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Do Paradoxical Leader Behaviors Pave the Way to Innovative Work Behaviors?

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Executive Summary

In the current dynamic and complex business environment of the 21st century, leaders are faced with the inevitable question how to manage followers in a way that ensures a continuous flow of innovative work behaviors. This study investigates whether paradoxical leader behavior (PLB) is an appropriate people management style to foster follower' innovative behavior (IWB) within Western organizational contexts. Follower holistic thinking (HT) is examined as moderator enhancing the relation between PLB and IWB. Additionally, follower' relational identification with the leader (RI) is investigated as potential underlying mechanisms enabling the PLB and IWB relationship. Thereby, this study attempts to fill the gap in academic literature by further clarifying the conditions and underlying mechanisms under which IWB is enabled and enhanced on the work floor. A sample of 143 Dutch/German employees provided initial evidence suggesting that although followers could identify with PLB, this leadership style might not necessarily pave the way to IWB. Results and study limitations, however, highlight the necessity for future studies to further investigate this relationship. New research directions are provided accordingly.

Keywords: innovative work behaviors; paradoxical leader behavior; holistic thinking; relational identification with the leader.

Introduction

Innovation has been considered one of the key elements in ensuring the vitality and continuity of firms (Van de Ven, 1986; Scott & Bruce, 1994; Garud, Tuertscher & Van de Ven, 2013). The contemporary dynamic and complex business environment, characterized by increasing technological advances and globalization, puts an even greater emphasis on continuous innovativeness in order for organizations to adapt accordingly and maintain competitive advantage (Hitt, Keats & DeMarie, 1998). Since innovation is understood as the invention, development, and implementation of new ideas (Scott & Bruce, 1994; Janssen, 2000), it is evident that it entails a process dependent on behaviors of individuals in the workplace. Ideas of employees form the building blocks from which new and better products, services and work processes are created. However, in order to ascertain a continuous flow of innovation, employees need to be both willing and able to innovate (De Jong & Den Hartog, 2007). Therefore, examining the processes facilitating the willingness and ability of employee' innovative behavior, has become an important task for contemporary researchers.

Innovation research popularized in 1980 and focused especially on identifying the antecedents and consequences of innovation, as well as, gaining insights from a process perspective (Garud, Tuertscher & Van de Ven, 2013). Research reveals that innovative processes require contradictory yet interrelated goals in which employees are stimulated to think out of the box, be original and break boundaries in order to produce new, creative ideas, while at the same time attending the organizational norms and conformations in order for the idea to be feasible, practical and appropriately implemented (Van de Ven, 1986; de Jong & Den Hartog, 2007; Shao et al., 2017). While early research provides essential insights into specific aspects of innovation, research on how innovation can be effectively managed in the workplace is necessary to facilitate the actual innovation processes as part of the daily work behaviors of followers (Van de Ven, 1986). Therefore, the main focus of this study is to examine how innovative work behavior (IWB) of followers can be enabled and enhanced within innovative contexts.

In order to fully understand follower behavior, the current study draws upon the interactional psychology approach. This approach claims that human behavior (such as IWB) is the result of both person characteristics as well as situation characteristics (Endler & Magnusson, 1976; Terborg, 1981). Interactional psychology recognizes that situations vary in cues, rewards and opportunities, while people vary in cognitions, abilities and motivation (Terborg, 1981). More specifically, the environment gives people information about

behavioral expectations and outcomes. People, in turn, depending on their individual characteristics, form expectancies and instrumentalities that determine their behavior (Scott & Bruce, 1994). In this light, IWB depends on both the extent to which the environment provides employees with the right conditions to be innovative, and on the extent to which personal characteristics of employees allow them to take advantage of these environmental opportunities.

Based on the notion that especially proximal others are likely to have a strong influence on the individual's perceptions of the environment (Scott & Bruce, 1994; De Jonge & Den Hartog, 2007), it is no surprise that research shows that leadership is a key predictor of employee, team, and organizational innovation (Hughes, Lee, Tian, Newman & Legood, 2018). Leadership entails all processes of influencing followers in an attempt to achieve the desired organizational outcome (de Jong & Den Hartog, 2007). When exploring the most recent review on the leadership-innovation relation (Hughes et al., 2008), a clear gap in research becomes evident since no empirical data yet exists on the relationship between Paradoxical Leader Behavior (PLB; Zhang, Waldman, Han, & Li, 2015) and IWB. PLB is quite a recent leadership concept, which emerged as one of the most relevant leadership approaches in innovation contexts. Therefore, further examination of the relationship between this specific leadership style and the rather paradoxical processes involved in IWB is highly relevant.

In line with the interactional approach, the current study also incorporates personal characteristics that may be at play in influencing follower' IWB (Endler & Magnusson, 1976; Terborg, 1981). Zhang et al. (2015) found that the extent to which a leader participates in PLB is positively influenced by the extent to which he/she engages in holistic thinking. It might, therefore, be plausible to reason that followers who possess the same kind of holistic thinking ability, are more capable to effectively cope with this particular leadership style, which consequently allows them to be innovative. Moreover, since previous research has shown that leadership is a process whereby leader variables affect more distal outcomes (e.g. innovation) through more proximate mediating variables (Hughes et al., 2018), the current study also incorporates the potential mediating mechanisms in explaining how PLB effects IWB.

Within organizational contexts, it is widely accepted that human behaviors are motivated by identification-based mechanisms (Lord, Brown, & Freiberg, 1999; Hobman, Jackson, Jimmieson, & Martin, 2011; Hughes et al., 2018). Especially collective organizational identification and work group identification – i.e. a sense of being 'one' with

the organization or work group - play a crucial role on several organizational outcomes such as task performance, citizenship behavior, well-being and turn-over intentions (Riketta, 2005). Interestingly enough, limited empirical evidence exists on the role of personal identification with the leader in effective leadership, although available research does show promising effects in understanding how leadership motivates employee' performance (Hobman et al., 2011). Separate empirical acknowledgement is necessary to further explicate this underlying mechanism and its role in the specific PLB-IWB relationship. The current study, therefore, attempts to respond to this literature gap by including personal identification with the leader as a mechanism that explains how PLB influences IWB.

In sum, the purpose of this study is threefold: first, the study investigates the role of paradoxical leader behavior on innovative work behaviors of followers; second, the study investigates the influence of followers' holistic thinking ability on the strength of the PLB-IWB relationship; and third, the study explores the underlying mechanism of identification with the leader in the relationship of PLB on IWB. This study, thereby, attempts to answer the question: does follower' holistic thinking reinforce the positive relationship of paradoxical leader behavior on follower' innovative work behavior and is this interactive relationship on IWB transmitted via relational identification with the leader? These insights are valuable for practitioners in order to facilitate optimal organizational functioning in the contemporary dynamic and complex business environment. Results will contribute to the success of all firms operating on the current business market, since it will provide them with concrete behavioral insights on how to manage and stimulate followers' innovativeness.

Theory and hypotheses

Followers Innovative Work Behavior and Paradoxical Leader Behavior

Janssen (2000) defines innovative work behavior (IWB) as "*The intentional creation, introduction, and application of new ideas within a work role, group or organization, in order to benefit role performance, the group or the organization*". This definition incorporates the multiple stages of innovation as described by Scott & Bruce (1994): the first stage begins with problem recognition which elicits the generation of novel or adopted ideas or solutions; the next stage entails building a coalition of supporters to support the idea; then the idea is completed by actual implementation in order for the idea to turn into productive use. Taking these steps in mind, it becomes evident that innovation requires employees to continuously balance between the rather competing processes of exploring new ideas (exploration), while

simultaneously relying on and using the existing knowledge (exploitation) in order to integrate new ideas optimally into the pre-existing environment of the organization (March, 1991).

Given these contradictory processes involved in innovation, it is rather surprising that research on leadership behavior in relation to IWB, so far, only studied leadership styles which endorse an "either-or" strategy (Khan, Aslam & Riaz, 2012; Zhang et al., 2015). This means that leaders choose an appropriate behavior depending on the situation. However, to manage the rather contradictory processes of innovative behavior, a holistic and dynamic leadership style seems more appropriate. PLB recently emerged as a promising leadership approach within the innovative context. Zhang and colleagues (2015) describe PLB as *"behaviors that are seemingly competing, yet interrelated, to meet competing workplace demands simultaneously and over time."* In other words, paradoxical leaders may engage in paradoxical behaviors to handle contradictions within the organization in a more effective way to ensure optimal organizational functioning.

PLB (Zhang et al., 2015) addresses contradictory expectancies of followers through five distinctive paradoxical behaviors: (1) by combining self-centeredness with other-centeredness; (2) maintaining both distance and closeness towards followers; (3) treating followers uniformly, while allowing individualization; (4) enforcing both work requirements and behavioral flexibility, and; (5) by maintaining decision control while stimulating autonomy. This interrelating nature of PLB could foster follower' innovativeness by creating an environment which matches the needs of the contradictory processes leading towards innovative behavior. That is, providing employees with autonomy and freedom to enable them to explore new ideas and solutions (enhancing creativity; Shao et al., 2017), while at the same time keeping a practical and clear framework in check to guide these ideas into desired and useful organizational outcomes (enhancing implementation; Scott & Bruce, 1994; de Jong & Den Hartog, 2007). In line with this reasoning, the first hypothesis is formulated as follows:

H1. Paradoxical leader behavior is positively related to followers' innovative workplace behavior.

The Moderating Role of Followers' Holistic Thinking

As presumed by the interactional approach, the leader may provide an environment characterized by paradoxical expectancies and instrumentalities in order to stimulate follower' innovativeness, but followers may vary in how they respond to those expectancies and

instrumentalities depending on their individual characteristics. An important individual characteristic shaping how the environment is perceived, is individual thinking ability (Sadler-Smith & Badger, 1998; Hou, Gao, Wang, Li & Yu, 2011). Individual thinking styles can be considered as a mode of meta-cognition which reflects the cognitive framework in which information is processed, the world is perceived and problems are solved (Hou et al., 2011). One way to interpret individual cognitive styles is using the Holistic-Analytical dimension. The Holistic-Analytical dimension distinguishes individuals who divide information into separate components (described as analytics) from individuals who retain a global or overall overview of the information (described as holists) in their habitual manner of processing information (Sadler-Smith & Badger, 1998). Thus, through holistic thinking elements in the universe are seen as continuous and interconnected (Li, 2016).

Given the impact of individual thinking styles on the way information is perceived, processed and used (Hou et al., 2011), differences in analytical versus holistic cognition of followers could explain followers' reaction on a paradoxical environment. As holistic thinking is found to function as an antecedent enabling paradoxical leader behaviors (Zhang et al., 2015), it could be that followers need to endorse the same cognitive thinking to adequately cope with the contradictory nature of PLB. In other words, followers who engage in a holistic thinking style are more likely to accept, connect and integrate contradictions, which enables them to understand and appreciate their leaders' paradoxical behaviors and expectancies (Choi, et al., 2007; Sluss & Ashforth, 2007; Qu et al., 2015; Hughes et al., 2018). Consequently, followers high in holistic thinking are able to use granted autonomy and behavioral flexibility to stimulate creativity, while simultaneously meet contradictory leader expectations such as following organizational guidelines and norms to foster the process of idea implementation (Choi et al., 2017; Zhang et al., 2015). Hence, holistic thinking could enable employees to take advantage of the opportunities provided by a seemingly paradoxical environment which, in turn, facilitates their innovative work behavior (March, 1991). Following this line of reasoning, the second hypothesis is formulated as follows:

H2. Follower' holistic thinking moderates the relationship between PLB and IWB in such a way that this relationship is positive and stronger for followers with high holistic thinking rather than with low holistic thinking.

The Mediating Role of Identification with Leader

Besides clarifying the follower' characteristics under which the effects of PLB on IWB are reinforced, this study also attempts to clarify the mechanisms underlying this conditional effect. A recently published review on the leadership-innovation relationship, recommended organizational scholars to thoroughly examine the potential underlying mechanism of relational identification with the leader in explaining how leadership affects innovation (Hughes et al., 2018). Identification with the leader can be defined as *"A self-categorization process that involves an individual defining him or herself in terms of the attributes of the leader, shifting his or her focus on individual gains for the leader, and experiencing a high level of connection with the leader"* (Hobman et al., 2011). It has its roots in the theoretical framework of the Social Identity Theory (SIT; Tajfel & Turner, 1979, cited from Van Knippenberg et al., 2004).

The central tenet of SIT postulates that social identification with a certain person or group, consequently involves the incorporation of that specific person's or group's norms and values into the individual's self-concept and motivates individual's to act accordingly (Van Knippenberg et al., 2004). In this light, follower relational identification with the leader (RI) can explain the motivational effects of leadership. Namely, RI consequently shapes how individuals think, feel and act since the leader's norms and values become incorporated in an individual's sense of self (Lord et al., 1998; Sluss & Assforth, 2007; Van Knippenberg et al., 2004). Research on the mediating effect of RI, indeed indicates that it mediates the effects of specific leadership styles (e.g. transformational and charismatic leadership; Qu, Janssen, & Shi, 2015; Zhu et al., 2013; Hobman et al., 2011; Wang & Rode, 2010) on creativity and innovation. Evidence from these studies, points towards the underlying identification-based mechanism to explain the positive motivational effect of certain leadership styles on followers' innovativeness and creativity.

Following this line of reasoning, it seems plausible to hypothesize that the interactive effect of PLB and holistic thinking on followers' IWB can be explained by the underlying mechanism of follower' relational identification with the leader. More specifically, this means that due to the habitual way of holistic thinkers to process information as interconnected and continuous (Li, 2016), followers with high holistic thinking ability are more likely to think and act in paradoxical terms themselves which, in turn, enables them to understand and appreciate paradoxical behaviors and expectations of their leader (Choi et al., 2017). Holistic thinking, thereby, enables followers to identify themselves with their paradoxical leader more

strongly, since these paradoxical behaviors are already internalized and part of their self-concept. Consequently, followers are more inclined or motivated to actually use the paradoxical cues because it reaffirms their self-concept (Hobman et al., 2012). These paradoxical behaviors, in turn, foster processes related to IWB (March, 1991).

Taken together, two inferences can be made. First, follower' holistic thinking enables followers to understand and appreciate their leaders' paradoxical behaviors, which consequently leads to higher identification with their leader. Second, follower relational identification with the leader transmits the interaction effect of PLB and holistic thinking to follower' IWB. This means that any of the five contradictory behaviors related to paradoxical leadership (i.e. providing both distance and closeness to followers or enforcing both work requirements and behavioral flexibility; Zhang et al., 2015) can, in turn, stimulate follower' IWB through their relational identification with the leader. Hence, the third and fourth hypotheses are formulated as follows:

H3. Follower' holistic thinking moderates the relationship between PLB and relational identification with the leader such that this relationship is positive and stronger for followers with high holistic thinking rather than with low holistic thinking.

H4. The interaction effect between PLB and follower' holistic thinking on IWB is mediated via relational identification with the leader.

Research, thus far, failed to explore sub-factors of certain leadership styles and their separate effects on IWB which, consequently, could result in sub-optimal study outcomes (Hughes et al., 2018). It might be that certain specific elements of leadership behaviors show better effects on fostering IWB than others. In attempt to reduce this literature gap and in order to provide practitioners (e.g. supervisors, managers, team leaders) with relevant insights on how to stimulate followers' innovativeness in order to maintain competitive advantage on the current market, this study will also investigate the distinctive elements of PLB and their unique effects on IWB. In sum, a mediated moderation model is developed and tested that delineates whether holistic thinking moderates the relationship between PLB and IWB, and whether this interaction is transmitted via relational identification with the leader (figure 1).

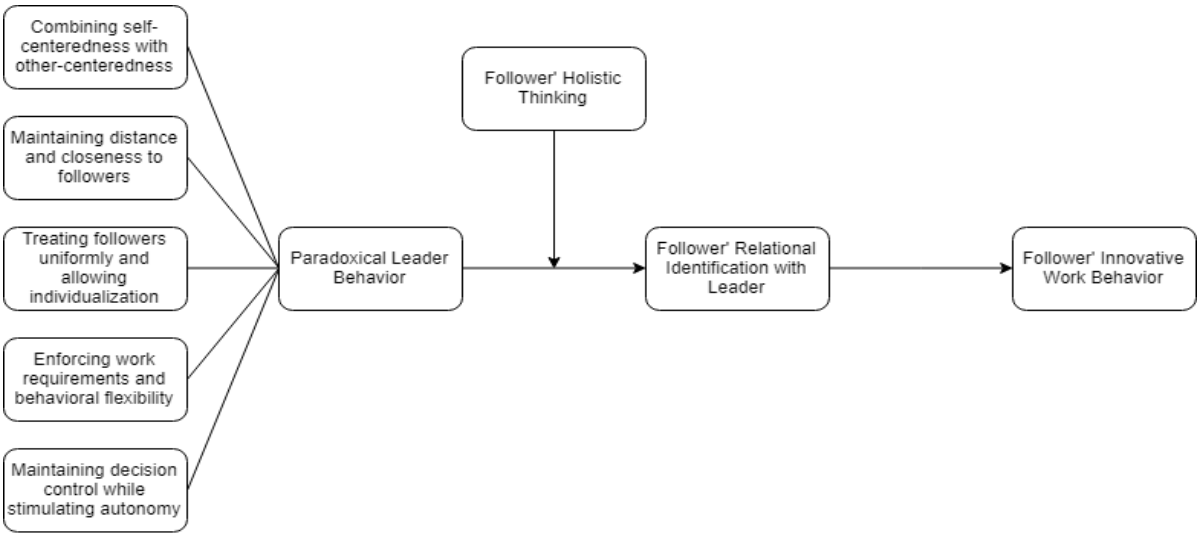

Figure 1. Proposed mediated moderation model of the interaction between PLB and follower' holistic thinking on follower' innovative work behavior mediated through follower relational identification with the leader.

Methodological framework

Research design

A quantitative study was conducted to analyze this research model. In order to detect potential relations between variables and confirm existing predictions, a correlational design was applied using a hierarchical multiple linear regression (HMR)-analysis and PROCESS macro (Hayes, 2017). Due to the limited timeframe, a cross-sectional design was employed whereby data was collected at one point in time using online survey-based field data.

Procedure and data collection

By means of joint data-collection in collaboration with a master-student, the survey had been distributed among multiple different organizations in The Netherlands and in Germany. The survey was generated using the online survey program Qualtrics. Since one student collected data amongst Dutch employees and one student amongst German employees, two versions of the questionnaire were in circulation. Both versions consisted of the same items, the only difference being the language: Dutch or German. Since the validity of results from international assessments is dependent on the quality and correctness of the test translations (Hambleton & Bollwark, 1991), a pilot study (N = 35) was conducted.

Before conducting the pilot study, validity of the translated questionnaires was ensured using back-translations of bilingual speakers according to the source language monolingual check for errors (Hambleton & Bollwark, 1991). Thereafter, a pilot study was conducted to

examine both the equivalence of the interpretation of the items using post-translation probes (Hambleton & Bollwark, 1991), and to check the reliability of each questionnaire using statistical analysis. Appendix A can be consulted for the exact procedure and steps undertaken in the pilot study. Documentation of the original questionnaires, their translated version and a total overview of the Qualtrics survey is included in Appendix B to D.

Respondents

Convenient data sampling was employed to collect data among Dutch and German employees. Based on a G*power analysis using a linear multiple regression F-test (f^2 = .15) with R^2 increase and a power of β = .95, the study aimed at a sample of at least one hundred nineteen (N=119) respondents. To ensure that respondents worked within innovative organizational contexts, and to ensure that respondents worked in command of a direct supervisor, purposive data sampling was applied. Specific workfields were pre-selected for participation in this research (i.e. ICT, education, consultancy, architecture, engineering, marketing agencies, start-ups). Employees of different organizations within these workfields were approached to ensure generalizability of research data and to minimize the risk of common method variance bias (CMV; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Respondents were also requested to provide contact-information of their supervisor. This voluntary information allowed us to conduct multi-source measurements by including ratings of supervisors in attempt to mitigate CMV bias (Podsakoff et al., 2003).

In total 210 respondents received the Online survey link through either the LinkedIn network, e-mail or mouth to mouth advertising. With a response rate of 76.2%, a total amount of 160 responses (N = 160) was collected of whom 17 incomplete responses were identified. In total 143 responses were valid and included for further analysis. Participation was voluntary for all respondents. Their anonymity and confidentiality were assured using an informed consent prior to completion of the survey. Employees in the sample averaged 36 years old (SD = 14.65) and 63.6% participants were female. The total work experience of the sample averaged 157.52 months (SD = 161.50) of which 50% of the sample had work experience of 72 months or less. 115 employees reported to have regular contact with the supervisor at least once a week and the average amount of months that employees worked for their current supervisor was 28.08 months (SD = 41.82). Closer examination revealed that 50% of the participants worked one year or less for their current supervisor.

Measurement of variables

The items of the survey are explained in Appendix C. In order to facilitate the convenience of answering the survey for respondents, all items used the same 5-point Likert scale.

Innovative work behavior was measured using Janssen's (2000) Innovative work behavior (IWB)-scale. The 9-item IWB-scale (α = .863) consisted of three items which referred to idea generation, three items on idea promotion, and three items on idea realization (Janssen, 2000). An example item is *"In your job, how often do you… create new ideas for difficult issues?"*

Paradoxical leader behavior was assessed with an 18-item PLB-scale (α = .925) adapted from the original PLB-scale developed by Zhang and colleagues (2015). Item 22 was removed due to a problematic low corrected inter-item correlation (Field, 2013). Participants rated to what extent the statements were in accordance with the behavior of their current supervisor, such as *"Shows a desire to lead, but allows others to share the leadership role."*

Follower holistic thinking was initially assessed using the 6-item dimension 'Locus of attention' which is part of the Analysis-Holism (AHS)-scale developed by Choi and colleagues (2007). Reliability tests led to the removal of item 6 due to a problematic low corrected item-total correlation (Field, 2013). Subsequently, the reliability increased from α = .703 to α = .725 in the new 5-item HT scale. Participants reported the extent to which the items related to their general way of thinking, such as: "*It is more important to pay attention to the whole than its parts*."

Follower relational identification with the leader was initially assessed using the 10-item Relational Identification as used in a study by Walumbwa and Hartnell (2011). The scale initially revealed an overall Cronbach's alpha of .839. Item 2 was deleted due to a problematic low corrected item-total correlation and the overall Cronbach's alpha based on the 9-item questionnaire increased to .868 (Field, 2013). Participants were asked to indicate to what extent the statements were in accordance to their relation with the supervisor: "*When I talk to my supervisor, I usually say 'we' rather than 'him or her'.*

Job Creativity Requirement (JCR) describes the extent to which creative performance is required in order for employees to do their job well (Hughes et al., 2018). Past research (Hughes et al., 2018; Shalley et al., 2000) revealed that jobs with high JCR are positively

related to creative performance and, thus, could be regarded as an important influence on the innovative processes of employees. Therefore, JCR is included as a control variable to rule out its possible effects on the outcome variable. Since the original JCR (Gilson & Shalley, 2004) is focused on JCR of teams, the items of the scale are revised towards individual creativity requirement such as: "*I am required to be creative."* The JCR includes four items in total (α = .874).

Before deciding on the second control variable, an independent t-test was conducted to compare the levels of IWB between Dutch and German employees. Since results did not reveal a significant difference in the level of IWB between the countries (M = .167, 95% CI[-.031, .366], t(141)= 1.669, p= 0.097, d= .279) controlling for this variable seemed uncalled for. Therefore, *gender* was included as the second control variable. The gender-centered perspective assumes that individual attributes such as traits, cognitions and attitudes vary according to the gender of the individual (Carless, 1998). Since these individual characteristics influence human behavior (Ajzen, 1987), logically, gender differences in expressing innovative work behaviors could exist.

Data analysis

Creating a data file

After merging the German and Dutch dataset, a careful data screening process followed. Pairwise deletion was applied to include the data of participants who completed the entire measurement of separate constructs to optimize the use of all available data. Before the computation of all seven variables, the assumptions were checked using the raw data set (60 items). The accuracy test showed no inaccurate scores. A fake regression analysis allowed to test for outliers using Mahalanobis; multivariate normality was checked using the histogram; linearity was checked using the P-P Plot; there was homoscedasticity as assessed by visual inspection of the plot of studentized residuals versus unstandardized predicted values; and homogeneity of variance was checked using the scatterplot. Since all assumptions were met, the items were used to compute the separate variables of PLB, IWB, HT, RI, and JCR.

A second data screening process used the independent variables against the dependent variable IWB. This process led to the removal of two participants who were identified as an outlier using Mahalanobis, cook's and the average leverage (Field, 2013). Harman's single factor test was conducted to test for CMV. Results showed that a single factor is extracting 19.557% of the total variance. Since this is below 50%, there is no threat of CMV. Figure 2

represents the normal distribution of the dependent variable. Figure 3 indicates that the residuals are normally distributed.

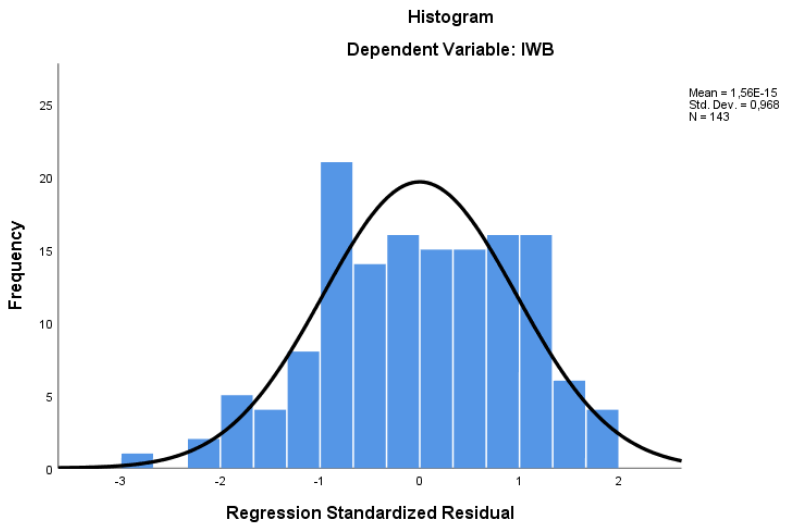

Figure 2. Normal distribution Innovative Work Behavior

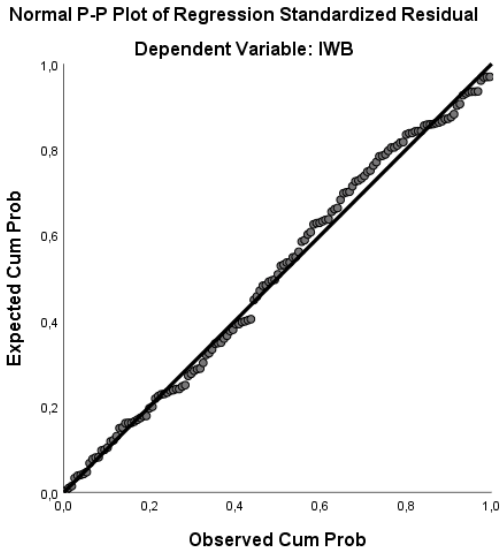

Figure 3. Graph Innovative Work Behavior

Statistical analyzes

In order to investigate the conditional interactive effect of PLB and HT on the dependent variable of IWB via the mediating variable of RI, a mediated moderation analysis was conducted. The four corresponding hypotheses to examine this question, were analyzed in SPSS using HMR-analysis and PROCESS macro developed by Hayes (2017).

First, a HMR was performed to examine whether PLB positively effects IWB while controlling for JCR and gender (Hypothesis 1). The second step was conducting a traditional test of moderation on the Dependent Variable (DV) to test Hypothesis 2. Model 1 of PROCESS macro (Hayes, 2017) provided insight how the association between PLB on IWB changed, based on different levels of HT. In the third step, the same traditional test of moderation using model 1 of PROCESS macro was applied to investigate Hypothesis 3. Differently than the first moderation analysis, instead of taking the distal variable of IWB as the DV, the mediator Relational Identification was included as the DV. Next, in step four, model 8 of PROCESS macro was used to analyze whether the interaction effect on IWB was explained by the mediating variable of RI. More specifically, PLB was included as the IV, IWB was included as DV, RI was added as mediator, and HT was included as moderator W. The control variables, JCR and gender, were included to partial out its variances from the Mediator and the DV. In the last step, bootstrapping analysis was conducted to look at the significance of the mediator transmitting the effect of PLB on IWB on different levels of HT. The index of moderated

mediation was consulted (Hayes, 2015) to gather additional evidence of the conditional interactive effect of the proposed model. All steps (1 to 5) were repeated to test for the effects of the separate PLB-subscales on IWB.

Results

Descriptive analysis

Table 2 displays the means, standard deviations, and correlations for the key variables of this study. The correlation matrix reveals no significant correlation between PLB and IWB or PLB and HT. However, both HT (r = .190, p <.05), and RI (r = .204, p <.05) are significantly positively related to IWB. RI also correlates significantly positive and strong with PLB (r = .635, p <.01). The control variable JCR shows a significantly positive and strong correlation with IWB (r = .566, p <.01). The negative correlations displayed for gender indicate less strong relations between females and the other variables, compared to males. This difference is only significant for the variable RI, (r = -.199, p < .05).

Table 2
Means, Standard Deviations, and Correlations among Variables[a]

	M	*SD*	1	2	3	4	5
Predictor variables							
1. Innovative Work Behavior	3.305	.603	**(.867)**				
2. Paradoxical Leader Behavior	3.607	.718	.039	**(.928)**			
3. Holistic Thinking	3.806	.670	.190*	.079	**(.732)**		
4. Relational Identification	3.156	.759	.204*	.635**	.133	**(.866)**	
Control variables							
5. Job Creativity Requirement	3.713	.874	.566**	.125	.217**	.207*	(REL)
6. Gender (1=male, 2=female)	1.640	.481	-.146	-.076	-.069	-.199*	-.036

Note: * p <.05, ** p < .01 (2-tailed), Cronbach's alphas appear across the diagonal in bold between brackets.
[a] IWB (N = 143), PLB (N = 143), Holistic Thinking (N = 143), RI (N = 143), JCR (N = 143), and Gender (N = 142).

Exploratory factor analysis

Prior to examining the hypotheses, an exploratory factor analysis (EFA) was conducted to investigate any latent factors underlying the 21-item questionnaire assessing PLB. The original PLB-questionnaire (Zhang et al., 2015) specified five underlying subscales based on Chinese samples. Several scholars, however, reason that organizational activities, such as management

and leadership, cannot be regarded as universal practices (Hofstede, 1983; Schwartz, 2006). Since the data of the current study is gathered among Dutch and German employees, an EFA should provide insights in any cultural differences influencing the paradoxical leadership concept. Therefore, data collected among 143 Dutch/German participants were subjective to principal axis factoring with promax rotation to provide clarity on the cultural impact on perceptions of PLB.

The high significance of Bartlett's test of sphericity ($p < .001$) confirmed that factor analysis was the appropriate measure for the current sample. Assumptions of normality and linearity were checked prior to the analysis. Even though preliminary examination revealed that the determinant of the *R*–matrix (1.29E-5) met the critical value of .00001 (Field, 2013), closer examination of the *R*-matrix showed concerning low correlations ($r < .30$) for items 20, 13, and 15, respectively. Stepwise deletion of these items resulted in a proper determinant (4.57E-5) indicative of no multicollinearity issues. The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = .91 ('marvellous' according to Hutcheson & Sofroniou (1999) as cited by Field, 2013, p. 685). All KMO values for individual items were above the acceptable limit of .5 (Field, 2013).

The factor analysis based on the remaining 18 PLB items, initially revealed a four-factor solution using Kaiser's criterion (eigenvalues = 8.119, 1.201, 1.074, and 1.066, respectively). The four factors explained 64.776% of the variance. However, since communalities after extraction were not all above .700, Kaiser's criterion might not be an appropriate indicator (Field, 2013). Examination of the scree plot displayed an inflexion justifying either 3 or 4 factors. In total, 3 factors were specified since closer examination of the fourth factor loading showed a reliability of $\alpha = .647$, indicative of an unreliable subscale (Field, 2013, p. 709). Items included in this factor (8 and 21) indeed are not related content-wise as originally reasoned by Zhang and colleagues (2015). Since the fourth factor cannot be justified either statistically nor theoretically, the two items are subdivided among other factors. Consequently, the original five subscales as employed by Zhang et al. (2015) are merged into three subscales based on the Dutch/German sample and used for further analyses (figure 4). The item loadings and explained variances are displayed in table 3 provided in Appendix E.

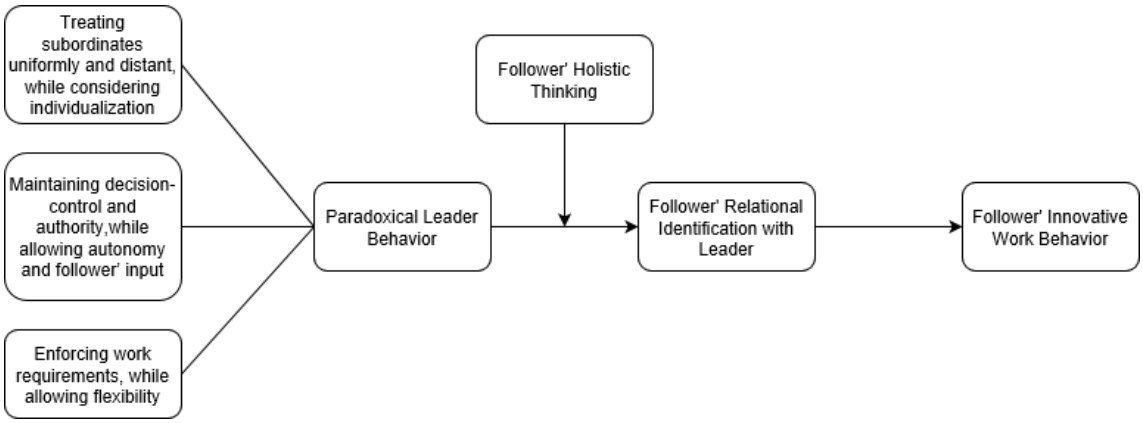

Figure 4. New research model including three PLB-subscales based on an EFA using a Dutch/German sample.

Main effect of Paradoxical Leader Behavior on Innovative Work Behavior

The first hypothesis was investigated using a HMR-analysis. Table 4 displays information on each regression model. The first model, testing for the effect of the control variables of JCR and gender on IWB, was statistically significant, R^2= .336, F(2, 139)= 35.163, p <.001. Model 2 included PLB, in order to investigate whether the addition of PLB significantly predicts IWB beyond JCR and gender. Results of model 2, however, reveal an insignificant increase in ΔR^2 of .002, ΔF(1, 138)= .389, p= .534 (p > .001). In contrast to previous reasoning, PLB is negatively and insignificantly related to IWB and cannot provide significant explanation for any change in IWB, β= -.044, t(1,139)= -.623, p= .534, pr^2= .002. Closer examination of the separate variables, shows that only JCR is a significant predictor of IWB, β= .561, t(2,139)= 8.114, p <.001, pr^2= .321. Given the insignificant addition of PLB to predict IWB, hypothesis 1 cannot be confirmed.

Table 4

Hierarchical Multiple Regression Predicting IWB from PLB, controlling for JCR and gender (N = 142)

	IWB			
	Model 1		Model 2	
Variable	B	β	B	β
Constant	2.126***		2.252***	
JCR	.387***	.561***	.391***	.567***
Gender	-.159	-.126	-.163	-.129
PLB			-.037	-.044
R^2	.336		.337	
F	35.163***		23.390	
ΔR^2	.336		.001	
ΔF	35.163***		.234	

Note. *p < .05, **p <.01, *** p <.001.

Moderation effects of PLB and Holistic Thinking

In order to examine Hypothesis 2, a traditional moderation test using model 1 of PROCESS macro (Hayes, 2017) was performed. Results reveal (table 5) that the main effect of PLB on IWB was negative, albeit insignificant, *b*= -,026, *t*(136) = -.437, *p*= .663. HT is positively related to IWB, although insignificant, *b*= .067, *t*(136)= 1.089, *p*= .278. Addition of the PLBxHT-interaction resulted in an insignificant change to the model, *F*(1,136) = 1.548, *p*=.216, ΔR^2 = .007. The simple slopes displayed in figure 5 allows for a closer examination of the insignificant interaction effect between PLB and HT on IWB. For followers low in HT (-1SD), PLB positively affects IWB although insignificant, *b*= .051, *t*(136)= .587, *p*= .558. The effect of PLB in combination with followers high in HT (+ 1SD) was negative and insignificant, *b*= -.103, *t*(136)= -1.195, *p*= .234. Taken together, hypothesis 2, predicting that follower high in HT would have a positive and stronger relation between PLB and IWB than followers low in HT, cannot be confirmed.

Table 5

Moderation analysis of PLB and HT on dependent variable IWB (N= 142)

	IWB			
Predictor Variable	B	SE	t	p
Constant	2.148***	.237	9.047	.000
PLB	-.026	.060	-.437	.663
HT	.067	.062	1.089	.273
Int_1	-.110	.088	-1.244	.216
Control Variable				
JCR	.383***	.049	7.784	.000
Gender (1 = male, 2 = female)	-.160	.087	-1.825	.070

Note. *$p < .05$, ** $p < .01$, *** $p < .001$.

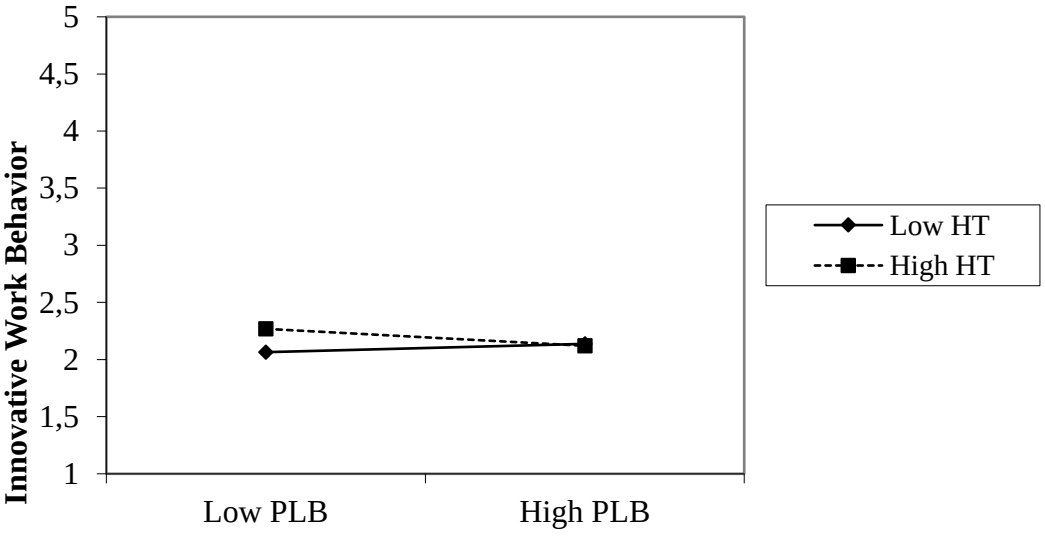

Figure 5. Simple slopes displaying the insignificant interactive effect between PLB and HT on IWB

The third step is to test for the moderation effect of PLB and HT on the mediator of the model, RI. A traditional moderation test using model 1 of PROCESS macro (Hayes, 2017) was performed, now taking RI as the DV (Table 6). The main effects show a positive and significant relation between PLB and RI, b= ,631, $t(136)$= 9.136, $p < .001$. As PLB increases, so does follower identification with the leader. HT has an insignificant positive effect on RI, b= .063, $t(136)$= .878, p= .381. Addition of the interaction resulted in an insignificant change to the model, $F(1,136)$= .008, p= .929, ΔR^2= .000. The simple slopes shown in figure 6, indeed reveal the positive and significant main effect of PLB on RI. However, there is no difference in the relationship between PLB and RI for different levels of HT. For followers low in HT (- 1SD), increases in PLB positively affect RI, b= .625, $t(136)$= 6.298, $p < .001$. The same happens for followers high in HT (+ 1SD), b= .638, $t(136)$= 6.427, $p < .001$. Therefore, no moderation effect of PLB and HT on RI is found. Hypothesis 3 cannot be confirmed.

Table 6

Moderation analysis of PLB and HT on mediator RI (N= 142)

	RI			
Predictor Variable	B	SE	t	p
Constant	3.150***	.274	11.512	.000
PLB	.631***	.069	9.136	.000
HT	.063	.071	.878	.381
Int_1	.009	.102	.089	.929
Control Variable				
JCR	.099	.057	1.749	.083
Gender (1 = male, 2 = female)	-.226*	.101	-2.245	.026

Note. *$p < .05$, ** $p < .01$, *** $p < .001$.

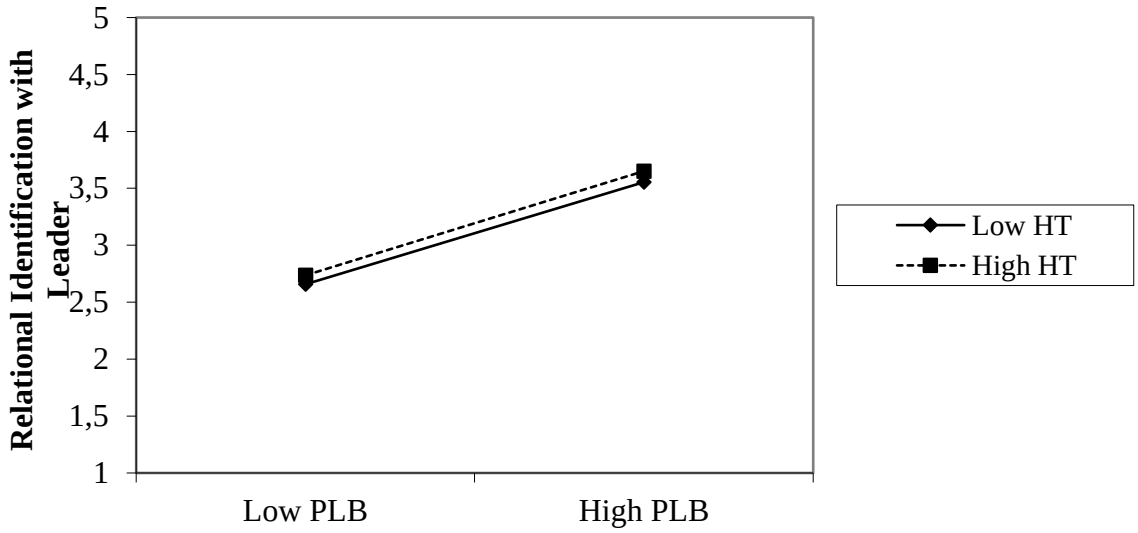

Figure 6. Simple slopes displaying the insignificant interactive effect between PLB and HT on RI

Mediated Moderation effect via Relational Identification

The final step in the mediated moderation model is to include the mediator variable using model 8 of PROCESS macro by Hayes (2017). In line with the previous moderation analysis, results indicate that the relation between the interaction between PLB and HT on RI is not significant, b= .009, t(136)= 0.089, p= .929. The relation between the mediator and the DV is not significant, b= .119, t(136)= 1.601, p= .111. Lastly, the relation between the interaction term and IWB is not significant, b = -.111, t(136)= -1.263, p= .209. Closer examination of the indirect effects of the bootstrapping analysis (Table 7) on the basis of 5,000 random samples, reveals 0 at the confidence interval for both followers with high HT and low HT. Furthermore, the Index of Moderation reveals 0 in the 95% bootstrap confidence interval [-.030, .030], providing additional evidence that there is no conditional moderation effect of PLB and HT on IWB via RI (Hayes, 2015). No support for the mediated moderation hypothesis 4 is found.

Table 7

Conditional indirect effects of PLB via RI on IWB at values of HT (N=142)

	IWB	
Holistic Thinking	B	Confidence levels of 95% for confidence intervals
Low (- .700)	.074	-.020 to .180
Mean (.000)	.075	-.020 to .175
High (.700)	.076	-.021 to .179

Note. 5,000 bootstrap samples.

Testing the effects of PLB-subscales on IWB

When repeating all previous steps for each PLB-subscale, a corresponding trend with previous results appears. Appendix F can be consulted for the exact statistical information per subscale.

Discussion

Theoretical contribution

The current study is, to the knowledge of the author, the first to investigate whether paradoxical leader behaviors in managing people, could provide the right environment for followers to positively respond to the contradictory nature of innovative processes (Scott & Bruce, 1994; March, 1991). Zhang and colleagues (2015) provided initial evidence that PLB addresses organizational paradoxes effectively within Chinese organizations. This study, based on a Dutch/German sample of 143 employees, contributes valuable insights to the

limited research on PLB effects within Western organizational contexts. By further investigating the potential positive relation between PLB and follower' IWB in a Western context, and by clarifying the conditions under which these positive effects appear, this study contributes with scientific and practical knowledge on environmental and personal conditions under which IWB is enabled and enhanced on the work floor.

Contrary to our reasoning that PLB facilitates IWB of employees by providing a paradoxical context that matches the paradoxical needs of innovative behavior (Zhang et al., 2015; Scott & Bruce, 1994; March, 1991), initial results cannot confirm this relationship. Results on the HMR-analyses reveal the highly positive predictive value of JCR in explaining the level of IWB. However, the negative, insignificant relation found between PLB and IWB – as well as the comparable results on the separate PLB-subscales - indicate that PLB does not foster innovative processes among Western followers. Results might not be entirely surprising, since recent research of Shi and Shaw (2017) found that positive relations between PLB and organizational Western outcomes, lost their additional predictive value after controlling for the effect of other established leadership styles. In line with this prior evidence (Shi & Shaw, 2017), current results question whether PLB is an effective leadership style within Western innovative contexts.

Interestingly enough, current results do indicate that Dutch/German employees could identify with their paradoxical leader. That is, although PLB does not predict higher levels of IWB, results show that PLB is positively associated to RI. Shi and Shaw (2017) were the first to provide evidence that a cognitive understanding of paradoxical leadership exists among both Eastern and Western cultures. The positive significant relation between PLB (and PLB-subscales) and RI in the current study, provides additional evidence that PLB can be regarded as a universal leadership style. However, even though prior research shows that identification with the leader is crucial for leaders in attempt to influence follower' beliefs and behaviors (Hughes et al., 2018; Kark et al., 2003; Qu et al., 2015), current results cannot provide evidence that this exact mechanism also explains how PLB effects IWB.

As the relatively new paradoxical leadership concept is grounded on the Eastern Yin-Yang philosophy (Zhang et al., 2015), cultural differences could provide a reasonable explanation for the absence of a positive relation between PLB and IWB. Specifically, the analytical Western sensemaking, characterized by breaking the whole into parts (Nisbett et al., 2001; Sadler-Smith & Badger, 1998), could prevent Western followers to appropriately deal with contradictory leader behaviors. As Westerners are more likely to separate two sides of

the paradox, PLB might result in confusion or even decision-making paralysis among followers: do they respond to the one side of the leader behavior, *or* to the other? Lewis (2000) indeed theorized that when actors perceive paradoxical tensions, this could result in growing anxiety and paralyzing defenses, inhibiting innovative behavior. In line with this reasoning, Ingram, Lewis, Barton, & Gartner (2016) showed that paradoxical tensions negatively impact innovative behavior. This suggests that, although Western followers do perceive and relate to PLB, it does not provide the right environment to innovate since followers are unable to effectively cope with contradictory leader behaviors. Whilst the natural cognitive ability to synergize contradictory behaviors within Eastern cultures (Keller, Loewenstein, & Yan, 2017), enable Easterners to understand and integrate the seemingly competing, yet interrelating behaviors of paradoxical leaders more easily. Consequently, this could explain why PLB leads to positive organizational outcomes within Eastern contexts (Zhang et al., 2015; Shi & Shaw, 2017) while positive effects within Western contexts remain absent or limited (Shi & Shaw, 2017).

However, with the interactional approach in mind, a paradoxical environment could be effective depending on follower' characteristics to cognitively deal with "both-and" nature of paradoxical tensions (Endler & Magnusson, 1976; Terborg, 1981). Indeed Zhang et al. (2015), showed that holistic thinking enabled Chinese leaders to engage in paradoxical behaviors themselves. Contrary to their findings, this study could not confirm that holistic thinking also enables Dutch/German followers to effectively cope with paradoxical leader signals. Instead, insignificant and reverse effects are found: among followers with low levels of HT, an insignificant but positive PLB-IWB association appeared and among followers high in HT an insignificant but negative PLB-IWB association showed. These results are surprising since previous studies show that integrative modes of thinking are positively associated creativity and innovation (Hou et al., 2011; Ingram et al., 2016). Ingram et al. (2016) showed that the ability to juxtapose, explore and integrate contradictions, led to more innovative behavior in family firms. The results of the current study hereby suggest that, although holistic thinking of followers could directly stimulate IWB, it does not seem to provide the right cognitive condition to also enable followers effectively deal with PLB.

In addition, no moderating effect of HT on the PLB-RI relation is found, indicative that HT does not provide more favorable cognitive conditions for followers to better identify themselves with their leader. Since, Western followers do identify themselves with PLB, it could be that other moderating factors, such as JCR, are at play. Given the positive predictive

relation between JCR and IWB, it seems that JCR enables followers to meet the contradictory processes enhancing IWB. In this light, it could also be that JCR enables followers to identify with contradictory behaviors of paradoxical leaders. That is, jobs that require followers to be creative, consequently motivates them to engage in paradoxical thinking and behaviors in order to meet these contradictory work requirements (March, 1991). Given the paradoxical nature of creative job requirements, it could be that followers, consequently, understand and identify with contradictory signals of paradoxical leaders more strongly since such behavior is already incorporated in their self-concept (Lord et al., 1998). This suggests that the strength of follower' identification with PLB could be explained by JCR.

Besides cultural differences in sensemaking to explain the inconclusive effects of PLB within Western contexts, the impact of differences between Asian and Western organizational cultures could also be at play. Cultural organizational differences might, consequently, require a different conceptualization of PLB in managing subordinates (Hofstede, 1983; Schwartz, 2006). Although Shi & Shaw (2017) provided the first evidence that the original PLB-scale can be used universally, the EFA based on the current Dutch/German sample could not replicate the same five underlying subscales as previously subtracted from Chinese populations (Zhang et al., 2015). Instead a different three-factorial structure was retained to fully capture the Western interpretation of PLB. More specifically, the subscales *Combining self-centeredness with other-centeredness (CO)* or *Maintaining both distance and closeness (DC)* employed in the original PLB-scale were not supported.

The disappearance of the CO- or DC-subscale could be due to the egalitarian and intellectually autonomous Western culture, where subordinates are recognized as moral equals and stimulated to take individual responsibility of their actions (Schwartz, 2006). Consequently, Western leaders might not need to exert paradoxical behaviors on these dimensions since hierarchy or unequal power roles do not require effective people management. This is in stark contrast with Asian organizations, where embeddedness, mastery and hierarchy prevail and obligations to collectivities are more important than individual ideas and aspirations (Schwartz, 2006). Hence, for leaders to effectively manage these differing cultures, differing management styles might be required. While followers, on the other hand, also interpret leader behaviors differently leading to different expectations accordingly. This cross-cultural research, thereby, provides initial evidence that leaders within Western contexts might display different paradoxical behaviors in managing people, compared to Asian cultures.

Practical implications

Theoretical conclusions of this study provide Western leaders with initial insights that PLB might not necessarily lead to more innovative work behavior among their followers. Although the positive relation found between PLB and RI provides evidence that followers can relate to PLB, this identification does not, subsequently, stimulate innovative behavior. As PLB might not be an effective Western management style leading to innovative behaviors, the question still remains how leaders can ensure follower' innovative work behavior?

Even though this research indicates that holistic thinking of followers does not enable them to effectively deal with PLB in order to be innovative, this particular sensemaking mode might, instead, directly stimulate IWB. Recent studies reveal promising relations between integrative modes of thinking (i.e. paradoxical thinking or holistic thinking) and innovation (Ingram, et al., 2016; Miron-Spektor et al., 2018). Accordingly, in order to provide the right environment to ascertain a continuous flow of innovation, leaders may not manage followers with paradoxical behaviors, but should instead focus on how to stimulate follower' integrative modes of thinking. Moreover, the positive and significant effect of JCR in explaining IWB found in all analyses and especially in concurrence with PLB, should make leaders aware that JCR plays an essential role in enabling IWB. That is, levels of IWB can be enhanced by creating jobs that actually require followers to be creative (Hughes et al., 2018; Shalley et al., 2000).

Limitations and future recommendations

Findings must be qualified by a number of limitations. First, even though Harman's single-factor test ruled out CMV bias, this technique cannot be regarded as evidence that measures are free of CMV (Podsakoff et al., 2003). Certain elements of the study design remain called into question after this statistical procedure (Podsakoff et al., 2003). Researchers indicate that with regard to CMV bias, complex and ambiguous survey-items threaten the validity of measurements (Podsakoff et al., 2003; Brutus & Facteau, 2003; Reio, 2010). The long, complex items of the double-barreled PLB-survey, might have affected the validity of the ratings (Podsakoff et al, 2003; Reio, 2010). Especially, since the PLB-items are inherently paradoxical, and a lack of convergence within items has been shown to increase complexity and confusion among raters (Brutus & Facteau, 2003).

For example, the item "*maintains position differences, but upholds subordinates' dignity",* should only be agreed upon if both ends of the paradox hold true for the subordinate.

However, when a subordinate agrees with one part "*maintains position differences (…)",* but disagrees with the second contradictory part "*(…) but upholds subordinates' dignity"*, this indicates that the leader does not engage in paradoxical behaviors and agreement on a 1 to 5-likert scale should be low accordingly. Participants, could have wrongly assumed that, since part of the item is true, a 2 or 3 response is appropriate. Consequently, although measurements in the current study indicate that Western leaders are capable of PLB, it could be that these ratings do not accurately represent the PLB concept as originally intended. This systematic source of measurement error could have affected the observed (lack of) relationships among variables (Cote & Buckley, 1998). Since empirical analyses by Zhang and colleagues (2015) suggest that the double-barrel approach is more appropriate than alternative measurement indices, future studies are recommended to pair the use of the complex double-barreled items with careful instructions and definitions to mitigate the impact of complexity (Brutus & Facteau, 2003; Reio, 2010).

Validity of PLB measurements could also have been compromised due to inadequate perceptions of leader behaviors held by followers. Followers with irregular supervisor contact might have not had the chance to perceive contradictory behaviors of his/her leader, even though the leader does engage in PLB (Walumbwa & Hartnell, 2011). This raises the question whether followers with irregular supervisor contact or low job tenure are able to judge paradoxical behaviors of their supervisor accurately. Since 50% of the current sample worked one year or less for their current supervisor, it could be that those participants do not yet have an accurate image of their supervisor thereby threatening measurement validity. Future research could investigate whether regular contact with the supervisor or organizational tenure is a prerequisite condition in order for subordinates to actually experience PLB.

Besides issues of item-construction and -answering, it is also possible to ensure validity ratings by obtaining measures from different sources (Podsakoff et al., 2003; Reio, 2010). Next to the ratings of subordinates, supervisors could rate the extent to which they perceive IWB among subordinates. Even though this study attempted to gather ratings of a dyad sample, most respondents did not voluntary provide the necessary information to contact their supervisor. Therefore, multi-source ratings were unfeasible in this study. However, future multi-source ratings may overcome tendencies to respond in a neutral, heuristically or random manner to the ambiguous questions. The additional advantage is that it prevents the mindset of the rater to bias the observed relationship between the predictor and criterion

variable, thereby eliminating the effects of consistency motifs, social desirability, and dispositional and mood states (Podsakoff et al., 2003),

Moving beyond limitations and recommendations on study design, this exploratory study also raises the need for more comprehensive research to further clarify the role of PLB within Western innovative context. First, future research should replicate this study based on larger sample sizes and longitudinal designs, in order to provide additional evidence on the role of PLB within Western organizational contexts. Such research could investigate potential factors that enable Western followers to identify themselves with PLB (i.e. supervisor contact, level of job tenure or JCR). In addition, future research could shed light on the role of integrative modes of thinking on follower' innovative work behavior. Given the interesting finding that higher levels of HT could not enable followers to effectively deal with PLB, but instead showed an insignificant and reverse effect, future research should look more closely into the specific role of HT within paradoxical contexts. Especially since several studies show promising direct relations whereby high paradox mindsets helped employees cope with everyday tensions, enhancing performance and innovation (Ingram et al., 2016; Miron-Spektor et al., 2018). As paradoxical leader behaviors do not seem to provide the right circumstances for follower' innovation to unfold, instead follower' paradoxical thinking might be the key ensuring continuous innovative behaviors.

Lastly, studies should further clarify why PLB in Western organizations do not necessary lead to positive organizational outcomes such as IWB. Studies could investigate whether PLB indeed causes followers to perceive paradoxical tensions which consequently prevents its positive effect on IWB (Lewis, 2001; Ingram et al., 2016). To further explicate the impact of the cultural difference on the PLB-IWB relationship, it would be interesting to replicate the current study in Asian contexts. Since Zhang et al. (2015) already found positive effects of PLB on proficiency, adaptivity, proactive behavior of follower, it could be that in Asian cultures PLB also positively affects follower' IWB. Furthermore, given the difference in cultural dimensions that influence Asian and Western organizations, it would be beneficial to investigate whether different paradoxical leader behaviors are at play in Western organizations. This would raise the need to develop a new PLB-scale specifically tailored to Western organizational characteristics (Zhang et al., 2015).

Conclusion

Based on the interactional approach, the current study shows that leaders engaging in PLB – reflecting a "both-and" strategy that accepts, integrates and demands contradictory behaviors – might not necessarily provide an environment that paves the way to follower' innovative work behaviors within Western organizational contexts. However, given the exploratory nature of this research, closer examination of the interplay between Asian-Western cultural differences and PLB is warranted to make absolute theoretical conclusions on its effect on innovative work behavior. Thereby, this study provides new directions to further explore the PLB-IWB relationship.

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APPENDIX A

Pilot study

Judgmental methods

All questionnaires employed in this research are originally developed and administered in English. Therefore, in order to make the survey understandable and applicable to Dutch employees and organizations, all items of the questionnaires were translated into Dutch. However, since the validity of results from international assessments depend on the quality and correctness of the test translations, two judgmental methods of establishing translation equivalence were applied. Thereafter, statistical analysis was conducted using data from a pilot-study to examine the reliability of each questionnaire. All procedures aim at developing and testing the overall adequacy of the research survey and its feasibility. This section explicates the steps undertaken to ensure both the validity and reliability of the target survey version.

Hambleton and Bollwark (1991) state that judgmental methods of establishing translation equivalence are based on a decision by an individual or a group on the degree of each item's translation equivalence. Several judgmental methods exist. In the current study back translations were employed to review the correctness of the translation and post-translation probes were used to check the equivalence of the interpretation of the translated questions (Hambleton & Bollwark, 1991).

Firstly, four bilingual judges checked for errors using the *source language monolingual check for errors* (Hambleton & Bollwark, 1991). In this method, translation of the target survey is translated back into the original source version by bilinguals who are not involved in the original translation in order to verify the translation interchangeability. Once the back translations were received, they were compared by to the source version in order to check the equivalence. Based on the back translation of the bilingual judges, modifications were made on the Job Creativity Requirement scale in order to find the right equivalent for the word "required". The pilot study version used the translation of "verplichten" which resulted in back translations of either "to oblige" or "to demand". Since these back translations did not match the exact interpretation of "requires", the sentence was changed into a more free translation using a Dutch expression: "…verlangd van mij om…".

Since using the *source language monolingual check for errors* is a method whereby the bilingual translator could rely on insightful guesses or rules-of-thumb to translate an item correctly (Hambleton & Bollwark, 1991), nothing can be said about the correctness of the equivalence of the interpretation of the translated items. Therefore a pilot study (*N*= 35) was conducted for closer examination.

The procedure and content of the pilot-study was meant to be a replica of the actual target study. Given the short time-frame to collect data, respondents for the pilot-study were approached using a convenient data sampling method. By means of personal and professional networks such as Linkedin respondents were asked to collaborate on the pilot-study. Participation was entirely voluntary. The survey was administered using the Online Qualtrics Survey Software. Respondents were able to fill in the questionnaire in their own time on either their mobile phone or on their computer. The only difference between the pilot-study and the target-study was that a smaller sample (*N*= 4) from the pilot-study was drawn to request their collaboration on improving the questionnaire. Respondents of the sub-sample were asked to judge the interpretation and user-friendliness of the Online survey.

Respondents of the sub-sample were asked to act as judges using the method of *post-translation probes* to examine the equivalence of the interpretation of items (Hambleton & Bollwark, 1991). In this method, the judges answer the translated version of the items and afterwards are asked about the meaning, difficulty or ambiguity that might arose on certain items. Based on this judgmental method, several modifications were made to the translated target survey. Firstly, Item 4 of Proactive personality was changed into: *Als ik iets zie wat me niet zint, dan verander ik het*. Changes were made because raters did not understand the translation: “Als ik iets zie wat ik niet leuk vind, dan repareer ik het.” Misunderstandings arose from the word "repareer" which is the literal translation from "fix". Since this expression is unfamiliar to the Dutch language, a different expression was implemented in order to ensure an equivalent interpretation of the translated item.

A second modification was made on the Holistic Thinking scale since the post-translation probes revealed that the Dutch version of the scale was hard to understand and answer. Even though the confusion could be partly due to cultural barriers which make it hard for Western respondents to answer an Eastern developed scale, linguistic changes were made in attempt to make the items more comprehensible. "The whole rather than its parts" was therefore translated into "Het geheel, in plaats van zijn *losse* onderdelen" instead of the literal translation employed in the first translated target version.

Thirdly, remarks collected from the post-translation probes gave valuable insight to improve the questionnaire on its applicability and user-friendliness. Hence, choice formats were changed from open-ended answers into categorization answers whereby respondents could choose the appropriate answer from several pre-selected choice options (i.e. In what field are you working at the moment? Choose your answer: (1) Science, (2) Education and training, (3) Business and finance, (…)). In addition, all Likert-scales were changed into the same 5-point Likert scale with an identical answering format ranging from 'Strongly disagree' to 'Strongly agree'. Lastly, several demographic questions were added to assure all significant information on respondents was collected in order to establish reliable and valid research conclusions. An extra conditional question was added to ensure employees are in contact with their supervisor at least once a week. Also, additional information was asked about the size of the organization, the amount of working hours a week, and respondents were asked to give their consent to the research team to contact their supervisor for collaboration to the research. All decisions to adjust the items after the back translation and post-translation probes, were made on the basis of deliberate consultation with the bilingual speakers, the sub-sample judges and research colleagues.

Statistical analysis

In addition to using judgmental methods as described by Hambleton and Bollwark (1991), statistical measures were conducted using the data gathered by the pilot study to further examine the reliability of the questionnaires. The following section will discuss the results of the reliability analyses in more depth.

35 respondents participated in the pilot study. However, due to missing data 7 respondents were excluded from the statistical analysis, resulting in a total of N= 28 respondents. To ensure that the questionnaires employed in the survey consistently reflect the construct that it is measuring, reliability tests using the IBM SPSS Statistics program were conducted. The reliability of each questionnaire was carefully examined using Cronbach's alpha. A Cronbach's alpha between .7 and .8 was considered acceptable, as values substantially lower indicate an unreliable scale (Field, 2013).

Cronbach's alpha for the 8-item Innovative Work Behavior questionnaire was .86. This is indicates good reliability (Field, 2013). Since closer examination of potential removal of items did not indicate that alpha could increase to improve overall reliability, all items from the questionnaire were kept intact.

Cronbach's alpha for the 6-item Holistic Thinking ability was .699. Since good reliability should indicate an alpha between .7 to .8 further analysis seemed appropriate. A closer examination of Item-Total Statistics indicated that alpha would increase to .73 if item 4 were removed. Since this is a pilot study no definite modifications were made on the questionnaire. However, careful scrutiny of the data from the target survey, and especially of item 4 of the Holistic Thinking scale, is warranted in order to ensure good reliability on this questionnaire.

The Paradoxical Leader Behavior 22-item scale showed good reliability with a Cronbach's alpha of .92. A closer examination of the Item-Total Statistics however indicated that item 22 had an item-total correlation below .3 which could be alarming to the reliability of the item (Field, 2013). Further scrutiny of the data revealed that alpha would increase to .93 if the item was deleted. Since this is a pilot study and modifications only result in minimal improvements, no adjustments were made. Again, close examination of the data resulting from the target study should determine whether it is necessary to eliminate the item from the questionnaire when analyzing the results.

Cronbach's alpha for the 10-item Proactive Personality Scale was .79. This can be considered as good reliability (Field, 2013). Closer examination did not indicate possibilities of overall improvement on reliability when removing items. Therefore the scale remained intact.

The 4-item Job Creativity Requirement scale showed a Cronbach's alpha of .91 indicating good reliability. Further examination of Item-Total Statistics revealed that no improvements of reliability were possible when deleting separate items. Therefore the scale remained as originally intended.

No reliability tests were conducted on the 7-item scale of Identification with the leader and trust in the leader. The scale was originally employed to measure the mediating variable *Relational Identification with the leader.* However, close examination of the adequacy of the scale lead to the conclusion to substitute the scale entirely. The 7-item scale measured a construct which included trust in the leader. This is however insignificant to the research hypothesis related to the current study. Since the scale did not meet the requirements of the Relational Identification with the Leader-construct used in the current research, it was substituted with the ten-item scale of Relational Identification as developed by Walumbwa and Hartnell (2011).

APPENDIX B

-Original questionnaires-

Seibert, Crant, and Kraimer's (1999) ten-item scale of proactive personality, which is a shortened version of Bateman and Crant's (1993) Proactive Personality Scale:

The following statements relate to yourself. Indicate to what extent these statements apply to you.

Responses are made on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

1. I am constantly on the lookout for new ways to improve my life.
2. Wherever I have been, I have been a powerful force for constructive change.
3. Nothing is more exciting than seeing my ideas turn into reality.
4. If I see something I don't like, I fix it.
5. No matter what the odds, if I believe in something, I will make it happen.
6. I love being a champion for my ideas, even against others' opposition.
7. I excel at identifying opportunities.
8. I am always looking for better ways to do things.
9. If I believe in an idea, no obstacle will prevent me from making it happen.
10. I can spot a good opportunity long before others can.

Zhang, Han, Waldman and Li's (2015) six-item holistic thinking "Locus of attention" scale, which is a shortened version of Choi, Koo and Choi's (2007) Analysis-Holism Scale:

Indicate to what extent you agree with these statements.Responses can be made on scale ranging from 1 to 5 (1 = strongly disagree, 5 = strongly agree).

1. The whole, rather than its parts, should be considered in order to understand a phenomenon.
2. It is more important to pay attention to the whole than its parts.
3. The whole is greater than the sum of its parts.
4. It is more important to pay attention to the whole context rather than the details.
5. It is not possible to understand the parts without considering the whole picture.
6. We should consider the situation a person is faced with, as well as his/her personality, in order to understand one's behavior.

Walumbwa and Hartnell's (2010) ten-item scale of relational identification:
Responses can be made on a scale from 1 (strongly disagree) to 5 (strongly agree).

1. When someone criticizes my supervisor, it feels like an insult to me.
2. I am interested in what others think about my supervisor.
3. When I talk about my supervisor, I usually say 'we' rather than 'him or her'.
4. I share the success of my supervisor.
5. I have a sense of partnership with my supervisor.
6. I am proud to tell others I work with this supervisor.

7. I praise my supervisor when speaking with friends.
8. I have a mutually beneficial relationship with my supervisor.
9. I respect the views and suggestions of my supervisor.
10. The values of my supervisor are consistent to my own.

Zhang, Waldman, Han and Li's (2015) 22-item scale of paradoxical leader behaviour:

Responses can be made on a scale ranging from 0 (not at all fitting to supervisor) to 4 (fitting a lot to supervisor).

1. Uses a fair approach to treat all subordinates uniformly, but also treats them as individuals.
2. Puts all subordinates on an equal footing, but considers their individual traits or personalities.
3. Communicates with subordinates uniformly without discrimination, but varies his or her communication styles depending on their individual characteristics or needs.
4. Manages subordinates uniformly, but considers their individualized needs.
5. Assigns equal workloads, but considers individual strengths and capabilities to handle different tasks.
6. Shows a desire to lead, but allows others to share the leadership role.
7. Likes to be the center of attention, but allows others to share the spotlight as well.
8. Insists on getting respect, but also shows respect toward others.
9. Has a high self-opinion, but shows awareness of personal imperfection and the value of other people.
10. Is confident regarding personal ideas and beliefs, but acknowledges that he or she can learn from others.
11. Controls important work issues, but allows subordinates to handle details.
12. Makes final decisions for subordinates, but allows subordinates to control specific work processes.
13. Makes decisions about big issues, but delegates lesser issues to subordinates.
14. Maintains overall control, but gives subordinates appropriate autonomy.
15. Stresses conformity in task performance, but allows for exceptions.
16. Clarifies work requirements, but does not micromanage work.
17. Is highly demanding regarding work performance, but is not hypercritical.
18. Has high requirements, but allows subordinates to make mistakes.
19. Recognizes the distinction between supervisors and subordinates, but does not act superior in the leadership role.
20. Keeps distance from subordinates, but does not remain aloof.
21. Maintains position differences, but upholds subordinates' dignity.
22. Maintains distance from subordinates at work, but is also amiable toward them.

Janssen's (2000) nine-item scale of innovative work behaviour:

The following statements relate to your personal work behavior. Responses can be made on a scale ranging from 1 (never) to 5 (always).

In your job, how often do you…

1. … create new ideas for difficult issues?
2. … search out new working methods or techniques?
3. … generate original solutions for problems?
4. … mobilize support for innovative ideas?
5. … acquire approval for innovative ideas?
6. … make important organizational members enthusiastic for innovative ideas?
7. … transform innovative ideas into useful applications?
8. … introduce innovative ideas into the work environment in a systematic way?
9. … evaluate the utility of innovative ideas?

A four-item scale of job creativity requirement based on the original job creativity requirement scale by Gilson and Shalley's (2004).
Responses are made on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

1. My team is required to be creative.
2. The nature of the projects my team works on requires us to be creative.
3. My team is required to come up with novel ways of doing things.
4. In order for my team to perform successfully, we have to think of original or different ways of doing things.

APPENDIX C

–Translated Dutch questionnaires-

Zhang, Waldman, Han and Li's (2015) 22-item scale of paradoxical leader behaviour.

Antwoorden kunnen worden gegeven op een schaal die loopt van 0 (helemaal niet passend bij leidinggevende) tot 4 (heel passend bij leidinggevende).

Geef aan in hoeverre deze uitspraken in overeenstemming zijn met het gedrag van jouw leidinggevende:

1. Gebruikt een eerlijke benadering om alle ondergeschikten gelijkmatig te behandelen, maar behandelt hen ook als individuen.
2. Zet alle ondergeschikten op gelijke voet, maar neemt hun individuele karaktertrekken en persoonlijkheden in beschouwing.
3. Communiceert gelijkmatig met ondergeschikten zonder discriminatie, maar varieert zijn of haar communicatie-stijl afhankelijk van individuele karakteristieken of behoeften.
4. Leidt ondergeschikten gelijkmatig, maar neemt hun individuele behoeften in ogenschouw.
5. Wijst gelijke werkdruk toe, maar neemt individuele krachten en bekwaamheden om verschillende taken te hanteren in beschouwing.
6. Toont een verlangen om te leiden, maar staat anderen toe om de leiderschapsrol te delen.
7. Staat graag in het middelpunt van de belangstelling, maar staat anderen toe om de schijnwerpers te delen.
8. Dringt aan op het ontvangen van respect, maar toont ook respect naar anderen.
9. Heeft een hoge eigen-mening, maar toont bewustzijn van persoonlijke imperfectie en de waarde van andere mensen.
10. Is zelfverzekerd als het gaat om persoonlijke ideeën en geloofsovertuigingen, maar erkent dat hij of zij kan leren van anderen.
11. Heeft controle over belangrijke werk-kwesties, maar staat ondergeschikten toe om details te hanteren.
12. Maakt eindbeslissingen voor ondergeschikten, maar staat ondergeschikten toe om specifieke werk processen te beheersen.
13. Maakt beslissingen over grote zaken, maar delegeert minder grote zaken naar ondergeschikten.
14. Behoudt de algehele controle, maar geeft ondergeschikten gepaste autonomie.
15. Benadrukt overeenstemming in taak uitvoering, maar staat uitzonderingen toe.
16. Verheldert werk eisen, maar zal werk niet micro-managen.
17. Is zeer veeleisend met betrekking tot werkprestatie, maar is niet overkritisch.
18. Heeft hoge eisen, maar staat ondergeschikten toe om fouten te maken.
19. Herkent het verschil tussen leidinggevenden en ondergeschikten, maar gedraagt zich niet superieur in de leiderschapsrol.
20. Houdt afstand van ondergeschikten, maar blijft niet afzijdig.

21. Behoudt verschillen in positie, maar handhaaft de waardigheid van ondergeschikten.
22. Behoudt afstand van ondergeschikten op werk, maar is ook vriendelijk tegen hen.

Vertaald uit: Zhang, Y., Waldman, D. A., Han, Y.-L., & Li, X.-B. (2015). Paradoxical Leader Behaviors in People Management: Antecedents and Consequences. *Academy of Management Journal, 58*(2), 538-566. doi:10.5465/amj.2012.0995

Choi, Koo and Choi's (2007) holistic thinking "Locus of attention" scale

Antwoorden kunnen worden gegeven op een schaal variërend van 1 (sterk mee oneens) tot 7 (sterk mee eens).

1. Het geheel, in plaats van zijn delen, zou in beschouwing moeten worden genomen om een fenomeen te begrijpen.
2. Het is belangrijker om aandacht te schenken aan het geheel dan aan zijn onderdelen.
3. Het geheel is groter dan de som van zijn onderdelen.
4. Het is belangrijk om aandacht te schenken aan de gehele context liever dan aan de details.
5. Het is niet mogelijk om losse onderdelen te begrijpen zonder het gehele plaatje in ogenschouw te nemen.
6. We zouden de situatie waarmee een persoon wordt geconfronteerd in overweging moeten nemen, net als zijn/haar persoonlijkheid, om iemands gedrag te kunnen begrijpen.

Vertaald uit: Choi, I., Koo, M., & Choi J.A. (2007). Individual differences in analytic versus holistic thinking. *Society for Personality and Social Psychology*, 33, 691-705.

Shamir, Zakay, Breinin and Popper's (1998) Identification with the leader and trust in the leader scale

Antwoorden kunnen gemaakt worden op een schaal van 0 (sterk mee oneens) tot 5 (sterk mee eens).

1. Ik heb de volste vertrouwen in hem/haar.
2. Ik respecteer hem/haar.
3. Ik ben er trots op om in zijn/haar opdracht te werken.
4. Ik vertrouw zijn/haar oordeel en keuzes volledig.
5. Hij/Zij representeert waarden die voor mij van belang zijn.
6. Mijn waarden zijn gelijk aan zijn/haar waarden.
7. Hij/zij is een rolmodel voor mij om te volgen.

Walumbwa and Hartnell's (2011) ten-item scale of relational identification:
Antwoorden kunnen worden gemaakt op een schaal van 1 (sterk mee oneens) tot 5 (sterk mee eens).

1. Wanneer iemand mijn leidinggevende bekritiseert, dan voelt dat als een belediging naar mij.
2. Ik ben geïnteresseerd naar wat anderen over mijn leidinggevende denken.
3. Wanneer ik over mijn leidinggevende praat, dan zeg ik doorgaans “we” in plaats van “hem of haar”.
4. Ik deel het succes van mijn leidinggevende.
5. Ik heb een gevoel van vennootschap met mijn leidinggevende.
6. Ik ben er trots op om anderen te vertellen dat ik met deze leidinggevende werk.
7. Ik prijs mijn leidinggevende wanneer ik praat met vrienden.
8. Ik heb een wederzijds voordelige relatie met mijn leidinggevende.
9. I respecteer de zichten en suggesties van mijn leidinggevende.
10. De waarden van mijn leidinggevende zijn consistent met die van mijzelf.

Vertaald uit: Walumbwa, F.O., & Hartnell, C.A. (2011). Understanding transformational leadership-employee performance links: The role of relational identification and self-efficacy. *Journal of Occupational and Organizational Psychology,* 84, 153-172, DOI: 10.1348/096317910X485818

Janssen’s (2000) Innovatief werkgedrag (IWB) schaal

Antwoorden kunnen worden gegeven op een schaal die loopt van 1 (nooit) tot 7 (altijd).

Hoe vaak komt het voor dat u...

... nieuwe werkwijzen, technieken of instrumenten bedenkt?

... originele oplossingen bedenkt voor werkproblemen?

... nieuwe ideeën verzint voor moeilijke vraagstukken?

... steun mobiliseert voor vernieuwende ideeën?

... medewerkers enthousiast maakt voor vernieuwende ideeën?

... vernieuwende ideeën uitwerkt tot werkbare toepassingen?

... vernieuwende ideeën planmatig uitvoert?

... de invoering van vernieuwende ideeën grondig evalueert?

Vertaling verkregen uit: De Jong, S. B., & Janssen, O. (2005). Innovatief werkgedrag en stress als reacties op roloverlading en rolambiguïteit. *Gedrag en Organisatie, 2*, 66-82

10-item schaal van Proactieve persoonlijkheid van Seibert, Crant, and Kraimer (1999)

Antwoorden worden gemaakt op een schaal variërend van 1 (sterk mee oneens) tot 7 (sterk mee eens).

1. Ik ben constant op de uitkijk voor nieuwe manieren om mijn leven te beteren.
2. Waar ik ook ben geweest, ik ben een sterke kracht voor constructive verandering geweest.
3. Niks is meer opwindend dan mijn ideeën te zien veranderen in realiteit.
4. Als ik iets zie wat ik niet leuk vind, dan repareer ik het.
5. Ongeacht wat de kansen zijn, als ik ergens in geloof, dan zorg ik dat het gebeurt.
6. Ik hou er van om de voorvechter van mijn ideeën te zijn, zelfs tegen het verzet van anderen.
7. Ik munt uit in het identificeren van kansen.
8. Ik ben altijd op zoek naar betere manieren om dingen te doen.
9. Als ik geloof in een idee, dan zal geen enkel obstakel mij verhinderen om het voor elkaar te krijgen.
10. Ik kan een goede kans herkennen lang voordat anderen dat kunnen.

Vertaling uit: Seibert, S. E., Crant, J. M., & Kraimer, M. L. (1999). Proactive personality and career success. *Journal of Applied Psychology*, *84*, 416–427.

Vier-item schaal van Werk Creativiteit Eisen van Gilson and Shalley (2004)

Antwoorden worden gemaakt op een schaal van 1 (sterk mee oneens) tot 7 (sterk mee eens).

1. Er wordt van mij verlangd om creatief te zijn.
2. De aard van de projecten waar ik aan werkt, vereist me om creatief te zijn.
3. Ik word vereist om nieuwe manieren te verzinnen om dingen te doen.
4. Wil ik succesvol presteren, dan moet ik nadenken over originele of verschillende manieren om dingen te doen.

Vertaling uit: Kim, T.-Y., Hon, A. H. Y., & Lee, D.-R. (2010). Proactive Personality and Employee Creativity: The Effects of Job Creativity Requirement and Supervisor Support for Creativity. *Creativity Research Journal*, *22*(1), 37-45. doi:10.1080/10400410903579536

APPENDIX D

– Qualtrics questionnaire including all items -

Informed consent:
"Dear participant,

You are about to participate in a master thesis research for the University of Utrecht. This research seeks to understand the role of leader behaviors in an innovative context. Participation in this research is entirely voluntary. In this research, no right or wrong answers exist. You will solely be asked to indicate to what extent you agree with the statements which are given. The survey will take approximately 15 minutes of your time. Your data will be used for research-purposes only. Your anonymity is carefully warranted during the research project and processing of data. You will merely be contacted if you request to be updated on the research results at the end of the survey.

Your participation is appreciated."

1. I am informed on the research purpose of the current study and give consent to use my data.
2. I do not give consent to use my data.

➔ *In case answer 2 is selected, the respondent is guided to the end of the survey.*

Precondition question (Required question with two options)**:**
I am in touch with my supervisor at least once a week.
1. Yes, I am.
2. No, I am less regularly in contact with my supervisor.

Demographic questions:

1. Indicate your gender.
(Required question with three options: male vs. female vs. diverse)

2. What is your age?
(Not required with Text box: one line).

3. In what field are you working at moment?
(Required question with options: (1) Computer and technology; (2) Health care and social services; (3) Education and training; (4) Media and communications; (5) Trades and transportation; (6) Management, business, and finance; (7) Science; (8) Engineering; (9) Law Enforcement; (10) Travel & Tourism).

4. What is the size of your organization?
(Required question with options: (1) 0 to 9 employees; (2) 10 to 24 employees; (3) 25 to 99 employees; (4) 100 to 249 employees; (5) 250+ employees).
5. What is your position?
(Required question with a Text box of one line).

6. Indicate the approximate amount of hours you work per week.
(Required question with option: (1) Less than 12 hours a week; (2) Part-time: 12 to 24 hours a week; (3) Fulltime: 36 to 40 hours a week; (4) More than 40 hours a week.)

7. How long are working in your current position (in months)?
(Required question with a Text box of one line).

8. What is your total amount of work experience (in months)?
(Required question with a Text box of one line).

9. How long have you been working with the leader you are currently working for (in months)?
(Required question with a Text box of one line).

Seibert, Crant, and Kraimer's (1999) ten-item scale of proactive personality, which is a shortened version of Bateman and Crant's (1993) Proactive Personality Scale:

The following statements relate to yourself. Indicate to what extent these statements apply to you.

Responses are made on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

11. I am constantly on the lookout for new ways to improve my life.
12. Wherever I have been, I have been a powerful force for constructive change.
13. Nothing is more exciting than seeing my ideas turn into reality.
14. If I see something I don't like, I fix it.
15. No matter what the odds, if I believe in something, I will make it happen.
16. I love being a champion for my ideas, even against others' opposition.
17. I excel at identifying opportunities.
18. I am always looking for better ways to do things.
19. If I believe in an idea, no obstacle will prevent me from making it happen.
20. I can spot a good opportunity long before others can.

Zhang, Han, Waldman and Li's (2015) six-item holistic thinking "Locus of attention" scale, which is a shortened version of Choi, Koo and Choi's (2007) Analysis-Holism Scale:

The following statements relate to your general way of thinking. Indicate to what extent you agree with these statements.

Responses can be made on scale ranging from 1 to 5 (1 = strongly disagree, 5 = strongly agree).

7. The whole, rather than its parts, should be considered in order to understand a phenomenon.
8. It is more important to pay attention to the whole than its parts.
9. The whole is greater than the sum of its parts.
10. It is more important to pay attention to the whole context rather than the details.
11. It is not possible to understand the parts without considering the whole picture.
12. We should consider the situation a person is faced with, as well as his/her personality, in order to understand one's behavior.

Walumbwa and Hartnell's (2011) ten-item scale of relational identification:

The next statements involve the perception you hold on your current supervisor. Indicate to what extent the following statements are in accordance to your perception on your supervisor. Responses can be made on a scale from 1 (strongly disagree) to 5 (strongly agree).

11. When someone criticizes my supervisor, it feels like an insult to me.
12. I am interested in what others think about my supervisor.
13. When I talk about my supervisor, I usually say 'we' rather than 'him or her'.
14. I share the success of my supervisor.
15. I have a sense of partnership with my supervisor.
16. I am proud to tell others I work with this supervisor.
17. I praise my supervisor when speaking with friends.
18. I have a mutually beneficial relationship with my supervisor.
19. I respect the views and suggestions of my supervisor.
20. The values of my supervisor are consistent to my own.

Zhang, Waldman, Han and Li's (2015) 22-item scale of paradoxical leader behaviour:

The following statements involve the behaviour of your supervisor. Indicate to what extent the statements are in accordance with the behaviour of your current supervisor. Responses can be made on a scale ranging from 1 (not at all fitting to supervisor) to 5 (fitting a lot to supervisor).

23. Uses a fair approach to treat all subordinates uniformly, but also treats them as individuals.
24. Puts all subordinates on an equal footing, but considers their individual traits or personalities.
25. Communicates with subordinates uniformly without discrimination, but varies his or her communication styles depending on their individual characteristics or needs.
26. Manages subordinates uniformly, but considers their individualized needs.
27. Assigns equal workloads, but considers individual strengths and capabilities to handle different tasks.
28. Shows a desire to lead, but allows others to share the leadership role.

29. Likes to be the center of attention, but allows others to share the spotlight as well.
30. Insists on getting respect, but also shows respect toward others.
31. Has a high self-opinion, but shows awareness of personal imperfection and the value of other people.
32. Is confident regarding personal ideas and beliefs, but acknowledges that he or she can learn from others.
33. Controls important work issues, but allows subordinates to handle details.
34. Makes final decisions for subordinates, but allows subordinates to control specific work processes.
35. Makes decisions about big issues, but delegates lesser issues to subordinates.
36. Maintains overall control, but gives subordinates appropriate autonomy.
37. Stresses conformity in task performance, but allows for exceptions.
38. Clarifies work requirements, but does not micromanage work.
39. Is highly demanding regarding work performance, but is not hypercritical.
40. Has high requirements, but allows subordinates to make mistakes.
41. Recognizes the distinction between supervisors and subordinates, but does not act superior in the leadership role.
42. Keeps distance from subordinates, but does not remain aloof.
43. Maintains position differences, but upholds subordinates' dignity.
44. Maintains distance from subordinates at work, but is also amiable toward them.

Janssen's (2000) nine-item scale of innovative work behaviour:
The following statements relate to your personal work behavior. Responses can be made on a scale ranging from 1 (never) to 5 (always).

In your job, how often do you…

10. … create new ideas for difficult issues?
11. … search out new working methods or techniques?
12. … generate original solutions for problems?
13. … mobilize support for innovative ideas?
14. … acquire approval for innovative ideas?
15. … make important organizational members enthusiastic for innovative ideas?
16. … transform innovative ideas into useful applications?
17. … introduce innovative ideas into the work environment in a systematic way?
18. … evaluate the utility of innovative ideas?

A four-item scale of job creativity requirement based on the original job creativity requirement scale by Gilson and Shalley's (2004).
The following statements involve the nature of your job requirements. Indicate to what extent these statements apply to your current working situation.

Responses are made on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

5. I am required to be creative.

6. The nature of the projects that I work on requires me to be creative.
7. I am required to come up with novel ways of doing things.
8. In order for me to perform successfully, I have to think of original or different ways of doing things.

Request for supervisor information

We would like to contact your supervisor to ask him/her to collaborate with our research as well. We would like to re-emphasize the anonymity of the data you provided. Your answers will **not** be shared with any third parties (such as your supervisor) other than the research team currently working on this project.

1. I give my consent to contact my supervisor.
2. I do not give consent to contact my supervisor.

➔ *In case answer 2 is selected, the respondent will be guided to the end of the survey. Otherwise:*

Please provide us the information (e-mail and/or phone number) of your supervisor here:

Thank you for your participation to this research. If you are interested in the research results you are free to leave your e-mail at a.l.f.vankooten@uu.nl or j.k.sempf@students.uu.nl. You will be merely contacted with the final results of the research.

APPENDIX E

Table 3

Summary of exploratory factor analysis with promax rotation of Paradoxical Leader Behavior items (N=143)

	Rotated Factor Loadings			
Item	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1. Treating subordinates uniformly and distant, while considering individualization (α = .882)				
2. Puts all subordinates on an equal footing, but considers their individual traits or personalities.	**1.061**	-.178	-.153	.067
1. Uses a fair approach to treat all subordinates uniformly, but also treats them as individuals.	**1.013**	-.171	.056	-.101
3. Communicates with subordinates uniformly without discrimination, but varies his or her communication styles depending on their individual characteristics or needs	**.698**	.070	-.089	.133
4. Manages subordinates uniformly, but considers their individualized needs.	**.637**	.109	.082	.170
5. Assigns equal workloads, but considers individual strengths and capabilities to handle different tasks.	**.409**	.319	-.119	.122
19. Recognizes the distinction between supervisors and subordinates, but does not act superior in the leadership role.	.381	.235	.044	.056
16. Clarifies work requirements, but does not micromanage work.	.339	.295	.263	-.254
21. Maintains position differences, but upholds subordinates dignity.	.082	-.049	.189	**.581**
Factor 2. Maintaining decision-control and authority, while allowing autonomy and follower' input (α = .854)				
7. Likes to be the center of attention, but allows others to share the spotlight as well.	-.206	**.723**	-.121	.093
10. Is confident regarding personal ideas and beliefs, but acknowledges that he or she can learn from others.	.096	**.703**	.039	-.218
12. Makes final decisions for subordinates, but allows subordinates to control specific work processes	-.083	**.653**	.027	.039
11. Controls important work issues, but allows subordinates to handle details.	.001	**.625**	.062	.089
9. Has a high self-opinion, but shows awareness of personal imperfection and the value of other people	-.001	**.565**	-.160	.240
14. Maintains overall control, but gives subordinates appropriate autonomy.	.248	**.457**	.162	-.015
6. Shows a desire to lead, but allows others to share the leadership role.	.306	**.439**	.053	.045
8. Insists on getting respect, but also shows respect towards others.	.031	.104	.053	**.556**
Factor 3. Enforcing work requirements, while allowing flexibility (α = .693)				
17. Is highly demanding regarding work performance, but is not hypercritical.	-.145	-.097	**.901**	.108
18. Has high requirements, but allows subordinates to make mistakes.	.085	-.001	**.515**	.202
Eigenvalues	8.119	1.201	1.094	1.066
% of variance	45.107	6.671	6.076	5.921

Note: Factor loadings over .40 appear in bold.

APPENDIX F

-Statistical analyses per PLB-subscale-

Table 8 reveals the impact of each subscale on IWB (model 2) using HMR, while controlling for JCR and gender (model 1). Although model 1 with the control variables JCR and gender significantly and positively explains IWB (R^2 = .336, F(2, 139) = 35.163, p <.001), adding any of the subscales to model 2 does not provide significant explanation to IWB. Only an increase of the JCR-coefficients for the PLB_UI and PLB_CA subscales is shown.

Table 8
Hierarchical Multiple Regression Predicting IWB from each PLB-subscale, controlling for JCR and gender.

	IWB			
	Model 1		Model 2	
Variable	B	β	B	β
Constant	2.126***		2.261***	
JCR	.387***	.561***	.391***	.566***
Gender	-.159	-.126	-.162	-.129
PLB_UI2			-.038	-.052
R^2	.336		.339	
F	35.163***		23.556	
ΔR^2	.336		.003	
ΔF	35.163***		.563	
Constant	2.126***		2.233***	
JCR	.387***	.561***	.390***	.565***
Gender	-.159	-.126	-.161	-.128
PLB_CA2			-.032	-.040
R^2	.336		.338	
F	35.163***		23.437	
ΔR^2	.336		.002	
ΔF	35.163***		.327	
Constant	2.126***		2.090***	
JCR	.387***	.561***	.385***	.558***
Gender	-.156	-.126	-.156	-.124
PLB_RF2			.011	.016
R^2	.336		.336	
F	35.163***		23.289	
ΔR^2	.336		.000	
ΔF	35.163***		.049	

Note. N = 142. *p < .05, **p <.01, *** p <.001

Likewise, results reveal that HT does not act as a moderating variable since it does not significantly alter the relation between the PLB-subscales and IWB or between the PLB-subscales and RI. No support for the mediated moderation model can be found when taking any of the PLB-subscales as IV.

For the first subscale, treating subordinates uniformly and distant, while considering individualization (PLB_UI), addition of the interaction was an insignificant change to the model, $F(1,136) = 1.137$, $p = .288$, R^2 change = .0054. The overall interaction effect between PLB_UI and HT on IWB was insignificant and slightly negative, $b = -0831$, $t(136) = -1.066$, $p = .288$. The same is found for the moderation effect of PLB_UI and RI as addition of the interaction was an insignificant change to the model, $F(1,136) = .166$, $p = .684$, R^2 change = .0007. The overall interaction effect on RI was insignificant but slightly positive, $b = .0346$, $t(136) = .408$, $p = .684$. However, a significant and positive main effect was found of PLB_UI on RI, $b = ,461$, $t(136) = 8.147$, $p = .000$. When looking at the overall mediated moderation model using model 8 of PROCESS macro (Hayes, 2015), no support can be found. The relation between the interaction term and RI is not significant: $b = ,0346$, $t(136) = 0.408$, $p = .684$. The relationship between the mediator RI and the dependent variable is not significant: $b = ,119$, $t(136) = 1.523$, $p = .130$. Lastly, the relation between the interaction term and IWB is not significant: $b = -.087$, $t(136) = -1.124$, $p = .263$. A closer look at the conditional indirect effect using the bootstrap confidence interval indeed reveals that the relationship of PLB_UI2 on IWB via RI, is not significant for individuals high in HT nor for individuals low in HT (all confidence intervals have 0 in them). The index of moderated mediation also showed a 0 in the confidence interval indicating that there is no conditional indirect effect between the variables in this particular research.

For the second subscale, maintaining decision-control and authority while allowing autonomy and follower' input (PLB_CA), addition of the interaction led to an insignificant change to the model, $F(1,136) = 2.389$, $p = .125$, R^2 change = .0114. There is insignificant, slightly negative influence of the interaction between PLB_CA and HT on the level of IWB, $b = -.127$, $t(136) = -1.546$, $p = .125$. When investigating the impact of HT on the relation between PLB and RI an insignificant interaction effect is found, $b = .0048$, $t(136) = .053$, $p = .958$. However, the PLB_CA subscale significantly and positively influences RI, $b = ,501$, $t(136) = 8.088$, $p = .000$. In total, no support for the mediated moderation model for the PLB_CA subscale can be found. The relation between the interaction term and RI is not significant, $b = ,005$, $t(136) = 0.053$, $p = .958$. The relationship between the mediator RI and the dependent variable is not significant: $b = ,107$, $t(136) = 1.377$, $p = .171$. Lastly, the relation between the interaction term and IWB is not significant: $b = -.127$, $t(136) = -1.557$, $p = .122$.

For the third subscale, enforcing work requirements while allowing flexibility (PLB_RF), addition of the interaction with HT was an insignificant change to the model, $F(1,136) = .0068$, $p = .935$, R^2 change = .000. The interaction does not provide any significant explanation to the model. No significant interaction effect could be found between PLB_RF and HT on IWB, $b = .0062$, $t(136) = .0822$, $p = .935$. When investigating the moderating effect of HT on the relation between PLB_RF and RI, this led to an insignificant change to the model as well, $F(1,136) = .0203$, $p = .887$, R^2 change = .0001. PLB_RF only significantly and positively influences RI, $b = ,272$, $t(136) = 4.256$, $p = .000$. However, the overall mediated moderation analysis using model revealed that this associated was not further transmitted to IWB. The relationship between the mediator RI and the dependent variable is not significant: $b = ,048$, $t(136) = .703$, $p = .484$. No support for the overall mediated moderation model could be found as the relation between the interaction term and IWB is not significant: $b = .0069$, $t(136) = .091$, $p = .928$.

A closer look at the main effects per subscale reveals, that only JCR significantly and positively influences levels of IWB. This is in line with previous results found between the overall PLB variable and IWB outcomes.