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Zhu, F., Wang, L., Yu, M., Müller, R., & Sun, X. (2019). Transformational leadership and project team members' silence: the mediating role of feeling trusted. International Journal of Managing Projects in Business.

https://doi.org/10.1108/IJMPB-04-2018-0090

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Transformational Leadership and Project Team Members' Silence:

The mediating role of feeling trusted

By

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Purpose –Silencing behavior among project team members poses a potential threat to project results. Hence, breaking silence in projects is critical to motivate team members and beneficial for project outcomes. The paper aims to examine the relationship between transformational leadership of project manager and silence behavior of project team members. It proposes a mediating role of feeling trusted to fill this gap by conducting an empirical research.

Design/methodology/approach – A theoretical model was developed and a series of hypotheses were proposed based on existing literature. Then, regression analysis was conducted on a sample of 219 team members of a diverse set of projects in China.

Findings – The paper empirically shows that transformational leadership of project manager is significantly negatively related to team members' defensive and prosocial silence, but not with their acquiescence silence. In addition, the study also

Published as: Zhu, F., Wang, L., Yu, M., Müller, R., & Sun, X. (2019). Transformational leadership and project team members' silence: the mediating role of feeling trusted. *International Journal of Managing Projects in Business*, 12(4), pp. 845-868. https://doi.org/10.1108/IJMPB-04-2018-0090

discovered that team members' feeling trusted mediates the effects of transformational leadership on team members' defensive and prosocial silence.

Research limitations/implications – Academics benefits from the study's results of empirically examining the effects of transformational leadership of project manager on project team member' silence. The studies' findings also contribute to the silence theory in project context through discussions of the rationale behind the main effects. Practical implication is provided for project managers that making the most of Transformational Leadership can reduce silence of project team member, through building trusted feelings. The limitation to this study is the research setting regarding culture-related issues that focused only on projects in China.

Originality/value – This research is one of the early studies addressed the issue of silence behavior in project context, which is contribute to the coordination and communication in project management.

Keywords: Transformational leadership; Feeling trusted; Project team members' silence

Article Type: Research paper

1. Introduction

Project team member (PTM) behavior and performance is rapidly drawing attention among scholars, especially with team learning (Creasy and Carnes, 2017), knowledge sharing (Müller, 2015), and communication (Henderson and Stackman et al., 2016; Wu and Liu et al., 2017). However, PTMs' silence, as a barrier to change and development (Morrison and Milliken, 2000), is a frequent occurrence in projects, and many other organizations (Detert and Burris, 2007). Silence, defined as deliberately withholding of concerns and opinions (Dyne and Ang et al., 2003), is detrimental to communication and knowledge sharing (Brinsfield, 2013). Silence also jeopardizes organizational outcomes including management effectiveness (Morrison and Milliken, 2000), innovation and exploration (Milliken and Lam, 2009), and employee motivation (Vakola and Bouradas, 2005). Although employee silence has been extensively studied in leading journals of organizational behavior, to the best of the authors' knowledge, it has not been adequately applied to the specific context of projects.

Projects involve frequent meetings and interactions, which require high quality communication without hindrance (Ekrot and Rank et al., 2016). Good information and knowledge, without communicative barriers, are the lifeblood of project management (Badir and Büchel et al., 2012; Lester, 2017). Therefore, breaking silence or, in other words, reducing undesirable silence behaviors, facilitates knowledge integration and productive communication, which is one of the critical success factors in project management (Pinto and Slevin, 1988). Moreover, projects as temporary organizations (in the sense of Turner and Müller, 2003), with unique features of temporariness and

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institutionalized termination, can produce countervailing forces that may have a substantial influence on how participants behave, cooperate and support each other (Braun and Ferreira et al., 2013). Breaking silence plays a critical role in contributing to organizational effectiveness (Lepine and Van Dyne, 1998), with some studies focusing on project manager (PM) s' voice behavior (Ekrot and Rank et al., 2016), which is defined as "discretionary communication of ideas, suggestions, concerns, or opinions about work-related issues with the intent to improve organizational or unit functioning" (Morrison, 2011, p. 375). Breaking silence can enhance voice behavior, but not vice versa, for speaking up does not necessarily mean less deliberate withholding of ideas and information (Brinsfield, 2013). In fact, knowledge sharing, team communication, and cross-functional coordination would be in vain if silence appears frequently. Conflicts and Problems can accumulate when critical feedback loses and projects may begin to deteriorate.

Silence behavior stems from the action of superiors and is closely related to their ethical leadership (Zehir and Erdogan, 2011), for example, moral and inspiring managers encourage constructive behaviors of PTMs. In a project context, PTMs' willingness to speak up is positively related to managerial openness (Detert and Burris, 2007) and transformational leadership (Duan and Li et al., 2017), which is characterized by vision, charisma and caring of leader (Keegan and Hartog, 2004). To the best of the authors' knowledge, little research is found focusing on the mechanism between

leadership style and PTMs' silence, which leaves the question of how does transformational leadership influence PTM s' silence behavior unanswered.

Trust is regarded as psychological factor which is mentioned as antecedent of silence (Dedahanov and Rhee, 2015). Dyne and Ang et al., (2003) present three types of silence caused by resignation, fear and cooperation derived from individual perception. Therefore, psychological perception of behavioral trust, one's own feeling of being trusted is leader's downward trusting perceived by subordinates (Lau and Long, 2008), which appears to be the motivation which drives PTMs to withhold constructive opinions. The importance of the trust is emphasized in a project context, with its impact on project success (Rezvani and Chang et al., 2016), especially through influencing communication (Henderson and Stackman et al., 2016). The relationship among transformational leadership of PM, PTMs' silence and Feeling of being trusted by PTMs seems unclear. Our study aims to fill this scant of work by taking the perspective of PTMs feeling trusted as the mediator, and therefore we ask:

RQ1: How does the Transformational leadership of PMs impact the silence of PTM?

RQ2: How is this relationship influenced by the PTMs' feeling of being trusted?

Our unit of analysis is the relationship between the transformational leadership style of PMs and silence behavior of PTMs. The social exchange theory based on the Norm of Reciprocity (Gouldner, 1960) is adopted to theorizing our hypothesis.

Academics benefits from the study's results through the contribution to empirically tested effect of transformational leadership of PMs on PTMs' silence, and also through discussions of the rationale behind the main effects. Understanding the underlying mechanisms that cause the influence of transformational leadership on PTMs' silence enables us to understand how this relationship works. Furthermore, we gain practical implications by understanding the relationship and management of breaking silence behavior by making the most of transformational leadership of PM.

The next section reviews literature on PTM silence, transformational leadership and feeling trusted from which the hypotheses are derived. This is followed by the research methodology, results and discussions which are gained through a survey of 219 people from various projects across China. The paper ends with the study's conclusions and its implications.

2. Literature review

2.1 Project Member Silence

Employees' silence behavior occurs when facing problematic and emergent issues of an organization (Morrison and Milliken, 2000). The concept was defined as, "withholding of any form of genuine expression about the individual's behavioral, cognitive and/or affective evaluations of his or her organizational circumstance to persons who are perceived to be capable of effecting change or redress" (Pinder and Harlos, 2001, 334).

Different dimensions of silence are suggested by scholars to provide us with various motives for PTMs to remain silent (Dyne and Ang et al., 2003; Zheng and Jiang-Lin et al., 2008; Brinsfield, 2013). Dyne et al. provided a widely accepted set of dimensions of silence, which distinguishes between three motives for silence, namely acquiescent, defensive, and prosocial silence. These are triggered by resignation, fear and cooperation respectively. The acquiescent silence refers to inactive and uninvolved behavior on purpose as an employee does not express their ideas, but believes that speaking up is futile. As for defensive silence, Dyne et al. defined it as, "Withholding relevant ideas information, or opinions as a form of self-protection, based on fear." The above-mentioned two types of silences are based on Pinder and Harlos' (2001) research. The prosocial silence is defined as, "Withholding work-related ideas, information, or opinions with the goal of benefitting other people or the organization based on altruism or cooperative motives." It is caused by concerns for others, including protecting a co-worker or organization (Pinder and Harlos, 2001). PTMs' silence driven by these motivation, inherently affect success of an individual project (Ekrot and Rank et al., 2016).

In project context, The project team's unique features of temporal assignment, task-orientation, shared goals, and inconsistent core competencies (Wu and Liu et al., 2017) are difficult to reconcile with deliberate silence. PTMs need to balance risks and opportunities by analyzing negative and positive consequences (Detert and Burris, 2007), especially in relatively short time periods, such as during project life cycles.

However, for PTMs, "to stop a project or say it is worthless would be a career ender" (Detert and Edmondson, 2011, p.470). Moreover, PTM's silence may hinder the collection, analysis and real-time communication in projects (Ekrot and Rank et al., 2016).

2.2 Transformational Leadership Style

Even though the topic of leadership has been studied for several decades, the empirical work of leadership in project management context still needs more attention (Tyssen and Wald et al., 2013). Those value-based leadership such as transformational leadership, authentic leadership and ethical leadership motivate people to accomplish challenging tasks in project management (Toor and Ofori, 2008). Among them, transformational leadership is frequently identified as important for project results (Keegan and Hartog, 2004; Ding and Li et al., 2017), especially in complex projects (Turner and Müller, 2006). Transformational leadership is one of the three styles which Avolio and Bass et al., (1999), define as the full-range of leadership style. The other two are transactional and laissez-faire leadership. also possess positive value, lead from heart. The present study focuses on transformational leadership, for its high relevance with project-based context (Gundersen and Hellesøy et al., 2012).

Transformational leadership is characterized by vision, charisma and caring on the side of the leader (Grint, 1998; Keegan and Hartog, 2004; Clegg and Hardy et al., 2006). At its core is the leader's "ability to articulate an attractive vision of a possible future" (Hartog and Verburg, 1997), with four main factors (Avolio and Bass et al., 1999;

Lindgren and Packendorff, 2009): 1) Idealized influence (i.e. the behavior that arouses strong subordinate emotions and identification with the leader). 2) Inspirational leadership (i.e. the leader imparts a vision that is appealing and inspiring for subordinates and offers them challenging assignments and higher expectations), 3) Individualized consideration (i.e. paying attention to each of their subordinates, sharing their concerns for their needs and feelings, providing support, and treating them as individuals), 4) Intellectual stimulation (i.e. arousing and changing in subordinates' awareness' of problems, of thought and imagination, developing innovative and creative ways of problem solving). In terms of measurement, the first two factors are always tested together as "Charisma".

Transformational leadership is particularly associated with project management, for the emotional and motivational aspects of the PMs are important for boosting faith and commitment (Keegan and Hartog, 2004; Malhotra, 2004). Transformational leadership is preferred in complex projects (Turner and Müller, 2006), which requires more communication. PMs are conceived as managing "groups of talented people in an environment of collaborative bureaucracy" (Keegan and Hartog, 2004, p610). Therefore, identification, loyalty and commitment considerably outrun control and compliance for project management focus (Keegan and Hartog, 2004). Transformational leadership of PM positively influences project success by involving goal-setting, role-clarification, interpersonal processes (Aga and Noorderhaven et al.,

2016), and generating desirable work outcome through inspiring PTMs' identification, self-esteem, and trust in the PM (Ding and Li et al., 2017).

PMs' attitude towards silence and communication opportunities (Vakola and Bouradas, 2005) manifest a psychologically and behaviorally interacting dyad between PM and PTM. Scholars suggested that the superior's behavior has a direct impact on the voice behavior of subordinates (e.g., Morrison and Milliken, 2000; Detert and Burris, 2007). By providing individualized mentoring, coaching, and career development opportunities, individual consideration of PM fosters a one-on-one relationship with each PTM, which can increase their commitment to the project (Tyssen and Wald et al., 2014). PTMs' fear of giving feedback (i.e. silencing behavior) is under the influence of leadership style (Morrison and Milliken, 2000). Among three types of silence, acquiescence silence is in a deeper state than others, for it requires more assistance or provocation to be broken. That means they are less aware of their silence. The defensive silence, as driven by self-protection of negative consequences, is significantly negatively related to psychological safety (Brinsfield, 2013). Prosocial silence is closely related to relationship between subordinates. Employees caring for others and willing to maintain relationship with others tend to show prosocial silence, if they are involved in social networks (Hawass, 2016). There is a negative relationship between leader's caring and concern for subordinates and employees' silence. Scholars have empirically verified the positive relationship between transformational leadership and employee voice (Detert and Burris, 2007; Duan and Li et al., 2017). Building on

Turner and Müller (2009), we therefore hypothesize that within the temporality and task-oriented context of projects, transformational leadership by the PM influences PTMs' behaviors in terms of:

Hypothesis 1a: Transformational leadership of PMs is negatively related with PTMs' acquiescence silence.

Hypothesis 1b: Transformational leadership of PM is negatively related with PTMs' defensive silence.

Hypothesis 1c: Transformational leadership of PM is negatively related with PTMs' prosocial silence.

2.3 Feeling Trusted

This study explores the role of feeling trusted, and situates the discussion within project-based contexts. Extant literature addressed the balance between trust and control in projects (Kalkman and de Waard, 2017; Ning, 2017), however, silence, is not subject to structural control because interrogation is not feasible, but silence can be broken with psychological transformation by steering trust. Trust and social relations are affected by the temporality of organizations (Bakker, 2010). In the Chinese culture, trust can be traced back to Confucianism, which stressed the importance of harmony, reciprocity and loyalty. These three features of the Chinese culture resonate with feelings of being trusted (Wong, 2007).

Extant literature mainly focused on the antecedent variables of trust (Mayer and Davis et al., 1995; Schaubroeck and Lam et al., 2011), mechanism of trust (Lewicki

and Bunker, 1995; Aryee and Budhwar et al., 2002), outcome variables of trust (Dirks and Ferrin, 2002). Trust facilitates information sharing through networks to collectively solve problems in projects (Shazi and Gillespie et al., 2015). However, trust and being trusted are independent constructs. Being trusted by PM will not exert impact on PTM's behavior unless the trusted feeling is perceived. Lau and Liu et al., (2007) is the first to define feeling trusted as "the trusted other's own perception of whether he or she is trusted by others." It stressed the perception of bearing vulnerability and uncertainty which may influence others.

According to Lau and Liu's study, the feeling of being trusted raises as a form of psychological empowerment, which could be interpreted into a combination of empowerment perception, justice perception, supervisor support and information sharing (Lau and Liu et al., 2007). Feeling trusted has a positive impact on employees' self-evaluation and organizational membership (Lau and Long et al., 2014), sense of responsibility and ownership (Salamon and Robinson, 2008). Therefore, PTMs feel proud of themselves and their work by feeling trusted (Baer and Dhensakahlon et al., 2015).

Different forms of similarity in values and preferences are the booster for the feeling of being trusted (Lau and Liu et al., 2007). At the same time, PTMs' perception of feeling trusted is related positively with their leaders' moral leadership behaviors, such as being unselfish, righteous and fair to all (Hannah and Lester et al., 2005).

Especially, transformational leadership might have an influence on followers' perception of feeling trusted (Lau and Liu et al., 2007).

According to Burns (1978), transformational leadership produces significantly higher organizational commitment, which covers a range of affective factors including followers' attachment, loyalty, involvement and identification with their organization (Kaipiainen, 2004). PM's Transformational leadership show a stronger positive influence on PTMs' affective commitment than other components (Tyssen and Wald et al., 2014). Charisma, Inspirational motivation, and Individualized consideration of transformational leadership could work together to improve feeling empowered, justified, and supported by PM, and further boost their satisfaction and sense of security with the superior. Transformational leadership could gain value congruence between leader-member dyad (Jehn and Chadwick et al., 1997). Sharing similar values is antecedent of PTMs' feeling trusted by their leaders, and they proposed that value congruence might be a major mediator, connecting the positive link between transformational leadership and feeling trusted, which is yet to be tested (Lau and Liu et al., 2007).

Hypothesis 2: The transformational leadership of PMs is positively related to the PTMs' perception of feeling trusted.

From the trustee's viewpoint, who receives the trust, the social-exchange perspective applies. When people receive help, favors, or gifts, they feel indebted to do or give something in return based on the norm of reciprocity (Gouldner, 1960).

Supporting the proposition of the obligation to return, Salamon and Robinson (2008) found that when managers collectively trust their followers, the trusted develop a norm of responsibility to perform accordingly, which may ignite reciprocity in verbal interaction back to PMs (Malhotra, 2004).

By cognitive influence, trust impacts positively on the success of projects (Buvik and Rolfsen, 2015). PTMs feeling trusted can positively affect their attitudes and performance (Jehn and Chadwick et al., 1997). The feeling of being trusted is related positively with one's self-esteem as well as outcomes in addition to the loyalty to the PM (Brower and Schoorman et al., 2000; Pierce and Gardner, 2004). The feeling of being trusted will help them grow a sense of obligation and efficacy (Lau and Liu et al., 2007). Further, it forms the PTMs' organizational citizenship behavior (OCB) (Mcallister, 1995; Lau and Long, 2008), which are the discretionary behaviors that are above and beyond the job requirements (Konovsky and Pugh, 1994). When PTMs perceive they are trusted by their PMs, their organization-based self-esteem is enhanced (Lau and Long et al., 2014). A positive self-concept can then generate positive impacts on PTM attitudes and behavior in the workplace (Pierce and Gardner et al., 1989). Trusting PTMs allows to manage the interdependencies between their respective expertise spaces in projects (Chiocchio and Forgues et al., 2011) by engaging in knowledge and information sharing. We propose that when the PTMs are increasingly feeling trusted, the morale and courage are strengthened. The individual feels a sense of belonging, in which the sense of empowerment and support could impact on the

PTMs' attitudes towards the PM. Potential senses of resignation might be lessened by growing feelings of self-efficacy (Milliken and Morrison et al., 2003). Upcoming senses of fear might be reduced by empowerment and justice perception. The sense of cooperation towards colleagues might be lowered by the sense of obligation towards organization or superior. Thus, the tendency and possibility of remaining silent will decrease accordingly. PTMs become more willing to break the silence caused by resignation, fear and cooperation, which is reduced by motivating power of feeling trusted accordingly and turn for constructive voice behavior.

Hypothesis 3a: PTMs' feeling of being trusted is negatively related with PTMs' acquiescence silence.

Hypothesis 3b: PTMs' feeling of being trusted is negatively related with PTMs' defensive silence.

Hypothesis 3c: PTMs' feeling of being trusted is negatively related with PTMs' prosocial silence.

Transformational leadership of PM is formed and perceived through mutual influence with PTMs, and it affects their interaction between them. PTMs' silent behaviors are triggered by resignation, fear and indifference (Dyne and Ang et al., 2003; Zheng and Jiang-Lin et al., 2008). Transformational leaderships' three factors of charisma and inspirational motivation, individualized consideration, and intellectual stimulation (Avolio and Bass et al., 1999) help PTMs to build their need, hope and value, and stimulate their motivation as well. Transformational leadership of PM shows

belief in PTMs, which helps them to gain the sense of reliance. Thus, PTMs could sense the trust in them. Such psychological perception reduces PTMs' resignation, through a psychological sense of empowerment and support from the supervisor; PMs' sharing of concerns for subordinates demonstrate PMs' willingness to be a vulnerable party. Therefore, these behaviors ultimately result in reducing the feeling of fear and indifference through justice perception and information sharing. PM with transformational leadership enhances cooperation, through building a common goal and sense of achievement. Thus, PTMs' silence behavior caused by resignation, fear and cooperation is reduced, by perception of trusted feelings.

Hypothesis 4a: PTMs' feeling trusted mediates between transformational leadership of PM and PTMs' acquiescence silence

Hypothesis 4b: PTMs' feeling trusted mediates between transformational leadership of PM and PTMs' defensive silence

Hypothesis 4c: PTMs' feeling trusted mediates between transformational leadership of PM and PTMs' prosocial silence

2.4 *Theoretical Framework*

The social exchange theory based on the Norm of Reciprocity (Gouldner, 1960) was adopted as a theoretical perspective. As theorized from literature review, we construct our research model based on previous hypotheses. Figure 1 depicts our conceptual framework of our study, which is to test the mediating role of feeling trusted between transformational leadership of PM and three types of PTMs' silence behavior,

namely acquiescence silence, defensive silence and prosocial silence. In the next section, we will test our hypotheses.

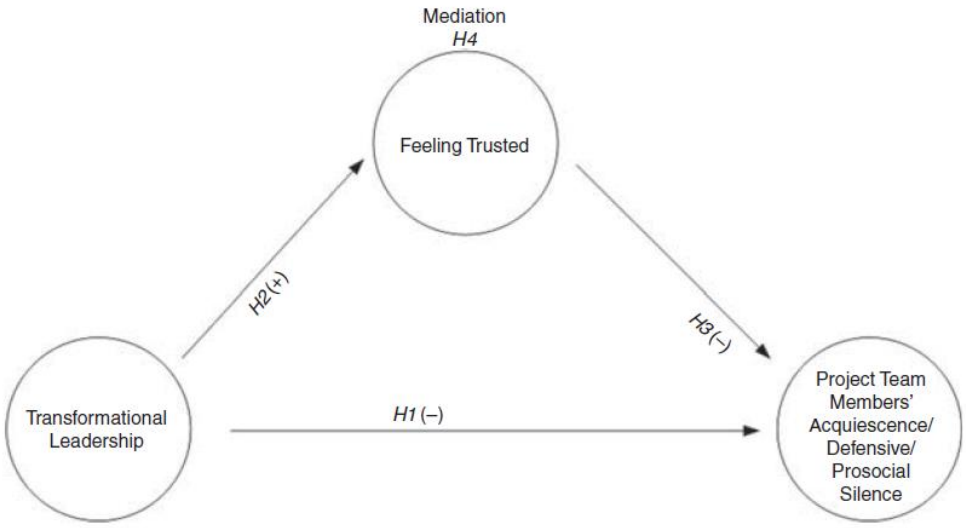

Fig. 1, Research model.

3. Research methodology

We followed Saunders and Lewis et al., (2009) seven-step process for research design. The post-positivist epistemology is taken as ontological stance (Alvesson and Skoldberg, 2009), because the research aims for gaining objective results. A deductive study was conducted to test theory from data (Saunders and Lewis et al., 2010), and a survey of mono method is designed for analysis. A mixture of web-based and printed questionnaire distribution is adopted to collect cross-sectional data from PTMs of multiple types of projects. The mediation analysis is applied, as a key method for process analysis (Kenny, 2009).

3.1 *Measures*

Our questionnaire includes four sets of questions, which are mainly from

published studies. The first set includes information about the last project and respondents' demographic data. The other three sets of questions are regarding transformational leadership (TL), feeling trusted (FT), and acquiescence silence (AS), defensive silence (DS) and prosocial silence (PS), which were measured by five-point Likert scales. Previously published questionnaires were adopted as much as possible. The questionnaires were translated back and forth from English into Chinese to guarantee language accuracy. To make sure the scales, criteria and wording are consistent and clear, our questionnaire followed (Cooper and Schindler, 2010) suggestions. Minor adjustments were conducted when necessary. Our research model consists of three distinct constructs. We also followed the suggestions of Podsakoff and Organ, (1986) to avoid the influences caused by common method bias. The items for each of these distinct constructs are listed in Appendix 1.

3.1.1 *Project team members' silence*

PTM silence comprises three different types of silences, including acquiescence silence, defensive silence and prosocial silence. Previously developed scales by Dyne and Ang et al., (2003) on employee silence were available and adopted, with adjusted wording for project context. Zheng and Jiang-Lin et al., (2008) also developed scales based on their own studies, which they deem as more appropriate within Chinese settings. Thus, Dyne et al's version (2003) of scales were translated into Chinese and were finalized by borrowing some wording of Xiaotao Zheng in this study.

3.1.2 *Feeling trusted*

Feeling trusted comprises of two factors: reliance and disclosure (Gillespie, 2003; Lau and Long et al., 2014). According to Gillespie (2003), reliance is regarded as a truster's dependence on a trustee's actions and decisions. The other dimension of Gillespie's (2003) trust scale refers to the disclosure of information, which is deemed as sensitive. Lau et al. (2014) has retested these two sets of items ([χ^2 (34) = 541.86, $p < .001$, *SRMR* = 0.09, *NNFI* = 0.92, *CFI* = 0.94), which confirmed that reliance and disclosure represent two different facets of feeling trusted. Thus the scale form Gillespie (2003) was adopted in this study to measure PTM's feeling trusted.

3.1.3 *Transformational leadership*

The Multi-Factor Leadership Questionnaire (MLQ) has long been popular and well-trusted as a validate research instrument in measuring leadership style. The MLQ Form 5X consists of 36 items covering transformational, transactional, and laissez-faire leadership styles (Avolio and Bass et al., 1999; Hinkin and Schriesheim, 2008). This 36 item scale comprises 20 items for variable of transformational leadership, which is adopted by us. The present study has reexamined the scale to ensure the selected 20 items are having a satisfied Cronbach's alpha (0.931). The items are translated with regard to PTM's perspective, and wording is modified according to project-based context.

3.1.4 *Covariates*

A set of control variables is included in this analysis, which is adopted to eliminate spurious effects and increase internal validity. Therefore, the line of business,

educational level and project team size have been taken as control variables. Categories were used for measures for level of education, dummy variables were created for each business category and project team size, for use as control variables in subsequent regressions.

3.2 Sample and data collection

Hard and soft copies of questionnaires were majorly sent out to project-oriented companies in China. For each company, PTMs were chosen as sample respondents, as they are the experiencer of leadership style, feeling trusted, and actor of silence behavior.

To make sure each participant is answering related to a specific and recent project, respondents were required to provide basic information about one of their projects completed in the last 5 years, which he or she participated and completed as a project team member. Data were collected on project name, type, team size, and duration.

Table 1
Sample demographics

Item	*Frequency*	*%*	Item	*Frequency*	*%*
Gender			**Level of education**		
Female			Below Undergraduate	*10*	*4.5*
Male	*50*	*22.8*	Bachelor's Degree	*132*	*60.2*
Total	*169*	*77.2*	Master's Degree	*71*	*32.4*
	219	*100*	Doctor's Degree	*6*	*2.7*
			Total	*219*	*100.0*
Sector			**Age**		
IT/Internet	*26*	*11.9*	18-25	*9*	*4.1*
Engineering	*61*	*27.9*	26-35	*118*	*53.9*
Manufacturing	*65*	*29.7*	35-45	*70*	*32.0*
Others	*67*	*30.6*	46+	*21*	*10.0*
Total	*219*	*100.0*	Total	*219*	*100.0*
PT size (number of PTMs)			**Working Time**		
0-20	*145*	*66.2*	1-3	*29*	*13.2*
21-50	*36*	*16.4*	3-8	*59*	*27.0*
51 +	*38*	*17.4*	8+	*131*	*59.8*
Total	*219*	*100.0*	Total	*219*	*100.0*

The data were collected from October to November in 2016 and from January to March in 2017 successively. Out of 385 distributed questionnaires, 257 participants completed and submitted or returned the survey. After eliminating responses with more than 20%missing data or suspicious entries (doubles, monotonous response patterns), we analyzed 219 completed responses (which equals a 67% responses rate). ANOVA analysis showed no difference between early and late respondents. The demographics are listed in Table 1. Over three quarters of the respondents are male, and more than half of them are holding a bachelor degree. A large part of them was working in small or medium size project teams (1-20ppl), and over half of them were working for more than 8 years.

ANOVA tests by demographic variables showed no significant differences, except the statistical differences ($p<0.01$) about PTM's acquiescence silence between business (the PTSAS of project from engineering industry is significantly higher than project form manufacturing industry ($p=0.002$) and IT industry ($p<0.005$)).

3.3 *Data analysis methods*

Data analysis followed the guidelines of Hair, Black et al., (2010) and was done in three steps. First, a Harman test of three constructs with unrotated factor analysis was carried out to prevent systematic measurement errors caused by Common Method Variance (CMV). Second, Principal Component Analysis with Varimax rotation (Eigenvalue of 1) was used to establish the factors representing each of the three constructs. Third, regression analysis was adopted to test the previously proposed

hypotheses regarding the relationships among transformational leadership, feeling trusted, and PTMs' silence. The second step involves mediator testing. We adopted the four-step method recommended by Baron and Kenny, (1986) and encapsulated by (Hayes, 2013). Firstly, the independent variable — in this case, transformational leadership of PM — should have a positive effect on the dependent variable (i.e., PTM's acquiescence, defensive, prosocial silence). Secondly, the independent variable must be related to the mediating variable, feeling trusted. Thirdly, the mediating variable must be significantly related to the dependent variable. Finally, when the mediator variable is controlled for, the relationship between the independent and the dependent variable should be either no longer significant (full mediating role) or substantially reduced (partial mediating role). In this regression analysis, the last two steps are run simultaneously.

3.4 *Validity and reliability analysis*

We undertook reliability and validity analyses to retest the constructs in the study. Tests are taken to see how well the constructs are represented by measured variables. Content validity was achieved by using previous measurement dimensions. Both unrotated factor analyses and pilot testing was used to ensure construct validity. We tested convergent and discriminant validity through item-to-item and item-to-total correlations above 0.3 and 0.5 separately (Hair and Black et al., 2010). Reliability was ensured through Cronbach alpha of each dimension of all constructs, which showing

values higher than 0.60 in Table 2 (Nunnally and New, 1978). One item of PTSAS (AS4) was dropped due to its' item-to-total correlation being below 0.5.

Table 2
Number of items, Cronbach's alpha, means, and SD.

Latent variable (# of measures)		Number of items	Cronbach's á		Mean	SD
TL	TLCH	12	0.889	0.931	3.80	0.59
	TLIS	4	0.798			
	TLIC	4	0.754			
FT	FTRE	5	0.769	0.853	3.69	0.58
	FTID	5	0.791			
PTS	PTSAS	4	0.674(AS4)	0.812	3.02	0.78
	PTSDS	5	0.824		2.60	0.80
	PTSPS	4	0.748		2.90	0.77

CMV was assessed through a Haman one-factor test (Podsakoff and Organ, 1986). Results showed that all questionnaire items loaded on their respective factor, which indicates that common method variance should not be a concern.

Correlations of study variables were shown in Table 2. Varimax rotated factor analysis was performed to establish the three constructs and investigate the structure of data. The factor on transformational leadership comprised of three sub-dimensions (charisma, individualized consideration, intellectual stimulation), with a total 56% explained variance (KMO=0.917, $p<0.001$). These 20 items were averaged to form a single index of transformational leadership. For the measure of feeling trusted, items loaded on the two respective sub-dimensions (KMO=0.863, $p<0.001$), which explained 57% of the variance in reliance and disclosure. The correlations between these two components were found to be high, with coefficients above 0.6, indicating that there is

convergent validity (Martinezmartin, 2010). Thus, these 10 items were also averaged to form a single index of feeling trusted. The factor on project team member's silence comprises three respective dimensions (KMO=0.838, p<0.001), namely acquiescence silence, defensive silence and prosocial silence, which explained 59% of total variance. In order to explore the mechanism of transformational leadership of project manager affecting PTM's silence, three types of silence were seen as dependent variables respectively in further data analysis.

4. Results and analysis

4.1 *Hypothesis testing*

In this part, we tested the correlations and the hypotheses using hierarchical regression analyses.

Table 3 Correlations of study variables.

2. FT	.670***	1											
3. PTSAS	-.029	.008	1										
4. PTSDS	-.463***	-.421***	.167**	1									
5. PTSPS	-.325***	-.327***	-.008	.625***	1								
6. FEMALE	-.049	-.140**	.089	.041	.012	1							
7. IT	-.072	.031	-.125*	-.038	-.011	.036	1						
8. ENG	-.003	-.043	.230***	.008	-.047	-.022	-.228***	1					
9. MANUF	.061	.070	-.085	.054	.082	-.139**	-.238***	-.404***	1				
10. BACHE	.103	-.063	.129*	.113*	-.046	-.003	-.135**	.171**	.098	1			
11. MASTE	-.090	.058	-.123*	-.120*	.022	.088	.168**	-.191***	-.066	-.853***	1		
12. DOCTO	-.089	.033	-.149***	-.001	.113*	-.091	.025	-.104	.013	-.207***	-.116*	1	
13. PT21-50	-.011	.009	.047	.020	-.037	-.006	-.010	.247***	-.099	-.043	.088	.001	1
14. PT50+	.061	.057	-.084	.035	-.022	-.019	.018	-.043	.045	.101	-.086	.071	-.203*** 1

Notes: *** Correlation is significant at the 0.01 level (2-tailed), **Correlation is significant at 0.05 level (2-tailed), * Correlation is significant at the 0.1 level (2-tailed).

Table 3 shows inter-correlations among the variables. As predicted, transformational leadership of project manager is positively related to feeling trusted (r=0.670, p<0.01) and negatively correlated with PTMs' defensive silence (r=-0.463,

p<0.01) and prosocial silence (r=-0.325, p<0.01) significantly, but not with PTMs' acquiescence silence. Significant and negative correlations also exist between feeling trusted and defensive silence (r=-0.421, p<0.01) and prosocial silence (r=-0.327, p<0.01), while not proved between feeling trusted and acquiescence silence. In addition, no extreme correlations between any of the variables are shown (the highest correlation being .67 between transformational leadership and feeling trusted), thus reducing the risk of multi-collinearity.

Hypothesis 1a, which states that transformational leadership negatively influence PTMs' acquiescence silence, is not supported because the non-significant correlation (β= -0.063, P>0.1). According to Baron and Kenny (1986), the step 1 of mediating effect test is not supported, then the Hypothesis 4a regarding PTMs' acquiescence silence cannot be tested in this study.

Hypothesis 1b and 1c proposes that transformational leadership is negatively related to PTMs' defensive silence and prosocial silence separately. The regression results are shown in Table 4. The model 1 and model 3 contains control variables, which indicate that the control variables had a negligible effect on PTMs' defensive silence and prosocial silence both. The model 2 indicates that transformational leadership has a significant negative relationship with PTMs' defensive silence (β= -0.670, P<0.01) and explains 23.8% of the variance in PTMs' defensive silence. Therefore, Hypothesis 1b is supported. The results in model 4 turn out that transformational leadership has a significant negative relationship with PTMs' prosocial silence (β= -0.425, P<0.01) and

contributed 10.3% of the variance in PTMs' prosocial silence upon its addition to the model. Thus, Hypothesis 1c is supported.

Table 4

Regression analysis of transformational leadership as a predictor of PTM's defensive silence and prosocial silence.

Variables	PTSDS						PTSPS					
	Step 1			Step 2			Step 1			Step 2		
	B	SE	Beta	B	SE	Beta	B	SE	Beta	B	SE	Beta
Female	.113	.134	.059	.072	.118	.038	.055	.129	.030	.029	.123	.016
Male												
IT/Internet	-0.018	.189	-.007	-.087	.165	-.035	.012	.182	.005	-.031	.173	-.013
Engineering	-.011	.154	.006	-.048	.134	.027	.045	.148	.026	.021	.140	.012
Manufacturing	.095	.145	.054	.113	.127	.064	.160	.140	.095	.172	.133	.102
Others												
Bachelor	-.017	.275	-.010	-.052	.240	-.031	.058	.264	.036	.036	.251	.023
Master	-.228	.286	-.133	-.339	.251	-.198	.127	.276	.077	.057	.262	.035
Doctor	-.084	.430	-.017	.121	.139	.056	.644	.414	.136	.454	.395	.096
Non-degree												
PT Size:21-50	.097	.159	.045	.121	.139	.056	-.099	.153	-.048	-.084	.145	-.040
PT Size:50+	.070	.150	.033	.138	.131	.065	-.083	.144	-.041	-.041	.137	-.020
PT Size: 1-20												
TL				-.667***	0.082	-.492***				-.420***	.086	-.322***
R^2		0.022			0.257			0.025			0.125	
Change in R^2		0.022			0.235			0.025			0.100	
F-Change		0.531			65.837			0.591			23.858	
ANOVA(*F*)		0.531			7.210			0.591			1.637	

Notes: * p<0.1, ** p<0.05, *** p<0.01; Sample size=219, B: unstandardized beta; SE: standard error; Beta: standardized beta.

Hypothesis 2 demonstrates that transformational leadership has a positive effect on feeling trusted. The results in model 5 (Table 5) demonstrate that the control variables had no significant impact. However, It is shown that there is a significant positive relationship between transformational leadership and feeling trusted (β= 0.679, P<0.01), and 46.5% of the variance in feeling trusted was explained by transformational leadership. Hence, Hypothesis 2 is supported.

Table 5

Regression analysis of transformational leadership as a predictor of feeling trusted.

Variables	FT

	Step 1			Step 2		
	B	SE	Beta	B	SE	Beta
Female	-.186*	.097	-.134*	-.144**	.070	-.104**
Male						
IT/Internet	.069	.136	.039	.139	.099	.077
Engineering	.005	.111	.004	.043	.080	.033
Manufacturing	.085	.105	.067	.067	.076	.052
Others						
Bachelor	-.017	.198	-.014	.018	.144	.015
Master	.077	.206	.062	.189	.150	.152
Doctor	.068	.310	.019	.374*	.226	.105*
Non-degree						
PT Size:21-50	.033	.115	.021	.008	.083	.005
PT Size:50+	.092	.108	.060	.023	.079	.015
PT Size: 1-20						
TL				.676***	.049	.688***
R2		0.033			0.493	
Change in R2		0.033			0.460	
F-Change		0.797			188.643	
ANOVA(F)		0.797			3.644	

Notes: * p<0.1, ** p<0.05, *** p<0.01; Sample size=219, B: unstandardized beta; SE: standard error; Beta: standardized beta.

Hypothesis 3a statements that feeling trusted has a negative effect on PTMs' acquiescence silence, which is not supported because the non-significant correlation (β= 0.046, P>0.1).

Hypothesis 3b and 3c proposes that feeling trusted has a negative effect on PTMs' defensive silence and prosocial silence separately. The regression results in the model 7 and model 9 in Table 6 show that control variables have no significant effect on PTMs' defensive silence and prosocial silence both. Meanwhile, feeling trusted has a significantly negative relationship with PTMs' defensive silence (β= -0.590, P<0.01). Feeling trusted explains 18.0% of the variance in PTMs' defensive silence in model 8. Therefore, Hypothesis 3b is supported. The regression analysis of the model 10 indicates that feeling trusted has a significantly negative relationship with PTMs' prosocial silence (β= -0.454, P<0.01) and contributed 11.5% of the variance in PTMs'

prosocial silence upon its addition to the model. Thus, Hypothesis 3c is also supported.

Table 6

Regression analysis of feeling trusted as a predictor of PTM's defensive silence and prosocial silence.

Variables	PTSDS						PTSPS					
	Step 1			Step 2			Step 1			Step 2		
	B	SE	Beta	B	SE	Beta	B	SE	Beta	B	SE	Beta
Female	.113	.134	.059	.004	.123	.002	.055	.129	.030	-.030	.123	-.016
Male												
IT/Internet	-.018	.189	-.007	.022	.172	.009	.012	.182	.005	.044	.171	.018
Engineering	-.011	.154	-.006	-.008	.139	-.004	.045	.148	.026	.047	.139	.027
Manufacturing	.095	.145	.054	.145	.132	.082	.160	.140	.095	.199	.132	.118
Others												
Bachelor	-.017	.275	-.010	-.027	.249	-.016	.058	.264	.036	.050	.249	.032
Master	-.228	.286	-.133	-.183	.260	-.107	.127	.276	.077	.162	.260	.098
Doctor	-.084	.430	-.017	-.044	.391	-.009	.644	.414	.136	.675	.390	.143
Non-degree												
PT Size:21-50	.097	.159	.045	.116	.144	.053	-.099	.153	-.048	-.085	.144	-.041
PT Size:50+	.070	.150	.033	.124	.136	.059	-.083	.144	-.041	-.041	.136	-.020
PT Size: 1-20												
FT				-.587***	.087	-.426***				-.457***	.087	-.344***
R^2		0.022			0.198			0.025			0.139	
Change in R^2		0.022			0.175			0.025			0.114	
F-Change		0.531			45.409			0.591			27.616	
ANOVA(*F*)		0.531			2.780			0.591			3.361	

Notes: * p<0.1, ** p<0.05, *** p<0.01; Sample size=219 B: unstandardized beta; SE: standard error; Beta: standardized beta.

Hypothesis 4b and 4c was tested through Baron and Kenny (1986) procedure to see whether feeling trusted mediates the relationship between transformational leadership and PTMs' defensive silence and prosocial silence. Table 7 shows the results. Transformational leadership has a significant negative effect on the PTMs' defensive silence (β= -0.670, P<0.01) and prosocial silence (β= -0.425, P<0.01). This result indicates that the independent variable is negatively correlated with the dependent variable. We have achieved the first step of mediation analysis.

The second step of mediation analysis tests for a significant relationship between independent and mediator variable. From Table 7, we can tell that transformational leadership has a significant and positive effect on feeling trusted (β= 0.679, P<0.01). Hence, we have gone through the second step successfully.

The third and fourth step of the mediation analysis are included in Table 7 and tested simultaneously. According to the result, feeling trusted is negatively related with PTMs' defensive silence (β= -0.235, P<0.05) and PTMs' prosocial silence (β= -0.300, P<0.05). Once feeling trusted is imported into the regression, the effect of transformational leadership on PTMs' defensive silence is reduced from β= -0.670 (P<0.01) to β= -0.510 (P<0.01), as well as PTMs' prosocial silence is reduced from β= -0.425 (P<0.01) to β= -0.221 (P<0.1). Thusly, the mediation effect is proved as the fourth step. The result indicates a partial mediation effect on defensive silence and prosocial silence.

Table 7

Regression statistics for the effect of feeling trusted as a mediator between transformational leadership and PTM's defensive silence and prosocial silence.

	Model 1 (path c1/c2)		Model 2 (path a)	Model 3 (path b 1/b2 and path c1'/c2')	
	PTSDS	PTSPS	FT	PTSDS	PTSPS
TL	-.667***	-.420***	.676***	-.515***	-.212*
	(0.082)	(0.086)	(0.049)	(0.113)	(0.117)
FT				-.225*	-.309**
				(0.115)	(0.120)
Female	.072	.029	-.144**	.039	-.015
	(0.118)	(0.123)	(0.070)	(0.118)	(0.123)
Male					
IT/Internet	-.087	-.031	.139	-.056	.012
	(0.165)	(0.173)	(0.099)	(0.165)	(0.171)
Engineering	-.048	.021	.043	-.038	.034
	(0.134)	(0.140)	(0.080)	(0.133)	(0.139)

Manufacturing	.113	.172	.067	.128	.192
	(0.127)	(0.133)	(0.076)	(0.126)	(0.131)
Others					
Bachelor	-.052	.036	.018	-.047	.042
	(0.240)	(0.251)	(0.144)	(0.238)	(0.248)
Master	-.339	.057	.189	-.296	.116
	(0.251)	(0.262)	(0.150)	(0.250)	(0.260)
Doctor	.121	.454	.374*	-.301	.569
	(0.139)	(0.395)	(0.226)	(0.377)	(0.392)
Non-degree					
PT Size:21-50	.121	-.084	.008	.123	-.082
	(0.139)	(0.145)	(0.083)	(0.138)	(0.143)
PT Size:50+	.138	-.041	.023	.143	-.033
	(0.131)	(0.137)	(0.079)	(0.130)	(0.136)
PT Size: 1-20					
N	219	219	219	219	219
R2	0.257	0.125	0.493	0.271	0.152

Notes: Standard errors in parentheses; * p<0.1, ** p<0.05, *** p<0.01

Fig. 2 demonstrates the overall mediation model with path coefficient and corresponding standard errors for each path, including path a, b1/b2, c1/c2 and c1'/c2'.

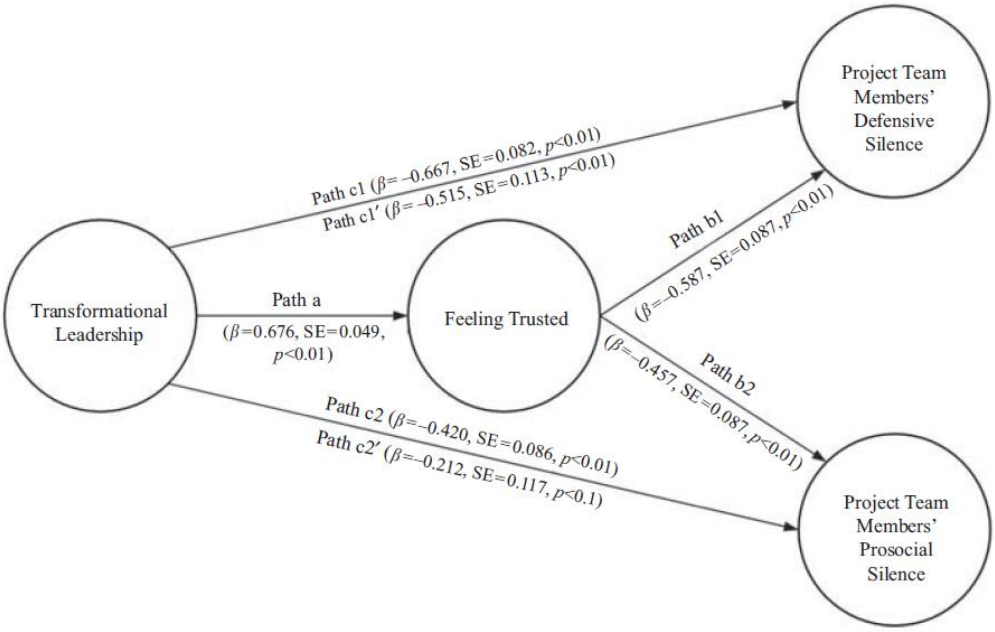

Fig. 2. Unstandardized beta weights and standard errors representing the mediated relationship between transformational leadership and PTM's silence via feeling trusted.

The results of the analysis are depicted in Figure 2 and summarized in Table.8. According to our data analysis, the H1b, H1c, H2, H3b, H3c, H4b, H4c were supported, and H1a, H3a, H4a were rejected.

Table.8 Test Results of Hypothesis should appear as follow,

Hypothesis 1a: Transformational leadership of PMs is negatively related with PTMs' acquiescence silence.	Rejected
Hypothesis 1b: Transformational leadership of PM is negatively related with PTMs' defensive silence.	Supported
Hypothesis 1c: Transformational leadership of PM is negatively related with PTMs' prosocial silence.	Supported
Hypothesis 2: The transformational leadership of PMs is positively related to the PTMs' perception of feeling trusted.	Supported
Hypothesis 3a: PTMs' feeling of being trusted is negatively related with PTMs' acquiescence silence.	Rejected
Hypothesis 3b: PTMs' feeling of being trusted is negatively related with PTMs' defensive silence.	Supported
Hypothesis 3c: PTMs' feeling of being trusted is negatively related with PTMs' prosocial silence.	Supported
Hypothesis 4a: PTMs' feeling trusted mediates between transformational leadership of PM and PTMs' acquiescence silence	Rejected
Hypothesis 4b: PTMs' feeling trusted mediates between transformational leadership of PM and PTMs' defensive silence	Supported
Hypothesis 4c: PTMs' feeling trusted mediates between transformational leadership of PM and PTMs' prosocial silence	Supported

5. Discussion

The major intention of conducting this study is to testify the underlying mechanisms between transformational leadership of PM and silence behavior of PTM. Supporting our hypotheses, the findings of this research indicated that transformational leadership is negatively related with silence behavior, which partially confirmed with the positive impact of transformational leadership on employee voice (Detert and Burris, 2007; Duan and Li et al., 2017). Results also show the negative association between transformational leadership of PM and PTMs' defensive and prosocial silence Since remaining silent as a withdrawing and constrained behavior, speaking up requires investment of personal resources. PTM may not be willing to do speak up without feeling trusted. However, the relationship between transformational leadership and acquiescence silence is not supported, because acquiescence silence is not being caused by relational interaction between leader-member dyad, but by low self-efficacy. Therefore, it's less likely to be affected by the leader-member relationship. The results demonstrated that defensive and prosocial silence behavior could be lessened by transformational leadership of PMs. Both defensive and prosocial concerning safety or risk (Morrison, 2014). It means those two types of silence are interpersonal oriented.

Both types of silence are driven by conflicts of interest or concerns for others which might put PTMs in a dilemma.

As for the mediation effect, the results indicated that feeling trusted negatively correlates with subordinates' silence. which resonates with Dedahanov and Rhee's (2015) findings. This is also consistent with the influence of project participants' trust perception on their organizational citizenship behavior (Lim and Loosemore, 2017), which inherently reduces silence behavior. Therefore, results have shown that feeling trusted is the mediator between PM's transformational leadership and PTMs' defensive, prosocial silence. In contrast to psychological safety or self-concept mechanism (Detert and Burris, 2007) and Pygmalion process as a mediating role (Duan and Li et al., 2017), we suggest that transformational leadership of PM reduce silence behavior of PTM through building feeling of trusted. The result has verified the influence of PM's leadership has on PTMs' silence caused by fear and cooperation. Defensive and prosocial silence might need superior's trusting behaviors to release the stress or boost the courage to fight for what's right. Bearing project managers' trust, project team members are willing to take risks which are beneficiary to team performance or overall betterment rather than individual interests. Those silence breaking behaviors can further facilities meeting the "iron triangle" (time, budget, quality) of project management by improved relationships (Braun and Ferreira et al., 2013).

The leadership literature addressed parts of the findings by the leader-member exchange theory (LMX), which describe the leader-follower dyadic relationship as a

process of interactions. The relationship defined for followers are either *in-group* or *out-group*, with prior as expanding beyond their roles and responsibilities and later as working within the defined limits (Northouse, 2007). Perceptions of being valued and cared about by and organization boost up the subordinates trust in organization and being recognized and reward for desired follower attitudes and behaviors (Wayne and Shore et al., 1997). In the present study, LMX explains the linkage between PMs' leadership style and their PTMs' reactive performance as behavioral and visible presentation of positive LMX relationship. Such interactions encourage PTMs to engage in more *extra-role behavior*, such as breaking silence (Lepine and Van Dyne, 1998), beyond what they are assigned to (Hsu and Shih et al., 2017).

5.1 *Theoretical and practical implication*

Firstly, our results answered the call raised by (Turner and Müller, 2005) for more research on leadership styles and their impacts in project setting. The contribution to project management literature is through explaining leadership and silence by adopting reciprocity theory. Feeling trusted is recognized as mediator between transformational leadership and PTMs' defensive and prosocial silence. Our understanding of mechanism between transformational leadership and silence behavior in project context is enhanced. PM's leadership and behavioral influence on PTMs trust perception and voice as extra-role behavior (Morrison, 2014) is further explained. Secondly, the understanding of PTMs' silence behavior is enhanced by verifying the important role of feeling trusted, which is generated through

PMs' transformational leadership. Our result implies that PTMs' feeling trusted is at the core between transformational leadership and PTMs' defensive and prosocial silence. Thirdly, Our study also contributes to feeling trusted as part of trust theory which is not getting sufficient attention (Lau and Liu et al., 2007), by adding to the understanding of feeling trusted at the individual level within project context. In addition, we had enriched organizational behavior literature by examining how subordinates behave under PM's downward trusting in project context. We proposed and confirmed that when PTMs feeling trusted could be negatively related to their silence behavior.

We could also draw some practical implications from findings that PMs' transformational leadership breaks PTMs' defensive and prosocial silence behavior through way of feeling trusted. Because trust and feeling trusted is moderately related (Lau and Long et al., 2014), our study suggests PTMs' problematic silence behavior could be lessened by PMs' transformational behavioral influence. PMs need to adopt transformational leadership style in face of unusual silent behaviors. Another implication for PM would be building trust and making sure PTMs could feel the trust coming downwardly. Two ways of building trusted includes letting subordinates to feel relied on and exposed of information, which provides useful techniques for PMs to improve their team communication efficiency.

5.2 *Strengths, limitations and future direction*

The study's strength lies in the use of proven constructs and dimensions from studies in general and project management. The empirical analysis taken in examining relationship between variables demonstrates a comparatively more valid result.

Our study has several limitations that should be taken into account when examining findings, and we could be inspired toward future research by some of them. First, the results are collected from PTMs' perspective only without reaffirming from PMs' perspective, with which the data might be more objective, especially for variables of transformational leadership. We recommend future studies to take both perspectives or possibly add a third perspective as additional verification. We also encourage case studies to check in-depth causality of silence behavior, which might clarify the complex nature of staying unvoiced.

Second, the cross-sectional research design we have conducted are not more persuasive than longitudinal studies in examining for better understanding of causal direction, especially when relationships between trustors and the trusted are embedded in social relationships (Granovetter, 1985), it might take multiple rounds of social exchanges before it gradually matures. Project team members' voice behaviors could also be regarded as a reaffirming behavior of feeling trusted. Future research could conduct a survey regarding different time sections within project lifecycle, which might provide us with a more objective result to identify causal relationships.

Third, another limitation to our study is the research setting regarding culture-related issues that we focused only on projects in China. *Silence is golden* (Waley, 2005)

is an commonly used old saying in Chinese Culture to tell people to remain silent when necessary. However, another idiom appears frequently in western world, *silence speaks louder than words*, which emphasizes the importance of noticing silence behaviors with different attitudes. People from different culture background might act differently, and their rationales are unclear. Our research setting is in the Chinese culture, which is famous for the relatively introverted or shy student or employee. Moreover, the cultural root of Chinese relationship-oriented society relies on relationship-based trust (Tan and Chee, 2005), for the weak institutionalized rules in China also force people to rely on trust for coordination and information sharing (Xin and Pearce, 1994). If the cultural scenario changes, our results could appear with unexpected correlations. In that case, we strongly encourage researchers to further validate our model by covering various countries.

6. **Conclusion**

Improving communication efficiency and effectiveness by reducing silence is of crucial importance in project success, by avoiding incremental negligence of necessary project state information. Knowledge sharing, timely feedback, comprehensive information will not be achieved if PTM silence appears frequently, especially when project is on the brink of deviation or cost and time overrun.

In this study, in response to the first research question, we have shown that transformational leadership of PM has a negative effect on PTMs' defensive and prosocial silence. Meanwhile, in response to the second research question, PTMs'

feeling trusted is acting as a key mediator between transformational leadership and PTMs' defensive and prosocial silence. Thus, PMs are encouraged to demonstrate transformational leadership which would be helpful in resolving silence by fear and cooperation. At the same time, transformational leadership positively causes feeling trusted by PTMs as the essential way of setting up base for silence clearance. Then the final model was formed (fig. 3).

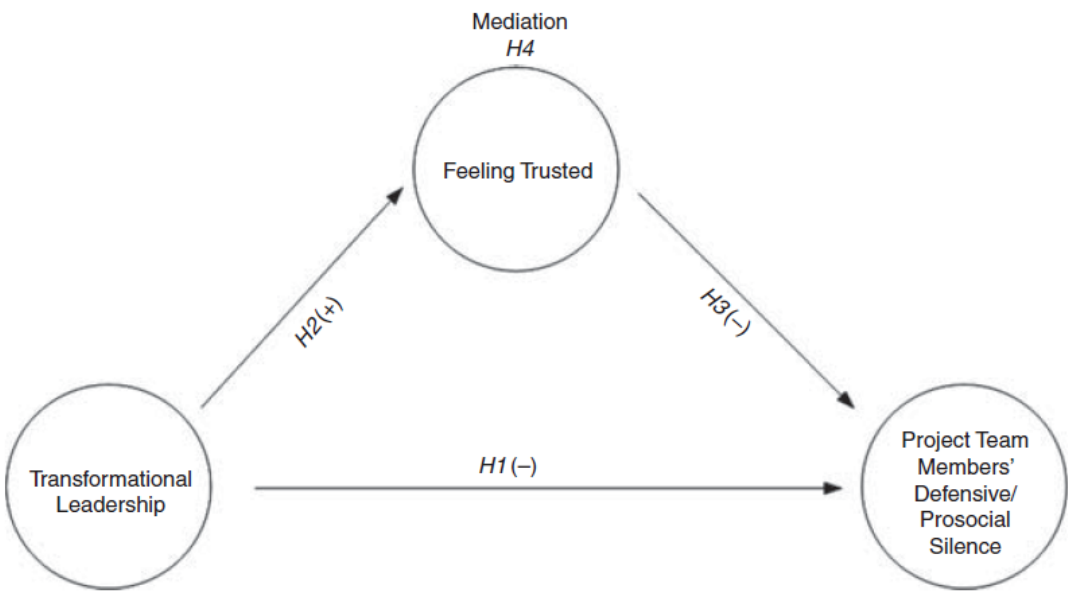

Figure 3. The final model.

The contribution to knowledge is a deeper understanding of a combined impact of transformational leadership of PM and feeling trusted on silencing behavior of PTM in project, the knowledge which allows to mitigate the detrimental effect on project results.

Conflict of interest

The authors declare that there is no conflict of interest.

References:

Aga, D. A. and N. Noorderhaven, et al. (2016). "Transformational leadership and project success: The mediating role of team-building." International Journal of Project Management **34** (5): 806-818.

Alvesson, M. and K. Skoldberg (2009). "Reflexive Methodology.".

Aryee, S. and P. S. Budhwar, et al. (2002). "Trust as a mediator of the relationship between organizational justice and work outcomes: test of a social exchange model." Journal of Organizational Behavior **23** (3): 267-285.

Avolio, B. J. and B. M. Bass, et al. (1999). "Re‐examining the components of transformational and transactional leadership using the Multifactor Leadership." Journal of Occupational & Organizational Psychology **72** (4): 441-462.

Badir, Y. F. and B. Büchel, et al. (2012). "A conceptual framework of the impact of NPD project team and leader empowerment on communication and performance: An alliance case context." International Journal of Project Management **30** (8): 914-926.

Baer, M. D. and R. K. Dhensakahlon, et al. (2015). "Uneasy lies the head that bears the trust: Uneasy lies the head that bears the trust: The effects of feeling trusted on emotional exhaustion." Academy of Management Journal **58** (6).

Bakker, R. M. (2010). "Taking Stock of Temporary Organizational Forms: A Systematic Review and Research Agenda." International Journal of Management Reviews **12** (4): 466–486.

Baron, R. M. and D. A. Kenny (1986). "The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations." Journal of Personality & Social Psychology **51** (6): 1173.

Braun, T. and A. I. Ferreira, et al. (2013). "Citizenship behavior and effectiveness in temporary organizations." International Journal of Project Management **31** (6): 862-876.

Brinsfield, C. T. (2013). "Employee silence motives: Investigation of dimensionality and development of measures." Journal of Organizational Behavior **34** (5): 671-697.

Brower, H. H. and F. D. Schoorman, et al. (2000). "A model of relational leadership : The integration of trust and leader–member exchange." Leadership Quarterly **11** (2): 227-250.

Burns, J. M. (1978). Leadership. New York, Harper & Row.

Buvik, M. P. and M. Rolfsen (2015). "Prior ties and trust development in project teams – A case study from the construction industry." International Journal of Project Management **33** (7): 1484-1494.

Chiocchio, F. and D. Forgues, et al. (2011). "Teamwork in integrated design projects: Understanding the effects of trust, conflict, and collaboration on performance." Project Management Journal **42** (6): 78-91.

Clegg, S. R. and C. Hardy, et al. (2006). "Handbook of Organization Studies." British Journal of Sociology **15** (1): 164-165.

Cooper, D. R. and P. S. Schindler (2010). Business research methods /, Irwin/McGraw-Hill.

Creasy, T. and A. Carnes (2017). "The effects of workplace bullying on team learning, innovation and project success as mediated through virtual and traditional team dynamics." International Journal of Project Management **35** (6): 964-977.

Dedahanov, A. T. and J. Rhee (2015). "Examining the relationships among trust, silence and organizational commitment." Management Decision **53** (8): 1843-1857.

Detert, J. R. and A. C. Edmondson (2011). "Implicit Voice Theories: Taken-for-Granted Rules of Self-Censorship at Work." Academy of Management Journal **54** (3): 461-488.

Detert, J. R. and E. R. Burris (2007). "Leadership Behavior and Employee Voice: Is the Door Really Open?" Academy of Management Journal **50** (50): 869-884.

Ding, X. and Q. Li, et al. (2017). "Linking transformational leadership and work outcomes in temporary organizations: A social identity approach." International Journal of Project Management **35** (4): 543-556.

Dirks, K. T. and D. L. Ferrin (2002). "Trust in leadership: meta-analytic findings and implications for research and practice." Journal of Applied Psychology **87** (4): 611-628.

Duan, J. and C. Li, et al. (2017). "Transformational leadership and employee voice behavior: A Pygmalion mechanism." Journal of Organizational Behavior **38**.

Dyne, L. V. and S. Ang, et al. (2003). "Conceptualizing Employee Silence and Employee Voice as Multidimensional Constructs." Journal of Management Studies **40** (6): 1359 – 1392.

Ekrot, B. and J. Rank, et al. (2016). "Antecedents of project managers' voice behavior: The moderating effect of organization-based self-esteem and affective organizational commitment." International Journal of Project Management **34** (6): 1028-1042.

Gillespie, N. (2003). "Measuring Trust in Working Relationships: The Behavioral Trust Inventory." Academy of Management Conference.

Gouldner, A. W. (1960). "The Norm of Reciprocity: A Preliminary Statement." American Sociological Review **25** (2): 161-178.

Granovetter, M. (1985). "Economic Action and Social Action: The Problem of Embeddedness.".

Grint, K. (1998). "Leadership: Classical, Contemporary, and Critical Approaches." Oup Catalogue **30** (5): 954-954(1).

Gundersen, G. and B. T. Hellesøy, et al. (2012). "Leading international project teams: The effectiveness of transformational leadership in dynamic work environments." Journal of Leadership & Organizational Studies **19** (1): 44-55.

Hair, J. F. and W. C. Black, et al. (2010). "Multivariate Data Analysis.pdf.".

Hannah, S. T. and P. B. Lester, et al. (2005). "Moral Leadership: Explicating The Moral Component of Authentic Leadership." Authentic Leadership Theory & Practice Origins Effects & Development **3**.

Hartog, D. N. D. and R. M. Verburg (1997). "Charisma and rhetoric: Communicative techniques of international business leaders." Leadership Quarterly **8** (4): 355-391.

Hawass, H. H. (2016). "Examining the antecedents of prosocial silence: a relational perspective." Euromed Journal of Business **11** (2): 248-271.

Hayes, A. F. (2013). "Introduction to mediation, moderation, and conditional process analysis: A regression-based approach." Journal of Educational Measurement **51** (3): 335-337.

Henderson, L. S. and R. W. Stackman, et al. (2016). "The centrality of communication norm alignment, role clarity, and trust in global project teams." International Journal of Project Management **34** (8): 1717-1730.

Hinkin, T. R. and C. A. Schriesheim (2008). "A theoretical and empirical examination of the transactional and non-leadership dimensions of the Multifactor Leadership Questionnaire (MLQ)." Leadership Quarterly **19** (5): 501-513.

Hsu, J. S. and S. Shih, et al. (2017). "The mediating effects of in-role and extra-role behaviors on the

relationship between control and software-project performance." International Journal of Project Management **35** (8): 1524-1536.

Jehn, K. A. and C. Chadwick, et al. (1997). "To Agree or Not to Agree: The Effects of Value Congruence, Individual Demographic Dissimilarity, And Conflict On Workgroup Outcomes." International Journal of Conflict Management **8** (4): 287-305.

Kaipiainen, S. C. (2004). "The relationship of emotional intelligence to leadership and self-awareness in predicting organizational outcomes." Goldsmiths College.

Kalkman, J. P. and E. J. de Waard (2017). "Inter-organizational disaster management projects: Finding the middle way between trust and control." International Journal of Project Management **35** (5): 889-899.

Keegan, A. E. and D. N. D. Hartog (2004). "Transformational leadership in a project-based environment: a comparative study of the leadership styles of project managers and line managers ☆." International Journal of Project Management **22** (8): 609-617.

Kenny, D. A. (2009). "Mediation.".

Konovsky, M. A. and S. D. Pugh (1994). "Citizenship behavior and social exchange." Academy of Management Journal Academy of Management **37** (3): 656.

Lau, D. C. and J. Liu, et al. (2007). "Feeling trusted by business leaders in China: Antecedents and the mediating role of value congruence." Asia Pacific Journal of Management **24** (3): 321-340.

Lau, D. C. and W. L. Long (2008). "Effects of trusting and being trusted on team citizenship behaviours in chain stores." Asian Journal of Social Psychology **11** (2): 141 – 149.

Lau, D. C. and W. L. Long, et al. (2014). "Examining the effects of feeling trusted by supervisors in the workplace: A self-evaluative perspective." Journal of Organizational Behavior **35** (1): 112 – 127.

Lepine, J. A. and L. Van Dyne (1998). "Predicting voice behavior in work groups." Journal of Applied Psychology **83** (6): 853-868.

Lester, E. I. A. (2017). Chapter 38 - Communication. Project Management, Planning and Control (Seventh Edition), Butterworth-Heinemann: 363-368.

Lewicki, R. J. and B. B. Bunker (1995). Trust in relationships: A model of development and decline. B B Bunker & J Z Rubin, Conflict, Cooperation & Justice.

Lim, B. T. H. and M. Loosemore (2017). "The effect of inter-organizational justice perceptions on organizational citizenship behaviors in construction projects." International Journal of Project Management **35** (2): 95-106.

Lindgren, M. and J. Packendorff (2009). "Project leadership revisited: towards distributed leadership perspectives in project research." International Journal of Project Organisation & Management **1** (3): 285-308(24).

Malhotra, D. (2004). "Trust and reciprocity decisions: The differing perspectives of trustors and trusted parties ☆." Organizational Behavior & Human Decision Processes **94** (2): 61-73.

Martinezmartin, P. (2010). "Composite rating scales." Journal of the Neurological Sciences **289** (1-2): 7.

Mayer, R. C. and J. H. Davis, et al. (1995). "An Integrative Model Of Organizational Trust." Academy of Management Review **20** (3): 709-734.

Mcallister, D. J. (1995). "Affect-cognition based trust as foundations for interpersonal cooperation in organisations.".

Milliken, F. J. and E. W. Morrison, et al. (2003). "An Exploratory Study of Employee Silence: Issues

that Employees Don’t Communicate Upward and Why*." Journal of Management Studies **40** (6): 1453-1476.

Milliken, F. J. and N. Lam (2009). "Making the decision to speak up or to remain silent: Implications for organizational learning.".

Morrison, E. W. (2011). "Employee Voice Behavior: Integration and Directions for Future Research." Academy of Management Annals **5** (1): 373-412.

Morrison, E. W. (2014). "Employee Voice and Silence." Procedia **1** (1): 173-197.

Morrison, E. W. and F. J. Milliken (2000). "Organizational Silence: A Barrier to Change and Development in a Pluralistic World." Academy of Management Review **25** (4): 706-725.

Mueller, J. (2015). Formal and Informal Practices of Knowledge Sharing Between Project Teams and Enacted Cultural Characteristics, Wiley Periodicals, Inc. **46**: 53--68.

Ning, Y. (2017). "Combining formal controls and trust to improve dwelling fit-out project performance: A configurational analysis." International Journal of Project Management **35** (7): 1238-1252.

Northouse, P. G. (2007). Leadership: Theory and Practice. Thousand Oaks, CA, SAGE Publications Inc.

Nunnally, J. and M. G. New (1978). "Psychometric Theory: NY." My Publications.

Pierce, J. L. and D. G. Gardner, et al. (1989). "Organization-Based Self-Esteem: Construct Definition, Measurement, and Validation." Academy of Management Journal **32** (3): 622-648.

Pierce, J. L. and D. G. Gardner (2004). "Self-Esteem Within the Work and Organizational Context: A Review of the Organization-Based Self-Esteem Literature." Journal of Management **30** (5): 591-622.

Pinder, C. C. and K. P. Harlos (2001). "Employee silence: Quiescence and acquiescence as responses to perceived injustice." Research in Personnel & Human Resources Management **20**: 331-369.

Pinto, J. K. and D. P. Slevin (1988). "Critical Success Factors Across the Project Life Cycle." Project Management Journal **19** (7): págs. 495-503.

Podsakoff, P. M. and D. W. Organ (1986). "Self-Reports in Organizational Research: Problems and Prospects." Journal of Management **12** (4): 531-544.

Rezvani, A. and A. Chang, et al. (2016). "Manager emotional intelligence and project success: The mediating role of job satisfaction and trust." International Journal of Project Management **34** (7): 1112-1122.

Salamon, S. D. and S. L. Robinson (2008). "Trust that binds: The impact of collective felt trust on organizational performance." Journal of Applied Psychology **93** (3): 593-601.

Saunders, M. and P. Lewis, et al. (2009). "Research Methods for Business Students (5th edn)." Qualitative Market Research **3** (4): 215 - 218.

Schaubroeck, J. and S. S. K. Lam, et al. (2011). "Cognition-based and affect-based trust as mediators of leader behavior influences on team performance." Journal of Applied Psychology **96** (4): 863-71.

Shazi, R. and N. Gillespie, et al. (2015). "Trust as a predictor of innovation network ties in project teams." International Journal of Project Management **33** (1): 81-91.

Tan, H. H. and D. Chee (2005). "Understanding Interpersonal Trust in a Confucian-influenced SocietyAn Exploratory Study." International Journal of Cross Cultural Management **5** (2): 197-212.

Toor, S. and G. Ofori (2008). "Leadership for future construction industry: Agenda for authentic leadership." International Journal of Project Management **26** (6): 620-630.

Turner, J. R. and R. Müller (2003). "On the nature of the project as a temporary organization."

International Journal of Project Management **21** (1): 1-8.

Turner, J. R. and R. Müller (2005). "The Project Manager’s Leadership Style as a Success Factor on Projects: A Literature Review." Project Management Journal **36** (2): 49-61.

Turner, J. R. and R. Müller (2006). Choosing Appropriate Project Managers: Matching their leadership style to the type of project, Project Management Institute.

Tyssen, A. K. and A. Wald, et al. (2014). "{Leadership in the Context of Temporary Organizations: A Study on the Effects of Transactional and Transformational Leadership on Followers' Commitment in Projects}." Journal of Leadership \& Organizational Studies **21** (4): 376-393.

Tyssen, A. K. and A. Wald, et al. (2014). "The challenge of transactional and transformational leadership in projects." International Journal of Project Management **32** (3): 365-375.

Vakola, M. and D. Bouradas (2005). "Antecedents and consequences of organisational silence: An empirical investigation." Employee Relations **27** (5): 441-458.

Waley, A. (2005). The analects of Confucius, Psychology Press.

Wayne, S. J. and L. M. Shore, et al. (1997). "Perceived Organizational Support and Leader-Member Exchange: A Social Exchange Perspective." Academy of Management Journal **40** (1): 82-111.

Wong, M. (2007). "Guanxi and its role in business." Chinese Management Studies **1** (4): 257-276.

Wu, G. and C. Liu, et al. (2017). "Investigating the relationship between communication-conflict interaction and project success among construction project teams." International Journal of Project Management **35** (8): 1466-1482.

Xin, K. and J. L. Pearce (1994). "GUANXI: GOOD CONNECTIONS AS SUBSTITUTES FOR INSTITUTIONAL SUPPORT." Academy of Management Best Papers Proceedings **1994** (1): 163-167.

Zehir, C. and E. Erdogan (2011). "The Association between Organizational Silence and Ethical Leadership through Employee Performance." Procedia - Social and Behavioral Sciences **24** (24): 1389-1404.

Zheng, X. T. and K. E. Jiang-Lin, et al. (2008). "Survey on Employee Silence and the Impact of Trust on it in China." Acta Psychologica Sinica **40** (2): 219-227.