

**Dynamics of Leader-Employee Dyads in Dutch Organizations: Exploring the Impact of  
Shared Leadership on Employee Creativity**

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## Abstract

Studying creativity from a formal leadership perspective is a flawed starting point, as creativity requires self-direction (Chen et al., 2020). The purpose of this research is to examine the relationship between shared leadership and employee creativity. To investigate this relationship, a multi-sourced cross-sectional field study was conducted within a dyadic context, involving 27 Dutch leader-employee dyads selected through convenience sampling. The Social Information Processing Theory has been used as a theoretical framework for the hypothesis that empowering leadership serves as a partial mediator on the relationship between shared leadership and employee creativity. All in all, no significant effects have been observed in our findings for any of our hypotheses. Nevertheless, this study contributes to the field by examining dyads within Dutch organizations and exploring different informal leadership styles and their relationship to employee creativity in real-life organizational settings. At the end of this study, diverse recommendations on future research are made.

*Keywords:* participative leadership, empowering leadership, employee creativity, leader-employee dyads, social information processing theory.

## **Dynamics of Leader-Employee Dyads in Dutch Organizations: Exploring the Impact of Shared Leadership on Employee Creativity**

Given increasingly turbulent environments, heightened competition, and unpredictable technological change, more and more managers are coming to realize that they should encourage their employees to be creative (Shalley & Gilson, 2004). In recent decades, autonomy and control have been handed over to team members progressively, to enhance flexibility and creativity in a way that transformed the traditional leadership to facilitate a team's development (Zhang and Bartol, 2010). The motivation for these changes lie in the considerable evidence indicating that employee creativity - “the production of novel and useful ideas by individuals or teams working together” (Amabile, 2012) can fundamentally contribute to organizational innovation, effectiveness, and survival (Amabile, 1996; Shalley, Zhou, & Oldham, 2004). Additionally, in current literature, leadership and innovation are mostly researched in a team context, whilst research about the dyadic dynamic seems hardly examined and yet to be understood (Kim et al., 2020). Chen et al. (2020) addressed this gap in one of the few researches done on supervisor-subordinate dyads and creativity in a Chinese context. This study aims to address this gap by investigating the link between alternative forms of leadership and creativity on an individual level in a Dutch context, to enhance our understanding of the effects of leadership on employee creativity in organizations in this context.

Contradictions exist within the body of research concerning leadership styles and their relationship to creativity. Traditional theories have focused on leaders' downward influence on their followers through formal authority and power (Pearce, 2004; Pearce & Conger, 2003). Studies on formal leadership identified factors positively related to creativity, such as collaboration and empowerment (Hunter & Cushenbery, 2011; Mainemelis et al., 2015; van

Knippenberg, 2017). However, findings on formal authority and power highlights risks associated with inhibiting creativity by exerting control of work and decisions. Specifically when formal leadership leans toward authoritarian leadership, consequences of decreased empowerment, creativity and efficiency are lurking (E. Agbor, 2008). Nevertheless, research in organizational psychology on informal influence hierarchies also showed that a strong informal hierarchy within a team could minimize creative discourse as hierarchically lower placed members' idea sharing and independent contributions are suppressed (Berdahl & Martorana, 2006). Consequently, collaboration and empowerment in employees is suppressed, despite being found that strong informal hierarchies within teams facilitate coordination, reduce conflict within teams, and enhance team performance (Bunderson et al., 2016; Ronay, et al., 2012). Thus other informal leadership approaches, supportive of employee collaboration and empowerment might be more suitable for fostering creativity in employees.

Liang et al. (2020) recently approached creativity from a different starting point in their research on shared leadership and creativity in a Chinese context; emphasizing that the starting point of formal leadership is inaccurate to study creativity, as creativity in its very nature requires self-direction. Therefore, employees should be led in a manner that not only is directory, but in an informal manner which shares leadership and requires self-direction. Building upon the work of Liang et al. (2020), our study aims to address these contradictions by making a contribution to the existing body of research on shared leadership and creativity. Specifically, by investigating the relationship between shared leadership and creativity within the dyadic context of leader-employee interactions, focusing on a Dutch organizational setting.

Shared leadership is described as leadership that emanates from the members of teams and not simply from the appointed team leader (Pearce & Sims, 2002), and offers an alternative

perspective on leadership: from a traditional understanding of a leader-centric and individual-level phenomenon, to a dynamic, informal and interactive group-level leadership phenomenon (Pearce, 2004). Recently, one of the few researches on supervisor-subordinate dyads and creativity by Chen et al. (2020) demonstrated that particularly participative leadership, a form of shared leadership that entails leaders engaging in collaborative decision-making processes with employees, led to creative process engagement through social processes. The role of these social processes are explained by the Social Information Processing Theory, which proposes that social processes act as the pivotal mediating factor that bridges the relationship between participative leadership and creativity. Elaboration on Social Information Processing Theory can be found in the theory development section, as the current study adopts this theory as our theoretical framework to explain the effects of participative leadership on creativity.

However, by proposing that social processes act as the mediating factor that bridges the relationship between participative leadership and creativity, it is important to note that the generalizability of these findings may be limited due to cultural factors. Chen et al. (2020) conducted their research in a Chinese context, where high power distance and collectivism, prevalent in Chinese culture, often lead individuals to avoid conflict and prioritize relationship maintenance (Gong et al., 2010; Hofstede, 2001). Therefore, Chinese individuals require psychological safety, operationalized as the shared belief of the absence of negative consequences when engaging in risky behaviors (Edmondson, 1999). However, in a Dutch context, where it is assumed that cultural factors like autonomy, directness and individualism are more prominent, we suggest that the mediating social process is likely to differ, indicating there is a gap in understanding the relationship in this context. We aim to fill this gap based on the Social Information Processing Theory and earlier established positive relationships by prior

research, addressing that the mediating social process should evoke self-direction, collaboration and empowerment (Hunter & Cushenbery, 2011; Mainemelis et al., 2015; van Knippenberg, 2017; Liang et al., 2020).

Thomas & Rahschulte (2018) found that the empowering leadership can unlock the potential of psychological empowered and self-led employees. Empowering leadership is defined as a leader's behavior that includes delegation of the power, information sharing, skill development, accountability, self-directed decision-making, and coaching for creative performance (Konczak et al., 2000). Thus, we propose that for the Dutch context, the social processes positively related to creativity; self-direction, collaboration and empowerment (Zhang & Bartol, 2010; Chen et al., 2020; Liang et al., 2020; Menon, 2001; Shalley et al., 2004), are evoked by empowering leadership, which serves as mediator.

Overall, the purpose of this study is to contribute to the existing body of research by explaining the relationship between participative leadership and creativity, through empowering leadership in a Dutch context. Enhancing our understanding of shared leadership and its influence on individual creativity on a dyadic level, using Social Information Processing Theory as a framework.

### **Theory and Hypothesis**

Creativity is multifaceted (Amabile, 2012). For this research we operationalized creativity as the extent to which novel and useful ideas are produced. The outcomes of creativity can encompass a wide range of results, varying from radical departures from the current activities, such as the development of breakthrough innovative products, to more incremental enhancements in products or processes, as well as the discovery of novel solutions to

work-related problems (Liang, et al. 2020). It is important to note that creativity is not restricted to specific individuals in designated creative roles, such as members of research and development (R&D) teams, but can be observed and valued across various roles within organizations. Furthermore, creativity is not a uniform trait among individuals or teams. To illustrate, even within jobs that seem intended for creative employees, such as R&D, there are variations in the level of creativity exhibited in different individuals and teams (Ishikawa, 2012). Consequently, research on creativity has explored diverse roles and organizational contexts, including design teams, engineering teams, pharmaceutical sales representatives, customs agents, grocery store teams, and more (Alexander & van Knippenberg, 2014; Hirst et al., 2009, 2011, 2015, 2018; Richter et al., 2012; Shin et al., 2012; Zhou, 2015). Yet, for this research, we address creativity as the production of novel and useful ideas by individuals or teams working together - thus as a product (Amabile, 2012).

The relevance of Social Information Processing Theory to the field of organizational leadership has been validated by previous studies (Boekhorst, 2014; Wang et al., 2016; Yang et al., 2018). This theory posits that employees' work attitudes and behaviors are influenced by their interactions, information exchanges, and interpretation of their work environments (Salancik and Pfeffer, 1978). Research in organizational leadership, according to Social Information Processing Theory, has demonstrated that employee creativity necessitates both cognitive and behavioural processes, as employees need to focus on generating novel and useful ideas and align themselves with creative concepts (Gu et al., 2018; Chang et al., 2018; Khalil et al., 2019; Zhang and Bartol, 2010; Zhou and Pan, 2015). In this section we will elaborate on the cognitive and behavioural aspects and how they manifest themselves in our variables in line with Social Information Processing Theory.

## **Participative Leadership and Creativity**

In organizational research, the focus thus far has been on participative leadership as evoking motivational or psychological mechanisms that have direct main or mediating effects on employee creativity through psychological safety, self-belief and psychological empowerment (cognitive) (Li et al., 2018; Newman et al., 2018). This study builds on the approach employed by Chen et al. (2020), asserting a relationship between participative leadership and creative process engagement, showing two pathways through which participative leadership influences creativity.

Firstly, participative leaders prioritize consultation over providing strict direction (Huang et al., 2006). By involving subordinates in decision-making and incorporating their input (Busse and Regenber, 2018), participative leaders create social cues that encourage employees to actively participate in creative endeavors by sharing their viewpoints with leaders and other organizational members (cognitive) (Lam et al., 2015). Hence, there is more knowledge sharing, and a less strong informal hierarchy. This could positively influence creativity, as we established that strong informal hierarchies could suppress independent contribution, resulting in minimized creative endeavors.

Secondly, participative leadership promotes collective decision-making, which has faced criticism due to time consumption (Lythreatis et al., 2017). However, this approach ensures involved decision-making and enhances employees' willingness to cooperate with the resulting directives, or creative concepts (behavioural). Employee involvement in the decision-making process leads individuals to dedicate more time to information search and processing, thus enabling the discovery of more innovative solutions to work-related problems (Reiter-Palmon and Illies, 2004).



These information exchanges serve as channels for collaboration and appreciate the creative thought processes and actions of others. Consequently, employees develop perceptions of safety, enabling them to take risks within the organizational context. Participative leaders, through their attentiveness to employee interests, effectively communicate the value and appreciation of employee contributions (Miao et al., 2014). As a result, employees feel acknowledged and share a collective sense of safety, which ultimately leads to heightened engagement and a proactive pursuit of creative endeavors.

Thus, the adoption of participative leadership has the potential to significantly nurture employee creativity, as it involves leaders actively involving employees in the decision-making processes within the organization (Somech, 2006). In light of these considerations, the following hypothesis is introduced:

*H1: Participative leadership is positively related with employee creativity.*

### **Participative Leadership and Empowering Leadership**

The primary theoretical difference between participative leadership and empowering leadership lies in the level of decision-making authority and control delegated to followers. Participative leadership retains final decision-making power with the leader, but seeks input and involvement from followers in the decision-making process. It emphasizes social processes such as collaboration and collective decision-making, utilizing the diverse perspectives of team members (behavioural). Zhang & Bartol (2010) reinforced the value of decision-making processes by showing that by including employees in decision-making, participative leaders encourage employees to develop a sense of ownership, recognize organizational problems, search for solutions, form novel and useful ideas and suggest creative alternatives. Zhang and

Bartol continue that empowering leadership goes beyond shared decision-making, granting autonomy and authority to followers (cognitive), hence encouraging them to make decisions independently and take ownership of their work (behavioural) through autonomy (Zhang & Bartol, 2010). Furthermore, Pearce & Sims (2002) found that directive forms of leadership inhibit rather than encourage the exertion of self-leadership. On the contrary, the more managers exert self-leadership through empowering leadership, the more employees are stimulated to lead themselves (behavioural), (Manz & Sims 1987).

Thus, despite being independent concepts, both forms of shared leadership exert a sense of ownership. Consequently, a relationship on fostering employee involvement and engagement through social cues as shared decision-making, autonomy and self-directed action, both participative leadership and empowering leadership exhibit a positive relationship with each other in terms of fostering employee involvement and engagement. Accordingly hypothesize that

*H2: Participative leadership is positively related to empowering leadership.*

### **Empowering Leadership and Creativity**

Forrester (2000) posits that a primary factor contributing to the failure of organizational empowerment initiatives in achieving desired outcomes is the adoption of a "one-size-fits-all empowerment approach." This approach overlooks individual variations in employees' capabilities and preferences. This notion makes researching empowering leadership in a dyadic context especially interesting, by reason of multiple empirical studies supporting the notion that empowerment can be productively viewed as a dyadic relationship between a supervisor and an individual subordinate (e.g., Ahearne et al., 2005, Robert, Probst, Martocchio, Drasgow, & Lawler, 2000).

Zhang and Bartol (2010), in one of the few researches on empowering leadership and

employee creativity in dyads, found that creative process engagement increases when leaders provide psychological empowerment. Furthermore, theoretical arguments have suggested that psychological empowerment, in turn, makes a critical contribution to employee creativity by positively affecting an employee's intrinsic motivation and self-direction (Amabile, 1996; Spreitzer, 1995). Empowering leadership produces empowered and self-directing employees (Thomas & Rahschulte, 2018), as well as all collaboration (Konczak et al., 2000), all positively related to creativity (Hunter & Cushenbery, 2011; Mainemelis et al., 2015; van Knippenberg, 2017; Liang et al., 2020).

Despite the lack of adequate empirical evidence found in previous studies on psychological empowerment by (Shalley et al., 2004), it is important to note that the present research investigates empowering leadership, build forth on prior research (Zhang & Bartol, 2010; Chen et al., 2020), investigating psychological empowerment (cognitive) as a critical contribution to employee creativity, while also extending it with research done by Chen et al. (2020) on self-direction (behavioural), all evoked by empowering leadership. Creating the right state of mind and behavioural alignment to foster creativity. Accordingly, we hypothesize:

*H3: empowering leadership is positively related to employee creativity.*

### **The Mediation Model**

Considering empowering leadership as a mediator between participative leadership and creativity, we draw on Chen et al. (2020), as one of the few researches on supervisor-subordinate dyads and creativity, demonstrating that particularly participative leadership leads to creative process engagement through social processes. The importance of empowerment as a mediator is highlighted by research on strong informal influence hierarchies demonstrating that strong

informal hierarchy within a team could minimize creative discourse as hierarchically lower placed members' idea sharing and independent contributions are suppressed (Berdahl & Martorana, 2006). Thomas & Rahschulte (2018) found that the empowering leadership can unlock the potential of psychological empowered and self-led employees, mediating the relationship between participative leadership and creativity.

Accordingly, we hypothesize that *H4. Empowering leadership partially mediates the association between participative leadership and employee creativity.*

## **Methods**

### **Participants**

The participants for this study were recruited by students at the University of Groningen. Recruitment of participants was part of their Bachelor theses during the second semester of the academic year 2022/2023. The sampling strategy involved public approach and recruitment from social networks of the participating students. For this study, participants were required to be employed for a minimum of 20 hours per week, possess proficiency in the Dutch language, and be above the age of 18 years. Initially, the sample comprised 87 respondents for the leader survey and 79 respondents for the employee survey. After applying identical coding, a total of 29 dyads were successfully matched. Two more dyads got excluded; as one dyad with the code "MANSOO" occurred twice within the employee data set, yet fulfilling the whole questionnaire once, hence only the dyad completing the questionnaire was included. Due to missing values, one more additional dyad was excluded. Consequently, a final sample of 27 complete dyads (54 participants) were included in the analysis.

Among the employees, 37% were male ( $N=10$ ) and 64% were female ( $N=17$ ). The mean age of employees was 32.67 ( $Min= 19$ ;  $Max= 57$ ), with a Standard Deviation of 10.975. Of the leaders, 59.7% were male ( $N=16$ ) and 40.7% were female ( $N=11$ ). The mean age of the leaders

was 42.89 (*Min*=22; *Max*=65) with a Standard Deviation of 13.343. Of the different branches our dyads worked in, 18.5% worked in horeca (*N*=5) and 14.8% in education/universities (*N*=4). Furthermore, 7.4% (*N*=2) of our data set were operating in corporate services, IT, industry, Construction and installation companies/retail/wholesale. And lastly, 3.7% (*N*=1) of our dyads operated in agriculture/horticulture/fishing/food, metal industry, telcom, welfare, government, transport and healthcare. The mean size of organizations was 1.93, with a Standard Deviation of .83.

### **Design and Procedure**

The present study is a cross sectional multi-sourced field study as a bachelor group project. For the study, two Qualtric questionnaires were created to gather data using one questionnaire designated for the leader and one questionnaire for the employee, in which they rate each other. Data was gathered through convenience sampling/selective sampling, as each student made efforts to acquire participants by approaching in public, shops, stores, university, family, friends, co-workers and other acquaintances.

The present study was approved by the Ethics Committee of the Faculty of Behavioural and Social Sciences at the University of Groningen. It contained measures of shared leadership, innovative work behaviour, and socio-demographic information, such as age, highest fulfilled education and time of employment. QR codes were made to be able to share and send via E-mails or other online channels, such as Whatsapp. The questionnaire took approximately 15 minutes to fulfill. All participants first encountered an information letter about the manner of data processing, anonymity, confidentiality, the purpose of the study and lastly an informed consent which had to be signed prior to the start of the questionnaire. The present study is integrated in a larger study, done by other researchers, analyzing other variables which are also

included in the questionnaire but are irrelevant for this study. The data collection ran from 04.05.2023 until 28.05.2023.

The current study researched a partial mediation model, in which employees rated their leaders on participative leadership as the independent variable, and on empowering leadership as the mediating variable. The leaders subsequently rated their employees on creativity.

## **Measures**

### ***Participative Leadership***

To measure Participative Leadership, employees were asked to assess their leaders on items of the Shared Leadership questionnaire (Hoch, J.2013). Participants were asked to respond to 4 items, e.g., “My colleagues and I work together to decide what my performance goals should be.” on a seven-point Likert scale ranging from 1 (Helemaal mee eens) to 7 (Helemaal mee eens). The items were translated into Dutch by the Dutch speaking natives of the research team. To determine the level of perceived participative leadership among employees, the values were aggregated and averaged to compute a single score. Higher values on this score indicate a greater perception of participative leadership by the employees. Reliability of this scale was sufficient (Cronbach’s alpha = .96).

### ***Empowering leadership***

To measure Empowering Leadership, employees were asked to assess their leaders on items of the Shared Leadership questionnaire (Hoch, J.2013) Participants were asked to respond to 8 items, e.g., individual empowering leadership with 4 items like “My colleagues encourage me to learn new things.” on a seven-point Likert scale ranging from 1 (Helemaal mee eens) to 7 (Helemaal mee eens). The items were translated into Dutch by the Dutch speaking natives of the research team. To determine the level of perceived empowering leadership among employees,

the values were aggregated and averaged to compute a single score. Higher values on this score indicate a greater perception of empowering leadership by the employees. Reliability of this scale was high (Cronbach's alpha = .89).

### ***Creativity***

To measure Individual creativity, leaders were asked to assess their employees on items of the Innovative Work Behaviour (Janssen et al., 2004). Participants were asked to respond to 9 items, e.g., "suggests new ways to increase quality." on a five-point scale ranging from 1, "never," to 7, "always." To determine the level of perceived empowering leadership among leaders, the values were aggregated and averaged to compute a single score. Higher values on this score indicate a greater perception of creativity by the leaders. Reliability of this scale was high (Cronbach's alpha = .96).

### **Statistical Analysis**

SPSS version 28 was utilized to analyze the data set. Participative leadership and empowering leadership, our two continuous independent variables, were examined in relation to employee creativity, our continuous, dependent variable.

As result of an error in Qualtrics, all items of the scale "Shared leadership", which were used to assess participative and empowering leadership, meant to show scores on a 7-point Likert-scale. Yet it showed a value of 8 instead of 7, which had to be recoded. Subsequently, descriptive statistics and correlations were calculated to provide an initial overview of the data. Subsequently, an assessment of the necessary assumptions was performed, including evaluating linearity, normality, homoscedasticity, independence of observations and residuals, and checking for multicollinearity. Finally, to examine the mediating effects, a mediation analysis utilizing model 4 of the Hayes PROCESS v4.2 tool in SPSS was conducted.

## Results

### Descriptive Statistics

Table 1 reports the means, standard deviations and bivariate correlations for all variables included in this study. The responses on the measures were all averaged.

Table 1 shows that the mean score on participative leadership was rated moderately high ( $M = 4.7$ ,  $SD = .1.3$ ) by employees. It was also found that employees rated their leaders overall comparatively higher on empowering leadership ( $M = 5.36$ ,  $SD = .85$ ). Finally, the leaders' rating of their employees' innovative work behaviour was slightly under average ( $M = 3.78$ ,  $SD = 1.27$ ).

Subsequently, correlations between all three variables were calculated. Participative leadership was positively yet insignificantly correlated to innovative work behaviour ( $r = .24$ ,  $p = .23$ ). Empowering leadership correlated slightly positive and not significantly with innovative work behaviour ( $r = .0$ ,  $p = .66$ ). Additionally, participative leadership and empowering leadership correlated negatively and significantly. ( $r = -.01$ ,  $p = .95$ ).

**Table 1**

*Means, Standard Deviations, and Correlations Between Core Study Variables*

Variable	Mean	SD	1.	2.	3.	4.
1. Participative Leadership <sup>a</sup>	4.70	1.30	–	–	–	–
2. Empowering Leadership <sup>a</sup>	5.36	.85	.09	–	–	–
3. Innovative Work Behaviour <sup>b</sup>	3.78	1.27	.24	-.01	–	–

*Note.*  $N = 27$  dyads composed of 27 leaders and 27 employees

<sup>a</sup> Rated by employees and aggregated across all employees of a given team.

<sup>b</sup> Rated by leaders.

\*  $p < .05$ . \*\*\*  $p < .001$ .



## Assumptions

To test the assumptions for all our variables and preliminary analysis, scatter plots and Q-Q plots were inspected for linearity and homoscedasticity. Additionally, for normality, similar inspection was done with a histogram. To check for the assumption of independence of observation and residuals, a Durbin-Watson test was used.

For all our models, the plots and histograms indicated that the assumptions of normality and homoscedasticity were met. The VIF values of 1.01 (Table 2) for both predictors indicated that multicollinearity was low, thus this assumption was met as well.

**Table 2.**

### *Coefficients<sup>a</sup>*

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	3,079	1,688		1,824	,081		
Empowering Leadership	-,048	,281	-,035	-,172	,865	,992	1,008
Participative Leadership	,225	,185	,247	1,220	,235	,992	1,008

a. Dependent Variable: Innovative Work Behaviour

For the assumption of linearity, however, a parabolic relation was found for the mediating relation. To control this, a Log transformation was used to transform empowering leadership. The transformation failed to change the distinct pattern, indicating that empowering leadership and innovative work behaviour aren't linearly related to each other. The Durbin-Watson Test (Table 3), testing for multicollinearity, resulted in 2,12, indicating that there is no multicollinearity.

**Table 3.**

*Model Summary<sup>b</sup>*


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Model	R	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.246 <sup>a</sup>	.061	1.19689	2.125

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a. Predictors: (Constant), Participative Leadership, Empowering leadership

b: Dependent Variable: Innovative Work Behaviour

Overall, most assumptions for the regression analysis were met, although linearity between empowering leadership and innovative work behaviour wasn't established. Thus results should be interpreted with some care.

### Hypothesis Testing

The analysis that was conducted was a simple mediation analysis using Hayes' PROCESS tool in SPSS (Table 8), using model 4 (Hayes, 2013). This model shows us the direct effect, the indirect effect and the total effects, where X on Y is the direct effect, M as a moderator on Y is the indirect effect and Y + M on Y contains the total effect. In terms of our variables and according to our earlier described hypothesis, X represents participative leadership, M contains empowering leadership and Y stands for innovative work behaviour.

A confidence level of 95% was chosen to determine significance, to examine if a value of 0 would present itself outside the upper and lower bound of the confidence interval. The absence of 0 between these bounds would indicate a significant relationship.

H1: Participative leadership is positively related with employee creativity. The direct effect of participative leadership on innovative work behaviour explained 4.2% change in innovative work behaviour,  $R^2=0.042$ ,  $F(2,24) = .5279$ ;  $b=.204$ ;  $p= .57$  which means  $p > .05$ .

Therefore, the association between participative leadership and innovative work behaviour was insignificant. Thus no supporting evidence was found for this hypothesis.

H2: Participative leadership is positively related with empowering leadership. The effect of participative leadership on empowering leadership explained .01% change in innovative work behaviour,  $R^2=0.007$ ,  $F(1,25) = .183$ ;  $b=.056$ ;  $p= .67$ , thus  $p > .05$ . Therefore, the association between participative leadership and innovative work behaviour was insignificant. Thus no supporting evidence was found for this hypothesis.

H3: Empowering leadership is positively related with employee creativity. The effect of empowering leadership on innovative work behaviour explained 0.7% change in innovative work behaviour,  $R^2=0.007$ ,  $F(1,25) = .1830$ ;  $b=.006$ ;  $p= .67$  which means  $p > .05$ . Therefore, the association between empowering leadership and innovative work behaviour was insignificant, thus no supporting evidence was found for this hypothesis.

H4: Empowering leadership partially mediates the association between participative leadership and employee creativity. The SPSS output (Table 4; Table 5) reveals a not significant indirect effect of participative leadership on innovative work behaviour through empowering leadership (BootLLCI:  $-.1023$ ; BootULCI:  $.0878$ ;  $b = .0004$ ). In consideration of the total effect for the complete mediation model, the results fail to show a significance as well ( $b=.2038$ ;  $p = .3171$  and therefore  $p > .05$ ; BootLLCI:  $-.1023$ ; BootULCI:  $.0878$ ).

Based on the conducted analysis, the results indicate that there are no significant indirect or total effects of participative leadership on innovative work behaviour, through empowering leadership. This suggests that the relationship between participative leadership and innovative work behaviour is not mediated by empowering leadership. The statistical analysis demonstrates,

in conclusion, a non-mediation effect, indicating that there is no significant indirect relationship between participative leadership and innovative work behaviour through empowering leadership.

**Table 4.**

*Results of PROCESS Mediation on Innovative Work Behaviour.*

Effect	Estimate	SE	t	95% CI		p
				LLCI	ULCI	
Total Effect	.204	.195	1.049	-.197	.605	.304
Direct Effect	.204	.199	1.022	-.208	.615	.317
Indirect Effect	.001	.044	-	-.103	.079	-

*Note.*  $N = 54$  (27 dyads) ; CI = confidence interval; LL = lower limit; UL = upper limit.

**Table 5.**

*Structural Equation Modeling: Hypothesis Testing.*

Hypotheses	Relationship	Estimate	t	SE	p	Conclusion
H1	PL → IWB	.199	.1.022	.317		Not supported
H2	PL → EL	.085	.428	.672		Not supported
H3	EL → IWB	.204	.021	.983		Not supported
H4	PL → EL → IWB	.195	.1.049	1.049		Not supported

*Note.*  $N = 54$  (27 dyads)

PL = Participative Leadership; EL = Empowering Leadership; IWB = Innovative Work Behaviour.

### **Additional Exploratory Analyses**

Exploratory research also showed that there were no significant differences when controlled for the amount of time an employee was employed ( $r = -.20, p > 0.05$ ), time the leader functioned as the employees' leader ( $r = .03, p > 0.05$ ), the amount of times the employee and leader met ( $r = -.03, p > 0.05$ ), or gender ( $r = .11, p > 0.05$ ) on innovative work behaviour.

When controlled for psychological safety as a mediator (Table 6), results showed that empowering leadership and psychological safety had a low correlation ( $r = .123, p > .05$ ). The SPSS output (Table 6; Table 7) also reveals a not significant indirect effect of psychological safety on innovative work behaviour through empowering leadership (BootLLCI:  $-.4401$ ; BootULCI:  $.0243$ ;  $b = -.1187$ ). For the total model, a similar outcome was found ( $b = .2041$ ;  $p = .3044$  and therefore  $p > .05$ ; BootLLCI:  $-.0792$ ; BootULCI:  $.7249$ ).

**Table 6.**

*Results of PROCESS Mediation Exploratory Analysis.*

Effect	Estimate	SE	t	95% CI		p
				LLCI	ULCI	
Total Effect	.204	.195	1.049	-.197	.605	.304
Direct Effect	.323	.199	1.661	-.079	.725	.317
Indirect Effect	-.119	.129	-	-.452	.230	-

*Note.*  $N = 54$  (27 dyads) ; CI = confidence interval; LL = lower limit; UL = upper limit.

**Table 7.**

*Structural Equation Modeling: Hypothesis Testing of Exploratory Analysis.*

Hypotheses	Relationship	Estimate	t	SE	p	Conclusion
H1	PL $\rightarrow$ IWB	.323	1.656	.199	.317	Not supported

H2	PL → PS	.184	1.661	.672	.110	Not supported
H3	PS → IWB	-.119	.129	.915	.163	Not supported
H4	PL → PS → IWB	.204	1.049	1.049	.304	Not supported

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*Note.*  $N = 54$  (27 dyads)

PL = Participative Leadership; PS = Psychological Safety; IWB = Innovative Work Behaviour.

### **Discussion**

With this study, we aimed to extend the research on dyadic dynamics in the workplace. The current study aimed to address the research gap identified by Chen et al. (2020) regarding employee creativity by investigating the association between participative leadership and creativity. We operationalized creativity as the extent to which novel and useful ideas are produced. Social Information Processing Theory (Boekhorst, 2014; Salancik and Pfeffer, 1978; Zalesny and Ford, 1990) served as the theoretical framework for examining this relationship. We sought to understand the effect of participative leadership and empowering leadership on employee creativity.

The hypothesis for our partial mediation model were H1: Participative leadership is positively related to empowering leadership, H2: Participative leadership is positively related to employee creativity, H3: Empowering leadership is positively related to employee creativity and H4: The relationship between participative leadership and employee creativity is partially mediated by empowering leadership. Overall, our results failed to support our hypotheses, as neither participative leadership, nor empowering leadership, nor the total effect of these leadership styles together, was found to be significantly related to employee creativity.

Although we theoretically followed the same lines as Chen et al. (2020) and Liang et al. (2020) in investigating the relationship between shared leadership and creativity, including a

social process as a mediator, we were unable to find any evidence of these relationships in terms of significant direct or indirect effects. Thus, our model wasn't supported by our findings.

Exploratory research also showed that there were no significant differences when controlled for the amount of time an employee was employed, time the leader functioned as the employees' leader, the amount of times the employee and leader met, or gender on innovative work behaviour. The amount of time an employee was employed stood out as it was clearly negatively correlated with innovative work behaviour, although it was insignificant. Moreover, in exploratory research, controlling for psychological safety as a mediator, an equivalent of the model of Chen et al. (2020) was built. Yet, for all effects, no significant associations were found. Thus, there are no uncovering factors found through our explanatory analysis that could significantly explain or influence the relationships in our model.

### **Strengths**

Our multi-sourced questionnaire gave two unique insights on two levels as the employee and leader both completed separate questionnaires, offering a comprehensive impression of the leadership dynamic and its impact on employees. This strength helped us minimize social desirability bias, as the participants filled in the questionnaires without being confronted with the answers of their designated other.

An additional strength is that our questionnaire independently, privately and anonymously, enhances data validity as it allows individuals to reflect on their own thoughts and opinions without external pressures or influences.

Another strength of our research design is that the present research contributes to the current literature with our dyadic approach, which hasn't been investigated in a Dutch context on this topic prior to our research.

## Limitations

The first, most obvious limitation of this study relates to the small sample size (54 participants; n=27 dyads). The consequence of our sample size being too small is that it reduces our statistical power, limits our generalizability and increases our risk of biases. This makes it challenging to find evidence to support our hypothesis. A larger sample size would have provided a more accurate representation of the population and increased the likelihood of identifying significant relationships between our variables. To justify our small sample size, a few reasons shall be covered. The first being recruitment obstacles: our questionnaire contained variables of multiple models for different researchers outside this research, lengthening the time it takes to fill in a questionnaire. In addition, we observed a high threshold for employees to turn to their leaders, potentially attributable to hierarchical differences, but mostly excused by busy time schedules or not the best relationship resulted in a disappointing total data collection of 79 employees and 87 leaders. Moreover do we suspect that these obstacles contributed to a total of 18 incomplete questionnaires. Secondly, faulty coding of the employees and leaders, which were meant to link them so it would become a dyad, resulted in a loss of 94 participants because of incomplete dyads. Our code consisted of the last two letters of the surname of the employee and the leader, followed by the first two letters of the company name. A mix up of two company names or the use of an unmarried surname by one part of the dyad would result in the loss of one dyad.

Another limitation of our research is that we may have encountered a selection bias, the present moment bias and common method bias. The selection bias presented itself as a result of the high threshold. We speculate that this could result in especially 'happy dyads' filling in our questionnaires, as leaders and employees had the opportunity to ask their colleague with whom



they established the best relationship with. This could contribute to the high means we found in our independent variable and mediator. Additionally, the present moment bias refers to the tendency of people to give stronger weight to payoffs that are closer to the present time when considering trade-offs between two future moments (O'Donoghue & Rabin, 1999). This could mean that after a pleasant or unpleasant interaction that day, participants rate their leader or employee higher or lower in contrast to another moment. In regard to the common methods bias, according to Podsakoff and Organ (1986), the common method bias could occur in survey research when all data (independent variables, dependent variables and mediating variables) are collected using the same method. The potential problem of common method bias is that it could result in a bias of the parameter estimates of the relationships between two different constructs. This form of bias could inflate or deflate the estimates of the relationship between the two constructs (Antonakis et al., 2010). In our model, this could mean that our findings might be closer to significance than is found, or be even more far off from supporting our hypothesis.

Lastly, a limitation of this study is that the assumption of linearity is not met, concerning the relationship between empowering leadership and innovative work behavior. Violating this assumption makes our model undesirably complex, hence we tried to transform our variable with a log transformation, without success. Therefore we had to be cautious with our interpretation. Violation of the assumption of linearity may contribute to the reason that empowering leadership, as a mediator variable, did not exhibit a significant indirect effect on innovative work behavior. An explanation for this non-linear relationship could be that, in contrast to the literature, empowering leadership might be having a different relationship with innovative work behaviour in a dyadic dynamic. Empowering leadership aims to increase employees' motivation and investment in their work through power sharing and self-directiveness (Kirkman & Rosen, 1997,

1999; Thomas & Velthouse, 1990). Zhang and Bartol (2010), in one of the few researches on empowering leadership and employee creativity in dyads, found that creative process engagement increases when leaders provide psychological empowerment. When controlled for psychological safety, we found that empowering leadership and psychological safety had a low correlation, thus the relationship found by Zhang and Bartol might not be present in our current data set. An explanation for this could be that psychological safety with a mean of four and a half suffered from multiple neutral answers, reducing our chances of finding a relationship between psychological safety and empowering leadership.

The non-significant indirect effect of empowering leadership on innovative work behavior implies that empowering leadership as a mediator alone may not be sufficient to drive employees to produce novel and useful ideas. We attempted controlling for psychological safety, a construct closely related to empowering leadership, which likewise correlated lowly with empowering leadership. However past research suggests that aforementioned relations should be significant, it might be the case that another predictor is overlooked. While empowering leadership has been touted as a key factor in promoting employee innovation, this study suggests that additional variables or specific conditions should be researched to explain the relationship between participative leadership and creativity. For example various contextual factors, such as the organizational climate, individual motivation levels or individual characteristics of the employees, which weren't researched in this study. Another interesting social variable to research, which could be more specific than empowering leadership, is self-direction. We argued that the very nature of creativity contains self-direction, thus a study geared towards this nature could give us new insights in the dynamics of leader/follower in a dyadic context.

Moreover, building onto the framework of Social Information Processing Theory to explain the relationship between participative leadership and creativity entailed risks, as it relies on social processes, where employee creativity necessitates both cognitive processes focused on generating novel and useful ideas and behavioral alignment with creative concepts, as theoretically underlined (Gu et al., 2018; Chang et al., 2018; Khalil et al., 2019; Zhang and Bartol, 2010; Zhou and Pan, 2015). As Ford (1996) stated, if shared decision making and self-ownership of work results in conflict, this single negative influence could be inhibiting the cognitive or behavioral norm that is required for creativity along the lines of Social Information Processing Theory. Moreover, when the benefits of participative leadership, criticized for its time-consuming working method, are overshadowed by the inability to come to a collective consensus due to time or disagreement, creative action can also be inhibited. Therefore, future research should explore these contextual factors to gain a more comprehensive understanding of the relationship between empowering leadership and innovative work behavior, as well as pursuing a more detailed view of participative leadership and its decision making processes, focussed on conflict and diversity.

### **Future research**

We did learn a lot about participation recruitment for dyadic dynamics and ideas for future research, which we present in this section. First and foremost, future research should consider recruiting a larger sample to enhance the power, and therefore generalizability of their findings. Proper coding strategies and a broad timeframe for recruitment is encouraged. For example using automatic code generation.

Replication of our study is advised, although it should be stressed that future research should delve deeper into identifying the contextual factors, such as the organizational climate,

individual motivation levels or individual characteristics of the employees, that could facilitate the positive influence of participative leadership and empowering leadership on creativity.

Moreover, the complex nature of dyadic relationships, which involve interdependencies and reciprocal influences, makes it challenging to capture the full dynamics and complexities through traditional research methods. Thus, future research should consider adopting more sophisticated research designs, such as longitudinal studies or experimental approaches, to provide a more nuanced understanding of the dyadic relationships between shared leadership, mediating variables, and creativity.

An especially interesting future research direction to consider might be the investigation of power distances in Dutch contexts, as Erdogan et al (2017) found significant moderating effects of power distances in their research on the role of team information sharing, psychological safety, and power distance in a Chinese context.

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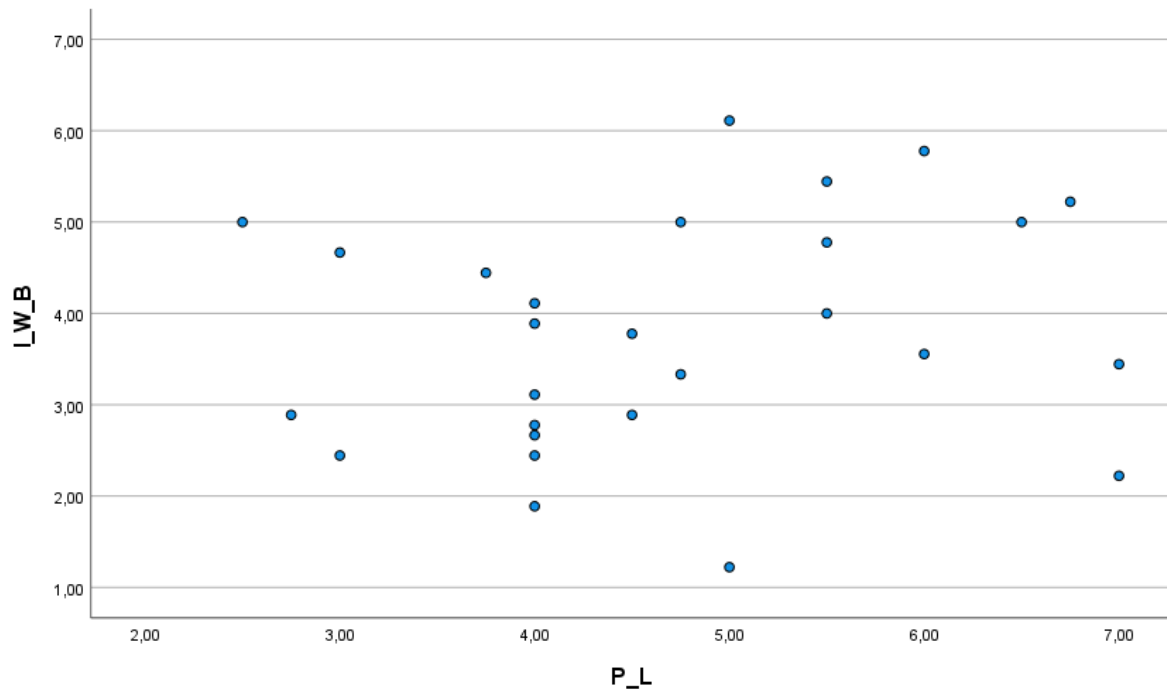
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## Appendix A

## Appendix

## Scatterplot

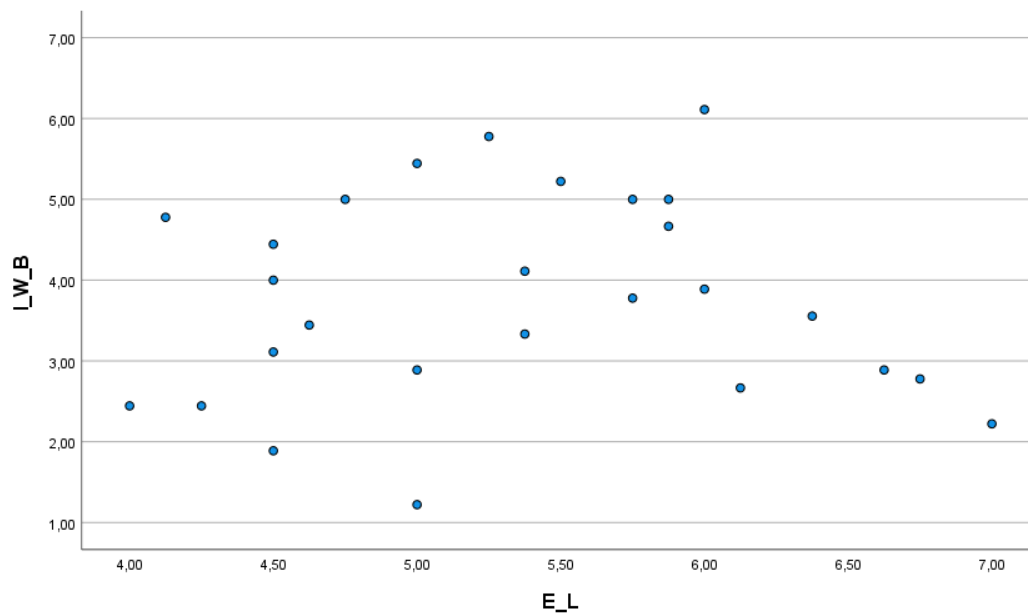
## Check for Linearity Between Participative Leadership and Creativity



## Appendix B

## Scatterplot

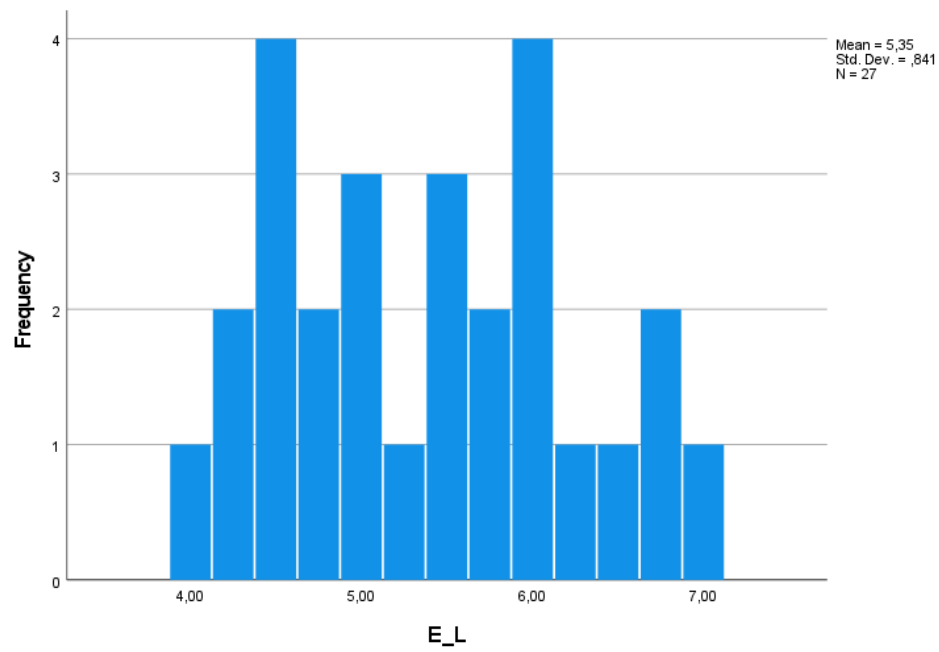
## Check for Linearity Between Empowering Leadership and Creativity



## Appendix C

## Histogram

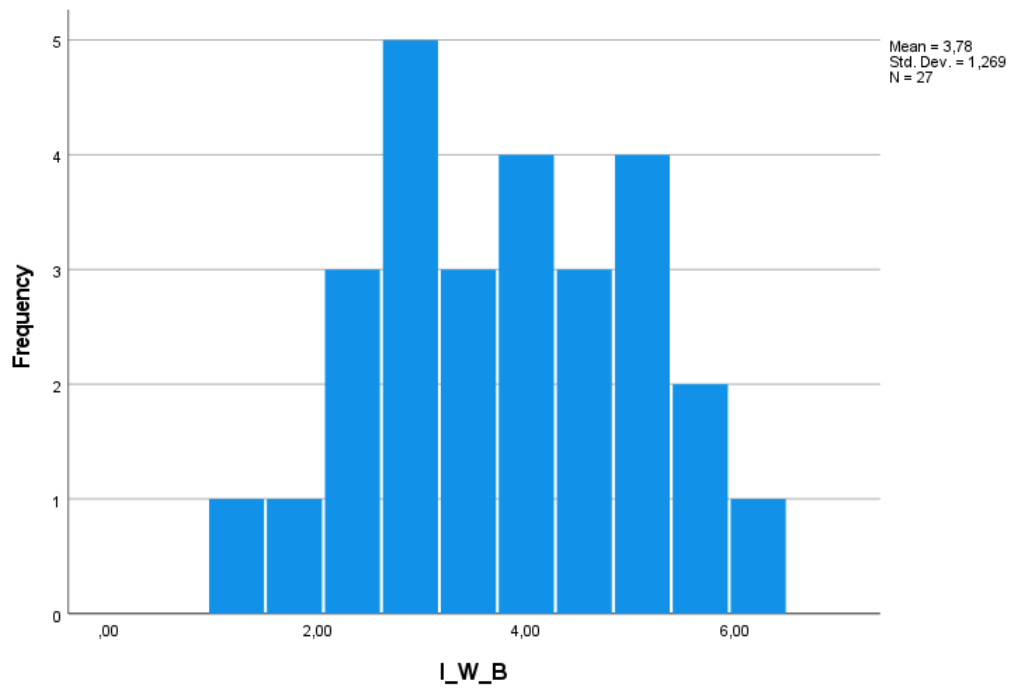
## Check for Normality of Empowering Leadership



## Appendix D

## Histogram

## Check for Normality of Innovative Work Behaviour

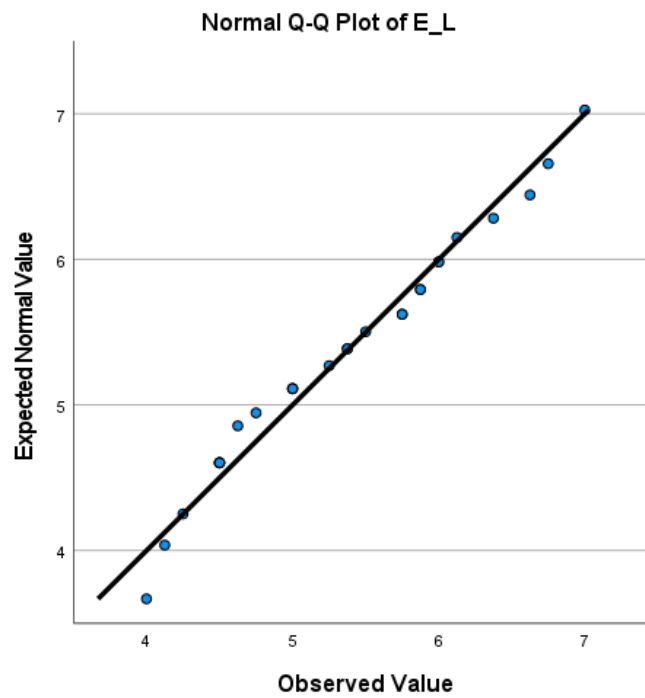




## Appendix E

## Q-Q Plot

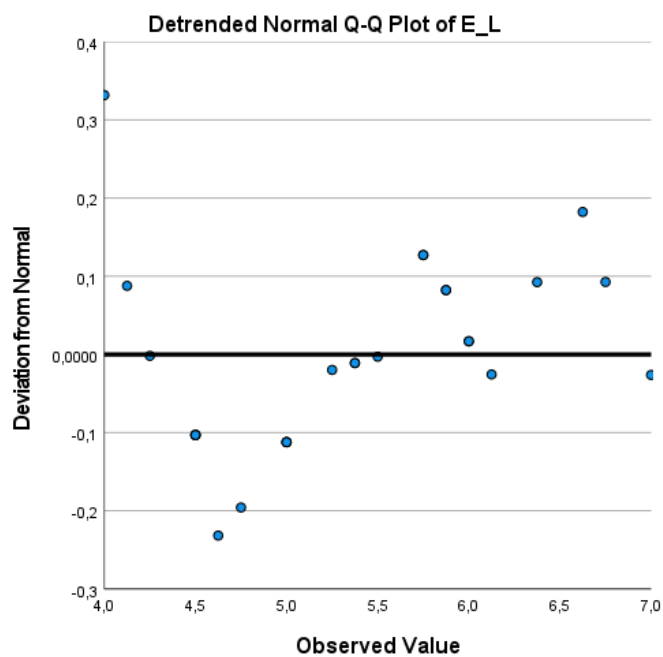
## Check for Normality of Residual of Empowering Leadership

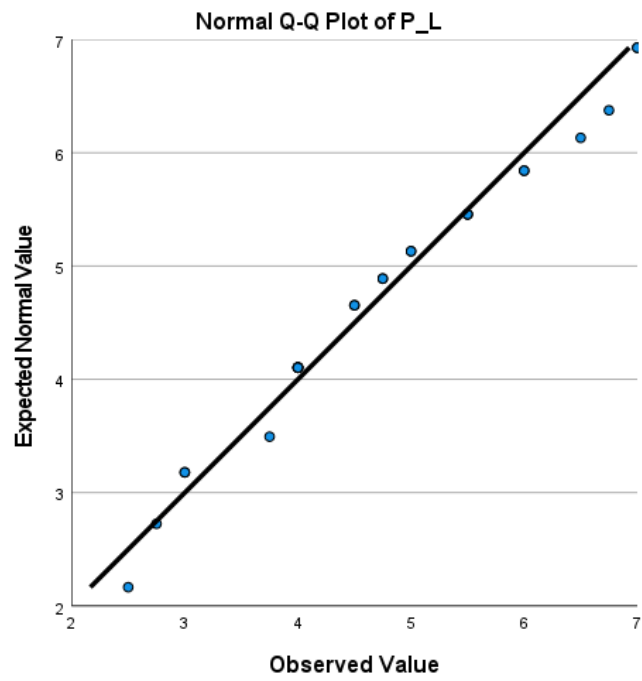


## Appendix D

## Detrended Q-Q Plot

## Check for Normality of Residual of Empowering Leadership

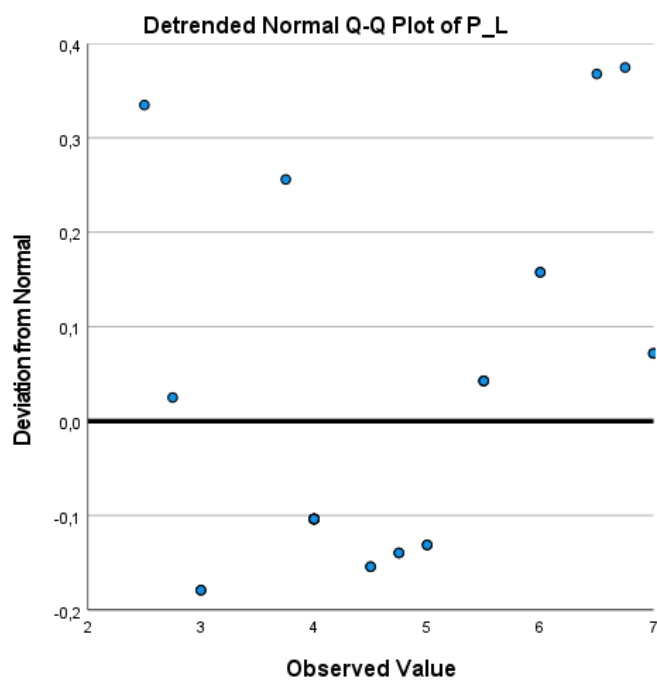


**Appendix E****Q-Q Plot****Check for Normality of Residual of Participative Leadership**

## Appendix F

## Detrended Q-Q Plot

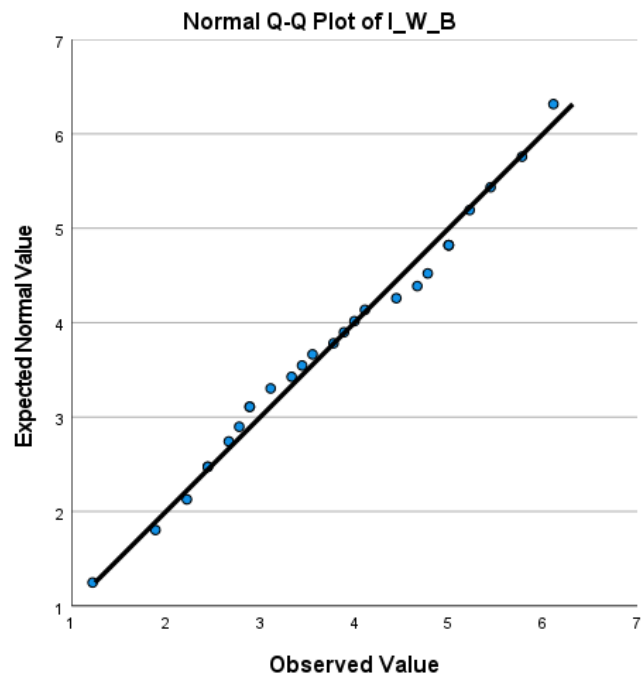
## Check for Normality of Residual of Participative Leadership



## Appendix G

### Q-Q Plot

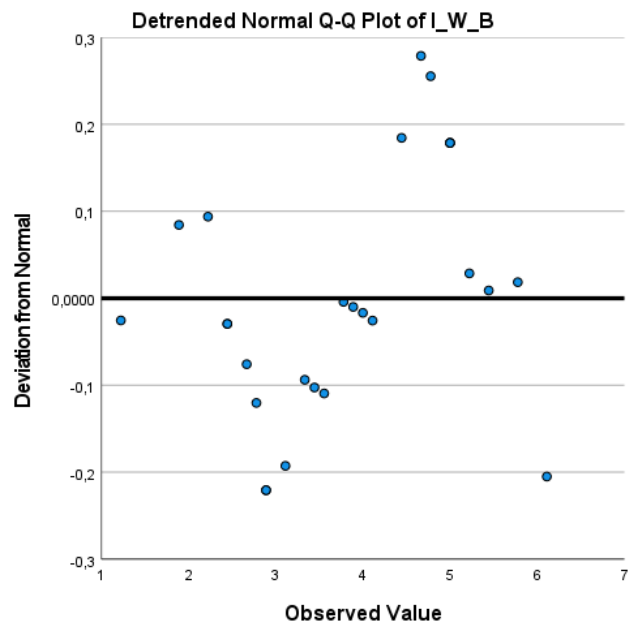
#### Check for Normality of Residual of Innovative Work Behaviour



## Appendix H

### Detrended Q-Q Plot

Check for Normality of Residual of Innovative Work Behaviour



**Table 8.** *Mediation Regression Analysis Output*

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 4.0 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D. [www.afhayes.com](http://www.afhayes.com)

Documentation available in Hayes (2022). [www.guilford.com/p/hayes3](http://www.guilford.com/p/hayes3)

\*\*\*\*\*

Model : 4

Y : I\_W\_B

X : P\_L

M : E\_L

Sample Size: 27

\*\*\*\*\*

OUTCOME VARIABLE:

E\_L

Model Summary

R	R-sq	MSE	F	df1	df2	p
,0853	,0073	,7301	,1830	1,0000	25,0000	,6725

## Model

	coeff	se	t	p	LLCI	ULCI
constant	5,0825	,6404	7,9369	,0000	3,7636	6,4014
P_L	,0562	,1313	,4278	,6725	-,2143	,3266

## Covariance matrix of regression parameter estimates:

	constant	P_L
constant	,4101	-,0813
P_L	-,0813	,0172

\*\*\*\*\*

## OUTCOME VARIABLE:

I\_W\_B

## Model Summary

R	R-sq	MSE	F	df1	df2	p
,2053	,0421	1,6718	,5279	2,0000	24,0000	,5965

## Model

	coeff	se	t	p	LLCI	ULCI
constant	2,7878	1,8180	1,5335	,1382	-,9645	6,5401



P_L	,2038	,1994	1,0218	,3171	-,2078	,6154
-----	-------	-------	--------	-------	--------	-------

E_L	,0063	,3026	,0208	,9836	-,6184	,6309
-----	-------	-------	-------	-------	--------	-------

Covariance matrix of regression parameter estimates:

	constant	P_L	E_L
constant	3,3051	-,1599	-,4655
P_L	-,1599	,0398	-,0051
E_L	-,4655	-,0051	,0916

\*\*\*\*\* TOTAL EFFECT MODEL \*\*\*\*\*

OUTCOME VARIABLE:

I\_W\_B

Model Summary

R	R-sq	MSE	F	df1	df2	p
,2052	,0421	1,6050	1,0993	1,0000	25,0000	,3044

Model

	coeff	se	t	p	LLCI	ULCI
constant	2,8198	,9495	2,9699	,0065	,8643	4,7753
P_L	,2041	,1947	1,0485	,3044	-,1969	,6052

Covariance matrix of regression parameter estimates:

constant P\_L

constant ,9015 -,1787

P\_L -,1787 ,0379

\*\*\*\*\* TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y \*\*\*\*\*

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI
,2041	,1947	1,0485	,3044	-,1969	,6052

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,2038	,1994	1,0218	,3171	-,2078	,6154

Indirect effect(s) of X on Y:

Effect	BootSE	BootLLCI	BootULCI
E_L	,0004	,0435	-,1031 ,0787

\*\*\*\*\*

Bootstrap estimates were saved to a file

Map of column names to model coefficients:

Conseqnt Antecdnt

COL1 E\_L constant

COL2 E\_L P\_L

COL3 I\_W\_B constant

COL4 I\_W\_B P\_L

COL5 I\_W\_B E\_L

\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*

Level of confidence for all confidence intervals in output:

95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

----- END MATRIX -----

**Table 9.** *Mediation Regression Analysis Output Exploratory Analysis*

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 4.2 beta \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D. [www.afhayes.com](http://www.afhayes.com)

Documentation available in Hayes (2022). [www.guilford.com/p/hayes3](http://www.guilford.com/p/hayes3)

\*\*\*\*\*

\*\*

Model : 4

Y : I\_W\_B

X : P\_L

M : PSTotal

Sample

Size: 27

\*\*\*\*\*

\*\*

OUTCOME VARIABLE:

PSTotal

Model Summary

R	R-sq	MSE	F	df1	df2	p
,3153	,0994	,5204	2,7598	1,0000	25,0000	,1092

Model

	coeff	se	t	p	LLCI	ULCI
constant	3,6801	,5407	6,8066	,0000	2,5665	4,7936
P_L	,1842	,1109	1,6613	,1092	-,0442	,4125

Covariance matrix of regression parameter estimates:

	constant	P_L
constant	,2923	-,0579
P_L	-,0579	,0123

\*\*\*\*\*

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OUTCOME VARIABLE:

I\_W\_B

Model Summary

R	R-sq	MSE	F	df1	df2	p
,4137	,1712	1,4466	2,4781	2,0000	24,0000	,1051

Model

	coeff	se	t	p	LLCI	ULCI
constant	5,1917	1,5226	3,4098	,0023	2,0491	8,3343
P_L	,3229	,1948	1,6575	,1104	-,0792	,7249
PSTotal	-,6445	,3334	-1,9330	,0651	-1,3328	,0437

Covariance matrix of regression parameter estimates:

	constant	P_L	PSTotal
constant	2,3183	-,0857	-,4092
P_L	-,0857	,0379	-,0205
PSTotal	-,4092	-,0205	,1112

\*\*\*\*\* TOTAL EFFECT MODEL \*\*\*\*\*

OUTCOME VARIABLE:

I\_W\_B

Model Summary

R	R-sq	MSE	F	df1	df2	p
,2052	,0421	1,6050	1,0993	1,0000	25,0000	,3044

Model

	coeff	se	t	p	LLCI	ULCI
constant	2,8198	,9495	2,9699	,0065	,8643	4,7753
P_L	,2041	,1947	1,0485	,3044	-,1969	,6052

Covariance matrix of regression parameter estimates:

	constant	P_L
constant	,9015	-,1787
P_L	-,1787	,0379

\*\*\*\*\* CORRELATIONS BETWEEN MODEL RESIDUALS

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	PSTotal	I_W_B
PSTotal	1,0000	,0000
I_W_B	,0000	1,0000

\*\*\*\*\* TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y

\*\*\*\*\*

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI
,2041	,1947	1,0485	,3044	-,1969	,6052

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
,3229	,1948	1,6575	,1104	-,0792	,7249

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
PSTotal	-,1187	,1289	-,4522	,0230



\*\*\*\*\* ANALYSIS NOTES AND ERRORS

\*\*\*\*\*

Level of confidence for all confidence intervals in output:

95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

----- END MATRIX -----