2006) and individual ambidexterity (Rosing and Zacher, 2016; Caniëls and Veld, 2019). Antecedents of IWB related to the workgroup and the wider organisation can be categorised as innovative climate

factors (Bysted and Jespersen, 2014), and leadership factors. With respect to the characteristics of leadership in relation to IWB, several studies pertain to transformational leadership. The key point of transformational leadership is to encourage and elicit innovative behaviour from followers by expressing an inspiring vision, encouraging followers to question the status quo and enable individual development and growth (Basu and Green, 1997). The few scientific articles on the effect of transformational leadership on innovative follower behaviour have produced mixed results, ranging from finding a positive relationship (Boerner *et al.*, 2007), no direct effect (Moss and Ritossa, 2007) to finding a strong negative effect (Basu and Green, 1997). Some studies show that the effect of transformational leadership on IWB is mainly indirect; it is mediated by debate, i.e. the engaging in heated discussions and controversies about task-related issues (Gebert *et al.*, 2006), leader's unconventional behaviour (Jaussi and Dionne, 2003), or psychological empowerment (Nederveen Pieterse *et al.*, 2010). Notably, Basu and Green (1997) posed that transformational leadership may deter innovative behaviour dependent on the follower's perception of the leader's intention, which can be more social or economic.

2.2 Social and economic LMX and IWB

Originally, Leader Member Exchange (LMX) theory focusses on the quality of social exchange relationships between leaders and employees (Blau, 1964), as it predicts the performance-related and attitude-related outcomes of employees (De Jong and Den Hartog, 2007). These exchange relationships are considered to vary on a continuum of low-quality transactional relationships – characterised by formal, role-defined interactions and predominantly contractual exchanges (i.e. involving little more than what is formalised in the employment contract) – to more comprehensive, high-quality relationships, characterised by mutual trust, sympathy and respect (Kuvaas *et al.*, 2012). By capturing the quality level of the exchange in a single variable, researchers implicitly tried to measure the extent to which social exchange relationships, as opposed to economic exchange relationships, are related to the results of employees. However, Kuvaas *et al.* (2012) proposed that the social and economic dimensions of LMX relationships must be considered as two separate constructs, as opposed to different levels of qualities of a single construct. LMX should therefore not be assessed using a single-continuum approach. Instead, a social and an economic dimension should be distinguished. The social dimension of LMX is characterised by long-term oriented exchanges based on the belief of social obligation, where each exchange does not require immediate repayment, as both the leader and the subordinate have confidence that the other will reciprocate (Berg *et al.*, 2017). Economic LMX relationships are characterised by a short-term orientation. These relationships are formal and transactional exchanges based on downward influence, a status difference between the leader and the subordinate, and by the fact that both parties are motivated by immediate self-interest and short-term payoff (Shore *et al.*, 2006; Kuvaas *et al.*, 2012). Recent research has shown that economic and social LMX relationships impact employee outcomes differently (Berg *et al.*, 2017).

With respect to innovative work behaviour, LMX theory suggests that the quality of the relationship between leader and subordinate, i.e. social LMX, relates to innovativeness (Graen and Scandura, 1987). Studies have shown that a high-quality LMX relationship is associated with more autonomy and decision-making latitude on part of the subordinate (Graen and Uhl-Bien, 1995); which both are positively related to innovative behaviour (Scott and Bruce, 1994). In addition, Basu and Green (1997) showed that LMX quality was directly and indirectly related to innovative behaviour of employees by increasing leaders' support of subordinates and their ability to increase employee engagement with their organisations. Janssen and Van Yperen (2004) confirmed that high-quality exchange relationships have a positive impact on IWB.

When adopting the distinction between SLMX and ELMX as introduced by Kuvaas *et al.* (2012), we pose that SLMX is positively related to IWB, because in SLMX relationships leaders provide employees with challenging tasks, they give support in risky situations and provide task-related resources, acknowledgement and appreciation. These perks all facilitate individual innovative work behaviour (Berg *et al.*, 2017). In case of ELMX relationships, the level of affect between leaders and subordinates is relatively low, and there is hardly any support from the leaders to encourage extra-role behaviour. We expect that employees in an ELMX relationship are more inclined to simply perform according quid-pro-quo exchanges (Berg *et al.*, 2017), i.e. they would do exactly what is in their job descriptions without undertaking extra-role behaviour, such as IWB. This makes the occurrence of IWB less likely. Hence, we hypothesise that ELMX is negatively related to IWB, because of the risks and contradictions associated with individual innovation, whilst SLMX is positively related to IWB.

H1. Social LMX is positively related to IWB.

H2. Economic LMX is negatively related to IWB.

2.3 Paradox mindset and IWB

Generating innovations is characterised by various tensions, contradictions and paradoxes, and it requires paradoxical, ambidextrous behaviour, i.e. both explorative, creative behaviour and productive, implementation-related behaviour (Benner and Tushman, 2002; Bledow *et al.*, 2009). Tension is defined as "stress, anxiety, discomfort, or tightness in making choices and moving forward in organisational situations" (Putnam *et al.*, 2016, p. 68). Employees can experience these tensions when they face contradictions and paradoxes in their organisation and their work efforts. For example, to achieve innovation they are required to be engaged in an extensive development of an original idea as well as realising such an idea within certain boundaries and constraints (e.g. Caniëls and Veld, 2019). Hence, they need to be flexible as well as disciplined (e.g. Andriopoulos and Lewis, 2009). Employees require both divergent thinking and convergent thinking to develop original ideas that fit certain problems (e.g., Miron-Spektor and Erez, 2017). In other words, they need knowledge generation as well as knowledge integration (e.g. Gebert *et al.*, 2010). Based on this innovation-paradox perspective, Rosing and Zacher (2016) suggest that innovative work performance of employees depends on their individual ambidexterity, i.e. the extent to which they are able to differentiate and integrate contradictory requirements and paradoxical tensions. Hence, employees may need to accept that innovative tensions are paradoxical. In turn, this acknowledgement can alleviate possible anxiety, stress and frustration due to the conflicting demands inherent in the innovation process (Andriopoulos and Lewis, 2010).

One way in which employees can accept the tensions that are inherent to the innovative process, is by entertaining and embracing a paradox mindset. A mindset is a cognitive lens that helps individuals interpret experiences. It is also considered as a state of mind that helps individuals orient themselves to certain sets of associations and expectations (Crum *et al.*, 2013; Caniëls *et al.*, 2018). Several studies that include paradox mindset in the context of innovation try to identify the paradoxes faced by leaders (e.g. Karhu and Ritala, 2018; Volk *et al.*, 2022) and try to explain whether and how paradoxical leadership affects innovative behaviour of individual subordinates or teams (Zhang *et al.*, 2021). Other studies focus on the mechanism via which a paradox mindset of employees can be associated with their innovative work behaviour (e.g. Liu *et al.*, 2020). Whether employees struggle with different tensions or can handle them well depends on the degree to which they have a paradox mindset (Miron-Spektor *et al.*, 2018).

We pose that employees with a paradox mindset are more likely to cope with tensions and engage in IWB, than employees who score low on having a paradox mindset. This is because engaging in the innovation process requires employees to effectively increase creativity and simultaneously embrace the inherent contradictions of innovation. In a lab study, Miron-Spektor *et al.* (2011) discovered that participants who adopted paradoxical mindsets were more creative than participants who did not embrace a "both/and"-mindset but instead elicited "either/or"-thinking. Individuals with a paradoxical mindset recognise and embrace the contradictions inherent in innovation; they regard creativity and implementation as complementary or even reinforcing elements of innovation. Hence, they will appreciate, accept, and be comfortable with tensions resulting from opposing demands such as those generated by engaging in innovation. Individuals with a paradoxical mindset will see these tensions as opportunities and look for "and/and" strategies to deal with various tensions simultaneously (Miron-Spektor *et al.*, 2018), and are therefore able to bridge the paradoxical tensions that IWB entails. Furthermore, employees with a paradox mindset are expected to go beyond formal job descriptions and make an extra effort for the good of the organisation. Since IWB corresponds with being able to cope with paradoxical tensions, we hypothesise that having a paradox mindset is positively related to IWB.

H3. Paradox mindset is positively related to IWB.

2.4 Paradox mindset, social and economic LMX and IWB

People with a paradox mindset are able to recognise, tolerate and accept contradictions Waldman *et al.* (2019), as they are comfortable with entertaining two opposite cognitive processes at the same time: evaluative differentiation and conceptual integration (Smith and Tushman, 2005). The degree in which an employee has this mindset may interact with the LMX relationship in determining an employee's IWB. For example, when an employee has a high-quality SLMX relationship, it is expected that this employee is even better at showing IWB when he/she also entertains a paradox mindset, which is associated with being more flexible, open-minded, and having a multidimensional attitude towards opposites (Miron-Spektor *et al.*, 2011). Similarly, employees with high-quality ELMX relationships are likely to be less engaged in IWB, because of the extra-role nature of IWB. However, employees who have a paradox mindset may be able to recognise and tolerate the contradictory behaviour of the leader, focussed on in-role performance, and yet adopt IWB to achieve certain things. Hence, with a paradox mindset, an employee may still expose extra-role, innovative behaviour in cases where the employee sees opportunities to innovate, despite experiencing an economic exchange relationship with his leader at the same time. Therefore, we hypothesise a positive interaction between paradox mindset and SLMX, such that positive relationship between SLMX and IWB is strengthened for employees with high degrees of paradox mindset. Similarly, we expect a negative interaction between paradox mindset and ELMX, such that the negative relationship between ELMX and IWB is buffered for employees with high degrees of paradox mindset.

H4. There is a positive interaction between SLMX and paradox mindset, such that the higher the paradox mindset, the stronger the positive effect of SLMX on IWB.

H5. There is a negative interaction between ELMX and paradox mindset such that the higher the paradox mindset, the weaker the negative effect of ELMX on IWB.

Figure 1 shows our conceptual model and summarises the hypothesised relationships.

3. Method

3.1 Sample and procedure

To test our hypotheses, we designed a field study, using a questionnaire with questions in a predefined order. With the Survalyzer survey software we gathered data at two points in time

from mid and back office employees of a financial service organisation in the Netherlands. In this organisation employees had to deal with various paradoxical tensions, such as the introduction of new big data tools in back office processes and the management's request for both more innovation and lower costs, which has already resulted in an announcement that some of the employees might lose their jobs as a result of an impending reorganization.

To gather the data we emailed respondents that they were invited to participate in an online survey. The email contained the link to the survey. We applied informed consent by first describing the relevance of our study in a survey cover letter (via email), emphasising that respondents' responses were anonymised. We also made it clear that there were no right or wrong answers and that we were purely interested in the respondents' opinions. In order to be able to ask any questions regarding the cover letter, or about the questionnaire, we have provided all invitees with our contact details. Both in the letter and at the beginning of the questionnaire, we informed respondents that they could withdraw their participation at any time during the survey. Finally, respondents had to give their explicit informed consent to actually start filling out the questionnaire.

On the first time point (T_1) we invited all mid and back office employees ($n = 385$) with similar functions and positions to fill-out a questionnaire that measured social and economic leader–member exchange variables. After two reminders we received 265 completed questionnaires (68.8% response rate). After half a year, at the second time point (T_2), we repeated the survey amongst 329 employees, who were still employed at the same organisation. We received 207 useful responses in the second survey (62.9% response rate). Our final sample consisted of 160 employees, who had filled-out both questionnaires. Of this sample 83 (51.9%) respondents are male, reflecting the overall gender distribution in the organisation. The average age of the respondents in the final sample is 43 years (SD = 11.2) and the average tenure is 12.7 years (SD = 11.8).

We used self-reported measures, which is not uncommon in management science (Ng and Feldman, 2012). In addition, our variable of interest, paradox mindset, warrants self-reported measures as mindset is hard for others to assess. To prevent the risk of bias, we employed several procedural remedies (Podsakoff *et al.*, 2012). To minimise the risk of respondents' fear of evaluation as well as to avoid biases about social desirability, we ensured respondents that individual answers were kept secret and that all data was anonymised after completing the second survey, for which we asked respondents to answer questions as honestly as possible.

3.2 Measures

We used established, validated multi-item scales measured on 7-point Likert scales anchored by 1 = strongly disagree (never) to 7 = strongly agree (always).

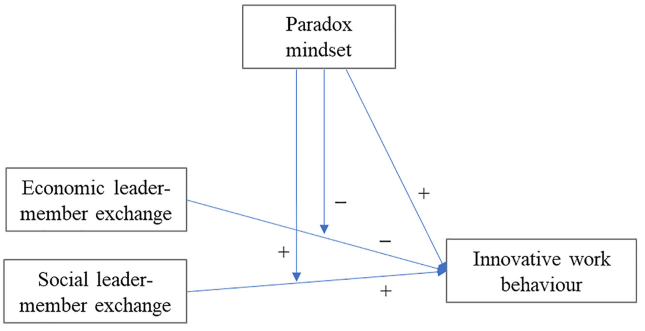

Figure 1.
Conceptual model

Social and economic leader member exchange was measured on T_1 with 8 items from Kuvaas *et al.* (2012). We conducted a two-factor confirmatory factor analysis with the help of AMOS 23 to examine the distinctiveness of the social and economic dimensions of LMX. The analysis showed that the two-factor solution had a better fit ($\chi^2 = 29.303$, df = 19, $p = 0.061$, CFI = 0.966, IFI = 0.967, NFI = 0.912, RMSEA = 0.058) than the one-factor solution ($\chi^2 = 117.542$, df = 20, $p = 0.000$, CFI = 0.680, IFI = 0.688, NFI = 0.646, RMSEA = 0.175). An example item of the ELMX is "The most accurate way to describe my relationship with my manager is that I do what I am told to do" whilst an example item of the SLMX is "The things I do on the job today will benefit my standing with my manager in the long run". The LMX constructs yielded good internal reliability (respectively $\alpha = 0.79$ and $\alpha = 0.71$).

On T_2 *innovative work behaviour* (IWB) was measured with the 9-item scale of Janssen (2000) which draws on Kanter's (1988) work on innovation stages. Idea generation, idea promotion and idea realisation are each measured by three items. The scale showed good internal reliability ($\alpha = 0.96$).

Paradox mindset was also measured at T_2, and contained items from the 9-item scale of Miron-Spektor *et al.* (2018). An example item of the paradox mindset scale is "I am comfortable dealing with conflicting demands at the same time". The construct demonstrated good internal reliability ($\alpha = 0.94$).

We assessed several control variables previously used in studies about paradox mindset (Miron-Spektor *et al.*, 2018; Shao *et al.*, 2019). Gender was measured as a dichotomous variable (male was coded "0"). Age and tenure (i.e. experience in the current job or a job with a similar position) were measured in years. Finally, we also included education level as a control variable.

In the analysis, we used the measurements at T_1 for the independent variables (SLMX and ELMX) and the measurements at T_2 for the moderator (paradox mindset) and the dependent variable (IWB). In this way, we follow recommendations by Podsakoff *et al.* (2003) to reduce possible effects of common method bias. As the independent variables are expected to predict the dependent variable, it follows that the independent variables need to be measured at an earlier moment in time than the dependent variable.

To test the validity of the used scales, we also developed a full measurement model with the four scales that just fitted the data given the complexity of the model: $\chi^2 = 593.934$, df = 293, $p = 0.000$, CFI = 0.900, IFI = 0.901, RMSEA = 0.080; see Table A1 in Appendix for factor loadings. Subsequently, we performed discriminant analyses of the four variables by forming pairs and comparing the χ^2-difference of the situation in which a pair freely correlates, with the situation in which the correlation between that pair is set to 1. For satisfactory discriminant validity between the pairs, the χ^2-difference values of both measurement models should be larger than 3.84; see for instance Kim *et al.* (2012). The χ^2-difference values range between 5.9 and 60.6 indicating satisfactory discriminant validity.

4. Results

4.1 Descriptives

Descriptive statistics, such as means, standard deviations and correlations, are illustrated in Table 1. From this table we note that there are interdependencies between the control variables. Some were expected, such as the correlation between age and tenure (0.61) and the correlations between both education level and age ($r = -0.40$) and tenure ($r = -0.51$); older employees with a long tenure went to work at the bank right after high school.

Regarding our variables of interest, i.e. ELMX, SLMX, paradox mindset and IWB, we find that SLMX positively correlates with education ($r = 0.22$) and negatively with age ($r = -0.17$). In other words, highly educated respondents show high SLMX scores, whilst more mature respondents demonstrate low SLMX scores. Note that this is consistent with the study of

Buch *et al.* (2014), who also found that education level positively relate to SLM and negatively to ELMX. Similarly, education level may also indirectly explain that age negatively correlates with paradox mindset ($r = -0.26$) and IWB ($r = -0.19$), which is consistent with findings of Janssen (2000) that higher educated employees display more innovative behaviour.

4.2 Hierarchical regression analysis

Table 2 presents the results of our hierarchical regression analysis. In Step 1 we only regressed the control variables on IWB. This model is non-significant given ($F(4, 155) = 1.859$, $p = 0.120$). Step 2 shows the results for a significant model consisting of ELMX, SLMX and the control variables ($F(6, 153) = 6.151$, $p < 0.01$), in which only SLMX is positively related to IWB ($\beta = 0.22$, $p < 0.01$). When we add paradox mindset to the model (i.e. Step 3:

	Mean	S.D.	1	2	3	4	5	6
1. ELMX	3.30	1.19	*(0.79)*					
2. SLMX	4.96	0.90	−0.22**	*(0.71)*				
3. Paradox mindset	4.37	0.95	−0.05	0.25**	*(0.94)*			
4. IWB	3.79	1.11	−0.16*	0.28**	0.48**	*(0.96)*		
5. Tenure	12.7	11.8	−0.04	−0.11	−0.26**	−0.11	–	
6. Education	4.13	1.18	−0.15	0.22**	0.20*	0.16*	−0.51**	–
7. Age	43.0	11.2	−0.09	−0.17*	−0.26**	−0.19*	0.61**	−0.40**

Note(s): $N = 160$. Internal reliabilities (alpha coefficients) are given in parentheses on the diagonal
*$p < 0.05$ level (2-tailed), **$p < 0.01$ level (2-tailed)

Table 1.
Descriptive statistics and correlation matrix

Independent variables	Step 1 Controls	Step 2 Direct effects	Step 3 Direct effects with moderator	Step 4 Two-way interactions
Direct effects				
ELMX		−0.12 (0.140)	−0.10 (0.153)	−0.10 (0.157)
SLMX		0.22** (0.007)	0.13# (0.074)	0.13# (0.076)
Paradox mindset			0.44*** (0.000)	0.47*** (0.000)
Interactions				
ELMX × Paradox mindset				−0.18* (0.026)
SLMX × Paradox mindset				−0.19* (0.020)
Controls				
Tenure	0.06 (0.730)	0.04 (0.730)	0.10 (0.313)	0.07 (0.453)
Education	0.11 (0.715)	0.03 (0.715)	0.03 (0.698)	0.02 (0.810)
Age	−0.19# (0.071)	−0.18# (0.080)	−0.11 (0.254)	−0.09 (0.303)
Gender	−0.03 (0.753)	−0.01 (0.594)	0.01 (0.871)	0.01 (0.971)
R^2	0.046	0.117	0.280	0.313
Adjusted R^2	0.021	0.082	0.246	0.271
R^2-change	0.046	0.071	0.163	0.033
(df1, df2)	(4, 155)	(2, 153)	(1, 152)	(2, 150)
F-change	1.859 (0.120)	6.151 (0.003)	34.342 (0.000)	3.594 (0.031)

Note(s): #$p < 0.10$, *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$, p-values between brackets, standardised coefficients, interactions based on centred variables

Table 2.
Hierarchical regression analysis on IWB

$F(7, 152) = 34.342$, $p < 0.001$), SLMX is no longer significantly related with IWB ($\beta = 0.05 < p < 0.1$), whilst paradox mindset remains significant ($\beta = 0.44$, $p < 0.001$). Including the interaction terms in Step 4 results in a significant model ($F(9, 150) = 3.594$, $p < 0.05$), in which next to the significant relationship between paradox mindset and IWB ($\beta = 0.47$, $p < 0.001$), the interaction terms are significant, though negative: $\beta = -0.18$, $p < 0.05$ for the interaction ELMX × paradox mindset and $\beta = -0.19$, $p < 0.05$ for the interaction term SLMX × paradox mindset.

To evaluate the effect of paradox mindset as a moderator in the relationship between ELMX and IWB, we plotted the simple slopes for respondents with high levels (i.e. one SD above the mean), average levels, and low levels (i.e. one SD below the mean) of paradox mindset (Figure 2). In this way, we can determine the nature of the ELMX × paradox mindset interaction. Figure 2 shows that ELMX was not significantly related to IWB for low levels of paradox mindset ($b = 0.08$, $p = 0.498$) and for average levels of paradox mindset ($b = -0.11$, $p = 0.157$). We found a significant negative relation between ELMX and IWB for high levels of paradox mindset ($b = -0.30$, $p < 0.01$).

To evaluate the effect of paradox mindset as a moderator in the relationship between SLMX and IWB, we also plotted the effect (Figure 3). We tested the simple

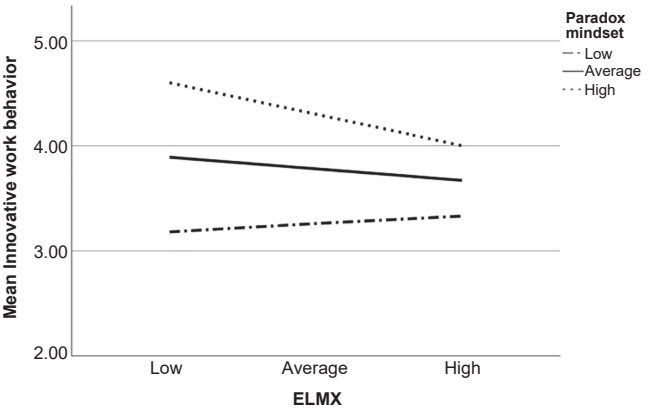

Figure 2.
Interaction of ELMX and paradox mindset on IWB

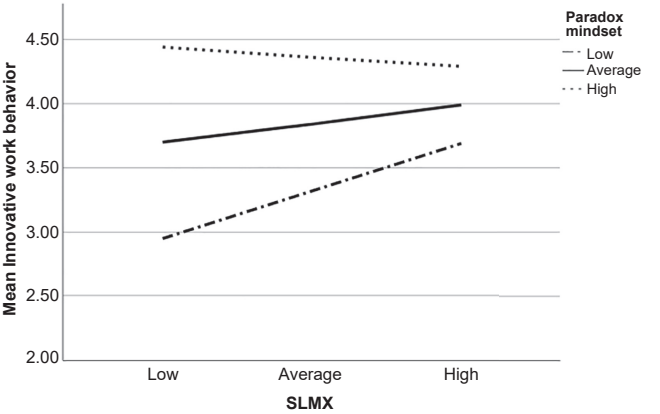

Figure 3.
Interaction of SLMX and paradox mindset on IWB

slopes for respondents with high levels (i.e. one SD above the mean), average levels, and low levels (i.e. one SD below the mean) of paradox mindset to determine the nature of the SLMX × paradox mindset interaction. SLMX was significantly related to IWB for low levels of paradox mindset ($b = 0.37$, $p < 0.05$), but not for average levels of paradox mindset ($b = 0.14$, $p = 0.109$), or high levels of paradox mindset ($b = -0.08$, $p = 0.517$).

The R^2 increase due to adding the interaction terms is however small, with $\Delta R^2 = 0.023$ for the ELMX × paradox mindset interaction ($F(1,150) = 6.815$, $p = 0.010$); and with $\Delta R^2 = 0.025$ for the SLMX × paradox mindset interaction ($F(1,150) = 6.009$, $p = 0.015$); whilst the increase in total variance explained by including both interactions is $\Delta R^2 = 0.033$ ($F(2,150) = 4.161$, $p = 0.017$).

4.3 Posthoc analysis

To evaluate the influence of paradox mindset in relation to SLMX in more detail, we decided to evaluate the impact of paradox mindset on the subscales of innovative work behaviour (i.e. idea generation, promotion and realisation); see Table 3.

If we consider the moderation analyses of paradox mindset on the relationships between SLMX and the subscales of IWB (whilst also taking into account the effect of ELMX and the ELMX × Paradox mindset interaction) we notice first that there is no direct effect of SLMX (and ELMX) on idea generation. Considering the conditional effects, SLMX only has an effect on idea generation when there is a low level of paradox mindset. Second, there is no direct effect of SLMX (and ELMX) on idea promotion (i.e. only a significant effect at the 0.1 level). Considering the conditional effects, SLMX only has an effect on idea promotion when there is a low level of paradox mindset. Third, there is a direct effect of SLMX (but not for ELMX) on idea realisation. Considering the conditional effects, SLMX has an effect on idea realisation when there are low to medium levels of paradox mindset.

5. Discussion

5.1 Theoretical contribution

This study contributes to our understanding of IWB by investigating the relationship of both social and economic LMX on IWB and the potential effect of a paradox mindset as a

Independent variables	Idea generation	Promotion	Realisation
Direct effects			
ELMX	−0.09 (0.202)	−0.12$^{\#}$ (0.085)	−0.07 (0.305)
SLMX	0.13 (0.19)	0.16$^{\#}$ (0.097)	0.20*(0.035)
Paradox mindset	0.52*** (0.000)	0.57*** (0.000)	0.56*** (0.000)
Interactions			
ELMX × Paradox mindset	−0.19* (0.032)	−0.19* (0.034)	−0.19* (0.042)
SLMX × Paradox mindset	−0.27* (0.023)	−0.22$^{\#}$ (0.06)	−0.29* (0.015)
Controls			
Tenure	0.01 (0.669)	0.01 (0.472)	0.01 (0.525)
Education	0.04 (0.181)	0.02 (0.808)	0.00 (0.987)
Age	−0.13 (0.602)	−0.01 (0.552)	−0.01 (0.387)
Gender	0.09 (0.202)	−0.10 (0.532)	−0.03 (0.869)
R^2	0.27	0.30	0.30
(df1, df2)	(9, 150)	(9, 150)	(9, 150)
F-value	6.287 (0.000)	7.143 (0.000)	7.050 (0.000)

Note(s): $^{\#}p < 0.10$, $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$, *p*-values between brackets, standardised coefficients, interactions based on centred variables

Table 3. Hierarchical regression analyses on the subscales of IWB

moderator. The results of our two-wave survey amongst 160 mid and back-office employees of a Dutch financial services provider are fascinating. First, without the inclusion of paradox mindset in the hierarchical regression model (step 2), we obtained a significant, positive relationship between SLMX and IWB (supportive of H1), but although we found a negative relationship between ELMX and IWB, it was not significant (unsupportive of H2). This latter finding is in line with the studies of Berg *et al.* (2017) and Dysvik *et al.* (2015), which find that the effects of ELMX on creative behaviour and knowledge sharing behaviour are non-significant. Furthermore, our differentiation between economic and social LMX relationships extends current findings from studies about psychological contracts, which investigate employees' beliefs about mutual expectations and commitments between employees and their supervisor (Rousseau, 1989). Psychological contract research and studies about psychological safety may want to differentiate between employees who experience economic LMX versus those who experience social LMX. Given our findings, it is likely that employees who experience economic LMX feel less safe to voice their opinions and needs, especially in the context of work activities that require innovative work behaviour. Additionally, our findings complement previous studies (e.g. Berg *et al.* (2017)) that highlighted the positive role of social LMX relationships for creative behaviour. Our findings indicate that perceived social relationships between leaders and subordinates generate positive effects for organisations, in terms of stimulating IWB of employees.

Second, by including paradox mindset (i.e. step 3 in the hierarchical regression model), we found a significant direct positive effect of paradox mindset on IWB, but we found also that SLMX was no longer significantly related to IWB. Apparently, paradox mindset plays an important role, as it captures most of the variation in IWB, and drawing influence away from SLMX. This finding complements studies showing that a person's mindset can greatly influence behaviour (Dweck, 2006; Miron-Spektor *et al.*, 2018). These findings also add evidence to studies such as Liu *et al.* (2020) that investigate the (in)direct link between paradox mindset and IWB. Employees who are able to embrace conflicting propositions have been shown to generate more ideas and solutions and hence display more IWB than employees with a low score on paradox mindset (Liu *et al.*, 2020).

With respect to the moderation analyses, we found a negative interaction effect of paradox mindset with SLMX on IWB, which contrasts our hypothesis (H5). When the level of paradox mindset is low, SLMX is positively related to IWB. But with average to high level of paradox mindset, SLMX is no longer related to IWB, whilst paradox mindset is still related to IWB. This means that paradox mindset acts as a kind of substitute for SLMX, which corresponds to the ideas of Kerr and Jermier (1978), Howell and Dorfman (1981) and Howell *et al.* (1990) that some variables can act as leadership substitutes. Leadership substitutes are factors that neutralise or remove the influence of the leader to generate certain work outcomes, i.e. a leadership substitute replaces or acts in place of specific leader behaviour. Our findings suggest that a paradox mindset may substitute the influence of SLMX on IWB.

Further analysis of the data showed the impact of paradox mindset on the subscales of innovative work behaviour (i.e. idea generation, promotion and realisation). This analysis indicated that paradox mindset is strongly related to (the dimensions of) innovative work behaviour, and it acts as a substitute for SLMX with respect to idea generation and idea promotion, but not so much for idea realisation. Hence, it is a substitute for SLMX with respect to creativity in particular.

The additional analysis showed that when employees do not have a paradox mindset, SLMX may provide necessary differentiation and integration mechanisms to facilitate idea generation and idea promotion. However, employees *with* a paradoxical mindset, have sufficient differentiation and integration mechanisms by themselves to demonstrate creativity. For such employees (scoring high on paradox mindset) SLMX may disproportionally increase the level of differentiation and integration, which initially may

result in more creative output, but after passing a certain threshold, SLMX may begin to hinder creativity (Calic *et al.*, 2019). It may lower creative self-efficacy as the many alternatives may increase the level of uncertainty. Indeed, Waldman *et al.* (2019) state that seeing tension as opposing elements of the paradox can increase complexity and uncertainty, which can confuse employees causing them to adopt a wait-and-see attitude rather than become more proactive an take action to resolve the effects of these tensions.

Whilst this study did not find a direct effect between ELMX and IWB, it shows that ELMX is negatively related to IWB when an employee exhibits a high level of paradox mindset. An explanation for this finding could be that ELMX predominantly provides integration mechanisms necessary to facilitate the implementation of ideas. In contrast, differentiation mechanisms are required to generate and promote ideas. Since a paradox mindset is related to an integrative complex thinking style, having a paradox mindset comes to the ability to generate connections between disparate concepts. Hence, individuals with a high level of paradox mindset already possess high levels of integration mechanisms. As the degree of integration increases, an individual discovers more interconnected options; but above a certain threshold, that high degree of integration diminishes creativity due to a decrease in an individual's confidence in his or her own innovativeness (Calic *et al.*, 2019; Waldman *et al.*, 2019). Hence, for employees with a high level of paradox mindset, i.e. many integration mechanisms, the effect of a ELMX relationship is counterproductive on their IWB.

Our study shows that social and economic leadership relationships are not determinative for IWB in cases where employees entertain a paradox mindset. Consequently, future leadership research may want to include paradox mindset as it may explain mixed results of prior studies. For example, it may explain why some studies about transformational leadership and IWB have found either no effect (Moss and Ritossa, 2007) to a strong negative effect on follower innovative behaviour (Basu and Green, 1997), or a strong negative effect on follower innovative behaviour.

5.2 Practical implications

Paradox mindset, i.e. the degree in which a person accepts tensions and gains energy from them, is a relatively new construct that was found to be correlated with tolerance for ambiguity and contradictions, integrative complexity, openness to experiences and to in-role and extra-role performance (Miron-Spektor *et al.*, 2018). Our findings indicate that management should be aware of the impact that having a paradox mindset has on the innovative work behaviour of employees. Managers are well advised to assess the extent to which employees entertain a paradox mindset and adjust the type of leadership appropriate to the situation, and in particular they should adjust the intensity of their exchange relationship with these employees. In this respect, it may be useful to pay attention to the match between the employee's paradox mindset and the management style of the leader (Caniëls *et al.*, 2018). To facilitate innovative work behaviour, the paradox mindset of employees should be developed, for example by coaching and reframing using various practices of developmental human resource management aimed at nurturing a paradox mindset (Lüscher and Lewis, 2008). In fact, leaders may persuade employees to combine and integrate conflicting goals associated with innovative work behaviours as a result of modified thinking. To this end, leaders could coach their subordinates to accept opposite goals and adjust their mindset to the paradoxes inherent in innovative work behaviour.

5.3 Limitations and future research

Our study comes with a few limitations. The outcomes of our study align with the notion that LMX relationships may depend on other relationships and factors that are present in a work

setting than solely employees' paradox mindset or leadership style (Pan *et al.*, 2012; Berg *et al.*, 2017). For instance, the negative interaction effect in our study between paradox mindset and SLMX could be explained by the fact that a reorganization has been announced in our case company, and employees have been declared redundant, which according to the Dutch rules in the financial service industry generally goes hand in hand with the announcement of a reorganization. It is possible that employees with a higher paradox mindset have started to doubt the intentions of the manager with whom a social exchange relationship has always been maintained. In their study into the effect of transformational leadership, which closely matches social LMX, Basu and Green (1997) found a strong negative effect of transformational leadership on follower innovative behaviour, which they explained by pointing out that transformational leadership can deter innovative behaviour depending on the perception of the follower of the intention of the leader. Future research is needed that controls for this factor. Relatedly, in addition to paradox mindset, there may be other moderating variables of interest that could affect the relationship between LMX and IWB. For example, one of the dyadic partners may experience dimensions of a dark side in the other partner, including unfair information provision, knowledge hiding or unfair treatment. These variables have already been found to influence employee creativity (De Clercq and Pereira, 2021; Kim and Mauborgne, 2003), but they may also moderate the LMX-IWB relationship. Subordinates who perceive dimensions of darkness in their leader are likely to show a less strong association between SLMX (or ELMX) and IWB. Future studies may want to look into this idea.

Furthermore, it should be noted that our sample was quite homogenous, containing employees from one department in one large organisation. This choice was deliberate. By doing so, contextual factors were held constant in our study. Relatedly, by targeting mid and back office employees of a financial service organisation, our study's population was quite specific. It may be so that the financial services sector differs from other sectors in its need for innovative work behaviour. It is likely that employees of financial service providers have to display a high level of IWB as new, potentially disruptive, technologies are constantly changing the possibilities for improving internal operations and customer service (Financier Worldwide, 2021), which pronounces the effects we find in our study. Therefore, future studies may want to establish whether our model holds in other organisational settings and amongst differentiated populations.

Finally, our study measured the moderator and the outcome variable at a later moment in time than the independent variables. Whilst conducting a two-wave study is a preferable to a cross-sectional design, we measured different sets of variables in each wave of data collection and therefore we could not correct for auto regressive effects. Future studies may want to adopt multiple-wave designs that use items about the same concepts in each wave. However, despite these limitations, we believe that our study has extended current knowledge about the role of LMX and paradox mindset for IWB.

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Appendix

	Cronbach alpha	Alpha if item deleted	Item-to-total correlation	Mean	SD	Item loadings
ELMX	0.79					
ELMX1		0.70	0.68	3.31	1.55	0.78
ELMX2		0.71	0.66	3.70	1.53	0.78
ELMX3		0.76	0.56	3.20	1.49	0.66
ELMX4		0.78	0.51	3.01	1.51	0.58
SLMX	0.71					
SLMX5		0.60	0.55	5.84	1.00	0.72
SLMX6		0.67	0.42	4.15	1.40	0.51
SLMX7		0.59	0.53	4.81	1.42	0.63
SLMX8		0.65	0.45	5.05	1.13	0.59
Paradox mindset	0.94					
PM1		0.94	0.59	4.74	1.07	0.59
PM2		0.93	0.78	4.26	1.15	0.80
PM3		0.93	0.77	4.09	1.10	0.82
PM4		0.93	0.80	4.23	1.21	0.84
PM5		0.93	0.77	4.75	1.24	0.77
PM6		0.93	0.78	3.99	1.14	0.83
PM7		0.93	0.77	3.94	1.24	0.83
PM8		0.93	0.79	4.69	1.20	0.79
PM9		0.93	0.78	4.62	1.13	0.79
IWB	0.96					
IWB1		0.95	0.84	3.91	1.20	0.86
IWB2		0.95	0.83	3.83	1.29	0.85
IWB3		0.95	0.85	3.79	1.24	0.88
IWB4		0.95	0.85	3.47	1.39	0.87
IWB5		0.96	0.68	3.93	1.26	0.69
IWB6		0.95	0.87	3.83	1.31	0.90
IWB7		0.95	0.85	3.90	1.24	0.87
IWB8		0.95	0.85	3.56	1.30	0.87
IWB9		0.95	0.86	3.87	1.29	0.88

Note(s): $\chi^2 = 593.934$, df = 293, $p = 0.000$, CFI = 0.900, IFI = 0.901, RMSEA = 0.080 and $N = 160$

Table A1. Reliability and item statistics of the full measurement model