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Supervisor-subordinate proactive personality congruence and psychological safety: A signaling theory approach to employee voice behavior☆

Minya Xu[a,1], Xin Qin[b,*,1], Scott B. Dust[c,1], Marco S. DiRenzo[d,1]

[a] Guanghua School of Management, Peking University, No. 5 Yiheyuan Road, Haidian District, Beijing 100871, China
[b] Sun Yat-sen Business School, Sun Yat-sen University, No.135, Xinggang West Road, Guangzhou, Guangdong 510275, China
[c] Farmer School of Business, Miami University, FSB 3047, 501 E. High St., Oxford, OH 45056, USA
[d] Graduate School of Business and Public Policy, Naval Postgraduate School, 1 University Circle, Monterey, CA 93943, USA

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ABSTRACT

Building on person-supervisor fit and signaling theory, this study explores the joint effects (i.e., congruence) of supervisor and subordinate proactive personality on subordinate voice behavior through subordinate perceived psychological safety. We examined our hypotheses using cross-level polynomial regressions and response surface analyses. The results indicated that supervisor-subordinate congruence in proactive personality led to higher levels of subordinate perceived psychological safety. Additionally, subordinates in the congruent dyads with high proactive personalities perceived higher levels of psychological safety than those in the congruent dyads with low proactive personalities. Furthermore, supervisor-subordinate congruence in proactive personality had an indirect effect on voice via subordinate perceived psychological safety. Theoretical implications for proactive personality, voice, and person-supervisor fit literatures are discussed. This study highlights that organizations should focus more on creating conditions, perhaps through supervisor-focused changes, that engender psychological safety as opposed to focusing attention exclusively on proactive traits exhibited by employees.

Proactive behaviors such as speaking up (Van Dyne, Ang, & Botero, 2003), taking initiative (Frese, Fay, Hilburger, Leng, & Tag, 1997), and voluntarily helping others (Li, Liang, & Crant, 2010) are considered particularly important in the 21st century work environment where organizations must continuously adapt and evolve (Grant & Ashford, 2008). Perhaps the most commonly cited predictor of such proactive behavior is an employee's proactive personality (Fuller & Marler, 2009), the tendency to identify opportunities, solve problems, and take initiative to enact change (Crant, 2000; Seibert, Crant, & Kraimer, 1999). Prior research builds on these findings by pinpointing the organizational conditions (e.g., person-organizational fit: Erdogan & Bauer, 2005; access to resources: Fuller, Marler, & Hester, 2006; procedural justice climate: Li et al., 2010) that enhance or constrain the effects of proactive personality. These findings suggest that organizations should develop human capital acquisition strategies to acquire personnel with proactive tendencies and create a work environment that supports proactive employees taking on new initiatives. For two primary reasons, we suggest that these tactics are incomplete.

First, we suggest that supervisors play a critical role in dictating whether employees feel comfortable exhibiting their proactive tendencies. Plentiful research suggests that although being proactive has a positive connotation, supervisors don't always prefer their employees to be proactive. Supervisors believe that employees should be more passive in some settings (Benson, Hardy, & Eys, 2016), reacting and adapting to circumstances as needed, or being cautious before making changes (Crant, 2000; Seibert et al., 1999). Additionally, not all supervisors feel a responsibility to be change agents, which diminishes their favorable perceptions of employee proactivity (Fuller, Marler, Hester, & Otondo, 2015). Finally, some supervisors fear employee proactivity because it may expose their own incompetence (Bateman & Crant, 1993; Chan, 2006; Frese & Fay, 2001; Grant & Ashford, 2008; Morrison & Milliken, 2000). Thus, from a supervisory perspective,

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* Corresponding author.
E-mail addresses: minyaxu@gsm.pku.edu.cn (M. Xu), qinxin@sysu.edu.cn (X. Qin), dustsb@miamioh.edu (S.B. Dust), msdirenz@nps.edu (M.S. DiRenzo).
[1] All authors contributed equally to this paper.

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employee proactivity is not predetermined as ideal in all settings and circumstances.

Second, we suggest that supervisor's proactive personality plays a critical role in whether employee's proactive personality leads to proactive behavior. The supervisor-subordinate relationship is unique in its ability to affect employee behavior because employees recognize that supervisors exert some degree of power, influence, and control over them (Magee & Galinsky, 2008). Thus, supervisors' tendencies and preferences (e.g., personality dispositions) are salient situational contingencies that guide employees' behaviors (Johns, 2006). Given that employees and supervisors typically engage in reciprocal interaction (Graen & Scandura, 1987), our understanding of proactive employee behavior can, therefore, be enriched by simultaneously investigating the joint effects of employee and supervisor tendencies, and preferences for proactivity (Edwards, 2008). That is, proactive employee behavior likely depends upon the extent to which employees and supervisors are aligned or misaligned with respect to proactive personality.

To evaluate these unaddressed concerns within proactive personality research, we take a person-supervisor (P-S) fit perspective, which suggests that beneficial outcomes result (e.g., satisfaction, commitment, and performance) when person and supervisor are congruent in their personality dispositions (Kristof, 1996; Kristof-Brown, Zimmerman, & Johnson, 2005). This line of P-S fit research typically takes a similarity-attraction approach (Byrne, 1971). This approach suggests that employees and supervisors react more positively toward each other when they share similar characteristics because greater similarity facilitates a better appreciation and understanding of one another's tendencies and behaviors. In contrast, we suggest that this dyadic relationship is more complex and argue that subordinates do more than make likability determinations based upon evaluations of supervisor similarity. The supervisor-subordinate relationship is unique in that supervisors have positional power, which makes employees unlikely to view their supervisors as equals. Instead, because they are concerned with appearing favorable to their supervisors, employees gauge similarity in order to appraise how their own tendencies and behaviors will be perceived and received. Indeed, research suggests that some employees are acutely attuned to the fact that their proactive tendencies and preferences may or may not align with their supervisors (Chan, 2006; Grant, Parker, & Collins, 2009; Sun & van Emmerik, 2015).

Along these lines, we draw upon signaling theory (Spence, 1973) to understand and evaluate how employees react to supervisor-subordinate proactivity congruence. We suggest that supervisors' behavioral tendencies send signals to subordinates about their preferences for proactive versus reactive approaches to business. Subordinates then process the cues from their supervisors, which affects their comfort in behaving proactively based upon their own tendencies to be proactive versus reactive (Dutton, Ashford, O'Neill, Hayes, & Wierba, 1997). In support of this perspective, research suggests that supervisors are powerful signalers of desirable subordinate behaviors (Connelly, Certo, Ireland, & Reutzel, 2011). Additionally, subordinates' personalities simultaneously impact how they characterize signals from their supervisors (Costa & McCrae, 2008). That is, supervisors' personality-driven behaviors act as stimuli, sending signals to their subordinates; then, subordinates filter these stimuli through their own personality-derived cognitive frameworks, affecting how they process the information (Ehrhart & Klein, 2001; Felfe & Schyns, 2006).

We suggest that this signal interpretation process affects whether employees feel comfortable being their authentic selves. This sense of comfort should manifest in the form of psychological safety (Kahn, 1990), which greatly benefits employee functioning (Morrison, 2011) and positively influences a variety of proactive behaviors in the workplace (Detert & Burris, 2007; Morrison, 2011, 2014; Saunders, Sheppard, Knight, & Roth, 1992). Therefore, we suggest that proactive behaviors are not driven by employee proactive personality alone, but by the psychological safety that arises from proactive personality congruence between employees and their supervisors.

In this study, we examine the relationship between proactive personality congruence and an important employee behavior: voice, "the intentional expression of work-related ideas, information, and opinions" (Van Dyne et al., 2003, p. 1370). In today's turbulent business environment, employee voice is considered important to organizational performance, providing the organization with essential information about work processes and problems, and enabling innovative solutions (Detert & Burris, 2007; Liang, Farh, & Farh, 2012; Tangirala & Ramanujam, 2012). While prior research suggests a relationship between employee proactivity and employee voice (Fuller & Marler, 2009) and supervisor proactivity and employee voice (Ashford, Sutcliffe, & Christianson, 2009), this body of work does not fully consider the interactive nature of supervisors and subordinates. More specifically, in line with signaling theory, subordinates "read the wind" (Detert & Burris, 2007, p. 869) such that they continuously evaluate their supervisors' actions and behaviors, and compare the potential costs and benefits of speaking up (Qin, DiRenzo, Xu, & Duan, 2014; Withey & Cooper, 1989). Indeed, prior research has determined that when an individual feels psychologically safe and unconcerned with potential damages to self-image, status, or career, he or she is more likely to engage in voice-oriented behaviors (Detert & Burris, 2007; Morrison, 2011, 2014; Saunders et al., 1992). Hence, this study also extends our understanding of the contextual factors that contribute to voice in organizations and the critical role that leaders play in this process.

In sum, we address the following question: *Does supervisor-subordinate proactive personality congruence influence employee voice behavior through the manifestation of psychological safety?* By investigating this research question, our study contributes to research evaluating proactivity in the workplace in at least three ways. First, the supervisor-subordinate dyad is unique in that supervisors send salient signals regarding their preferences for proactivity through their own personality-driven actions and behaviors. Along these lines, our study moves beyond basic employee-centric models of proactivity and takes a congruence perspective, arguing that employees and supervisors act in concert to affect employee behaviors. Second, our study highlights that fostering proactivity in organizations requires more than simply attracting proactive employees and giving them space to engage in proactivity. Rather, it is important to fully consider the conditions that may facilitate or hinder these behavioral tendencies, and that pairing employees with like-minded supervisors increases the likelihood that employees, regardless of their tendency to be proactive, will have enhanced psychological safety which relates to voice. In turn, this study deepens our understanding of the antecedents of voice and responds to calls to evaluate whether employees recognize that their supervisors may view their proactive behaviors as constructive or destructive (Morrison, 2011). Third, our study contributes to P-S fit research by venturing beyond the traditional congruence to performance via 'likability' relationship. We suggest that the similarity-attraction paradigm is a relatively narrow theoretical approach to understanding P-S fit, and argue instead that by taking a signaling-interpretation approach, we can begin to clarify why and when employee traits ultimately manifest in actual behavior.

Theoretical groundings and hypotheses development

Voice: a proactive behavior

Employee voice is a specific form of proactive behavior (Crant, 2000; Grant & Ashford, 2008; Morrison, 2011) that entails speaking up with constructive ideas and opinions about work-related issues (Van Dyne et al., 2003). Voice can contribute to organizational success because it increases decision making quality (Morrison & Milliken, 2000), learning (Edmondson, 1999), and innovation (Argyris & Schon, 1978). Additionally, employees given a chance to voice their opinions and concerns have a heightened sense of control over their work, which

facilitates higher levels of satisfaction and motivation (Morrison & Milliken, 2000; Parker, 1993). However, employees do not always consider engaging in voice to be desirable (Pinder & Harlos, 2001; Van Dyne et al., 2003). Employees may fear that engaging in voice leads to being viewed as a nuisance or may cause retaliation from those who are inconvenienced or disadvantaged by the voice behavior (Milliken, Morrison, & Hewlin, 2003; Pinder & Harlos, 2001).

Subordinates likely pay particular attention to supervisory cues when deciding whether to engage in voice (Morrison, 2011). Supervisors have higher status than their subordinates due to their position in the organizational hierarchy (Bandura, 1986). Thus, subordinates are likely to view their supervisors as gatekeepers; supervisors have the formal authority to decide whether the subordinates' suggestions will be implemented. Supervisors also have legitimate social power because they control subordinates' job assignments, compensation, or advancement prospects (Bandura, 1986; Emerson, 1962). Because supervisors can dictate whether their subordinates will be rewarded or punished for engaging in voice, employees are likely to pay particular attention to their supervisors' preferences for workplace behaviors (Magee & Galinsky, 2008).

Person-supervisor fit and signaling theory

Research to date has focused on either the role of subordinate personality (LePine & Van Dyne, 2001) or supervisor influence (Detert & Burris, 2007; Liu, Zhu, & Yang, 2010) on subordinate voice. We suggest that it is necessary to simultaneously investigate subordinates' and supervisors' approaches to work in order to fully understand subordinate voice behaviors. Investigating the extent to which subordinate and supervisor proactive personalities are congruent allows for this simultaneous investigation. This approach is grounded in person-environment (P-E) fit theory, which suggests that beneficial outcomes result when "person and work environment are well-matched" (Kristof-Brown & Guay, 2011, p. 3). Applying P-E fit theory to the supervisor-subordinate dyad entails person-supervisor (P-S) fit (Kristof, 1996; Kristof-Brown et al., 2005), whereby there is compatibility between supervisors' and subordinates' personal characteristics (Kristof-Brown et al., 2005; Tsui & O'Reilly, 1989).

P-S fit research commonly takes a supplementary fit perspective (Cable & Edwards, 2004; Muchinsky & Monahan, 1987), which suggests that when subordinates possess characteristics similar to their supervisors, subordinates are likely to be more satisfied, committed, and high-performing (Schaubroeck & Lam, 2002; Shin, Kim, Choi, Kim, & Oh, 2017; Zhang, Wang, & Shi, 2012). This stream of research takes a behavioral integration perspective (Chatman & Barsade, 1995), suggesting that when the supervisor and the subordinate act similarly, they are likely to have a higher quality relationship (Matta, Scott, Koopman, & Conlon, 2015; Qin, Huang, Hu, Schminke, & Ju, 2018; Zhang et al., 2012), which leads to better attitudes and higher performance.

We diverge from this prior P-S fit perspective in two ways. First, we suggest an alternative mechanism for explaining how supervisor-subordinate personality congruence affects subordinate outcomes. Our work draws from prior research illustrating that psychological safety is a strong predictor of employee voice (Ashford, Rothbard, Piderit, & Dutton, 1998; Detert & Burris, 2007; Edmondson, 2003; Miceli & Near, 1992). Psychological safety represents individuals' perceptions regarding the consequences of taking interpersonal risks in their work environments (Edmondson, 1999; Kahn, 1990). As such, it describes a perception that "people are comfortable being themselves" (Edmondson, 1999, p. 354) and "feel able to show and employ one's self without fear of negative consequences to self-image, status, or career" (Kahn, 1990, p. 708). We suggest that supervisor-subordinate proactive personality congruence fosters psychological safety while incongruence diminishes psychological safety. Second, we are interested in how personality similarity triggers employee voice via psychological safety. Prior research evaluating supervisor-subordinate personality congruence focuses on better attitudes or heightened performance through improved socio-relational mechanisms (Schaubroeck & Lam, 2002; Shin et al., 2017; Zhang et al., 2012). Our research evaluates how a specific type of employee behavior, voice, is encouraged or discouraged through the joint behavioral tendencies and preferences of subordinate and supervisor.

According to signaling theory, actions and behaviors communicate one's intentions and preferences (Spence, 1973). Signaling reduces information asymmetry between two parties because the signal receiver can more clearly understand the preferences of the signal giver (Spence, 2002). Management research has widely applied signaling theory (Spence, 1973) at the organization, group, and individual levels (Connelly et al., 2011). For example, organizational behavior research has investigated the individual-level signals of supervisors on subordinates (Ramaswami, Dreher, Bretz, & Wiethoff, 2010), recruiters on applicants (Ehrhart & Ziegert, 2005), and employees on colleagues (Hochwarter, Ferris, Zinko, Arnell, & James, 2007). We apply signaling theory to explain the joint effects (i.e., congruence) of supervisor and subordinate proactive personality.

Supervisors can transmit signals either implicitly though social learning processes (Bandura, 1986) or explicitly though sensemaking processes (Weick, 1993). According to social learning theory (SLT), people learn by observing the actions, decisions, and attitudes of individuals who are attractive and credible models (Bandura, 1986). In organizations, supervisors are particularly important role models because their position in the organizational hierarchy provides status, and their ability to control rewards provides legitimate social power (Magee & Galinsky, 2008). Subordinates learn vicariously by observing supervisors' behaviors and their consequences (Bandura, 1986). More specifically, subordinates extract information from their supervisors' behaviors to make sense of a social context; in this case, to determine whether their supervisors are inclined to be proactive or reactive.

Supervisors can also explicitly convey their preferences through sensemaking activities. Sensemaking is a social construction process that shapes how subordinates understand themselves, their work, and others engaged in that work (Foldy, Goldman, & Ospina, 2008). Supervisors help subordinates interpret critical events and ascribe meaning to the ongoing flow of work through a variety of sensemaking activities including formal communications, one-on-one coaching, or spontaneous responses to events (Smircich & Morgan, 1982). These narratives directly influence subordinates' understanding of whether supervisors prefer proactivity or reactivity (Gioia & Thomas, 1996; Maitlis, 2005).

Signaling theory also acknowledges that not all recipients interpret signals in the same way (Highhouse, Thornbury, & Little, 2007; Rynes, 1991; Suazo, Martínez, & Sandoval, 2009; Turban & Greening, 1996). Thus, the effect of supervisory signals is not likely to be straightforward; each subordinate is likely to calibrate signals differently (Suazo et al., 2009; Turban & Greening, 1996). Some subordinates may be more strongly influenced by signals than others (Highhouse et al., 2007; Rynes, 1991) because individuals have unique personal characteristics, experiences, and preferences that facilitate unique processing and interpretation of signals (Ehrhart & Ziegert, 2005). The subordinates' personalities are likely to greatly impact how they characterize signals from their supervisors. Personality affects how one reacts psychologically, emotionally, and behaviorally to situational stimuli (Costa & McCrae, 2008). Thus, supervisors' personality-driven behaviors comprise stimuli that send signals to their subordinates; subordinates then filter these stimuli through their own personality-derived cognitive frameworks, affecting the manner in which they process information (Ehrhart & Klein, 2001; Felfe & Schyns, 2006).

Supervisor-subordinate proactive personality congruence and perceived psychological safety

Proactive personality is the behavioral propensity to seek

continuous improvement in work processes and outcomes (Crant, 1995). Individuals high in proactive personality find and solve problems in order to constructively change their work environments (Bateman & Crant, 1993; Crant, 2000). Individuals low in proactive personality are more maintenance-oriented; preferring to "go with the flow" and let situational forces play out on their own (Crant, 2000). Individuals low in proactive personality are not lazy or uninterested, they simply approach and engage their work differently (Seibert et al., 1999). More specifically, while individuals high in proactive personality try to be crusaders for constructive reform, individuals low in proactive personality are purposefully reactive, actively dealing with issues only once they have surfaced and warrant attention (Crant, 2000). We suggest that when supervisors' and subordinates' approaches to work are congruent, subordinates will feel comfortable engaging in voice behaviors because they perceive a higher degree of psychological safety.

As previously stated, psychological safety entails the perception that one is free to be one's true self without fear of reprisal or negative consequences (Kahn, 1990). Subordinates feel psychologically safe when they "stay within the boundaries of appropriate behavior" (May, Gilson, & Harter, 2004, p. 17). That is, subordinates whose actions align with their supervisors' preferences likely feel more confident that their approaches to work will be rewarded (Edmondson, 1999). Alternatively, subordinates who contradict the tendencies of their supervisors are less likely to feel psychologically safe because they assume that their preferred approach toward work will be perceived negatively (Kahn, 1990).

A proactive personality dictates whether an individual approaches business dealings proactively. Supervisors high in proactive personality actively uncover issues that may affect their organization or subordinates in the future (Bateman & Crant, 1993; Seibert, Kraimer, & Crant, 2001) and develop and express action plans to their subordinates to address these problems (Becherer & Maurer, 1999; Crant, 1995). As supervisors high in proactive personality model and express the importance of uncovering and addressing problems or opportunities, they signal to subordinates that being proactive is expected (Spence, 2002). Alternatively, supervisors low in proactive personality tend to "wait and see," expending time and effort only when a problem must be solved (Crant, 2000). Supervisors low in proactive personality signal their expectations for a reactive business approach to their subordinates.

As subordinates process supervisors' signals for proactive or reactive approaches to work, they likely feel more comfortable expressing their authentic selves when they have matching proactive or reactive personalities. Subordinates will perceive that proactivity is rewarded when they witness supervisors' role modeling the importance of creating positive organizational change, or as they internalize supervisors' narratives stressing the importance of continuously improving the workplace (Bandura, 1986). Subordinates having the same proactive tendencies as their supervisors should feel a heightened sense of psychological safety because subordinates recognize that their supervisors are likely to appreciate subordinates' underlying preferences for approaching work (Edmondson, 1999; Edmondson & Lei, 2014; Kristof-Brown et al., 2005). If supervisors are more reactive, this signals to subordinates that supervisors prefer cautious and calculated actions when dealing with or developing workplace initiatives. If subordinates' and their supervisors' reactive tendencies align, they share a preference for stability and for passively adapting to existing work conditions, which builds subordinates' confidence that their habitual preferences will be valued.

As such, when subordinates and supervisors are congruent regarding proactive personality, they both are more likely to prioritize and interpret problems and events in similar ways (Jehn, Chadwick, & Thatcher, 1997). Similarity in approaches to work reduces ambiguity surrounding work-related expectations and increases the predictability of one another's behavior (Deutsch, 1973; Meglino & Ravlin, 1998; Zhang et al., 2012). Thus, personality congruence should enable highly proactive subordinates to feel safe and supported when taking efforts to improve the workplace. Similarly, congruence should allow low proactive subordinates to feel comfortable taking a more passive approach to their work.

Conversely, when a supervisor and a subordinate have incongruent levels of proactive personality, their approach to work is misaligned. This misalignment can cause psychological conflict for the subordinate as his/her preferred approach to work opposes that of the supervisor. In this incongruence scenario, it is difficult for subordinates to behave authentically because management signals indicate that their preference for proactivity/reactivity will not be rewarded or advantageous. For example, employees with high proactive personalities paired with supervisors with low proactive personalities may fear that their supervisors will feel threatened by or resentful of subordinates "rocking the boat" (Fuller, Marler, & Hester, 2012, p. 1054). Along the same lines, employees with low proactive personalities paired with supervisors with high proactive personalities may fear that their supervisors will feel disrespected or annoyed by subordinates who question their optimistic outlook on initiating change. Thus, in incongruence situations employees fear that engaging in behaviors that misalign with their supervisors' tendencies will result in lost respect and support from others, lack of consideration for projects or promotions, or unfavorable performance reviews (Detert & Treviño, 2010; Milliken et al., 2003). Integrating the arguments outlined above, we expect congruence in supervisor-subordinate proactive personality to foster subordinate perceptions of psychological safety.

Hypothesis 1. The more that subordinates' and supervisors' levels of proactive personality align (i.e., higher congruence), the higher the subordinates' perceived psychological safety.

While supervisor-subordinate congruence at either high or low levels of proactive personality will engender subordinate psychological safety, we anticipate that psychological safety will be higher among subordinates in dyads when both parties are high in proactivity (i.e., high-high) compared to when both parties are low (i.e., low-low) in proactivity. Proactive employees engage in foresighted actions such as feedback seeking, relationship building (Grant & Ashford, 2008), and accumulation of informational and social support from supervisors (Aspinwall & Taylor, 1997). Given these behaviors, when proactive subordinates are paired with proactive supervisors there are higher levels of information exchange and relationship building, which facilitate trust (Gong, Cheung, Wang, & Huang, 2012), an influential antecedent of psychological safety (Edmondson, 2004). In contrast, when both parties prefer a more reactive approach to work, although employees feel psychologically safe because they feel comfortable that supervisors approve of their more reactive, maintenance-oriented approach to work, there is less exchange of developmental and future-oriented information and ideas. As such, congruence at low levels of proactivity does not engender the additional degrees of psychological safety that are cultivated via the social support and trust that characterize high-high dyads.

Hypothesis 2. Perceived psychological safety is higher when subordinates align with supervisors at a high level of proactive personality compared to when subordinates align with supervisors at a low level of proactive personality.

Perceived psychological safety and voice

Although voice behaviors are commonly encouraged and believed essential to organizational success (Detert & Burris, 2007; Morrison, 2011, 2014), employees remain cautious about speaking up (Detert & Edmondson, 2011; Milliken et al., 2003; Morrison & Milliken, 2000). Voice behaviors may entail scrutinizing a policy or program developed by a supervisor, or suggesting a direction the supervisor does not find

appropriate (Detert & Burris, 2007). As a result, employees speak up only when the net perceived benefits (e.g., money, promotion, recognition, or status) outweigh the potential costs (e.g., restricted career mobility, loss of support from superiors and peers, and humiliation or loss of social standing) (Ashford et al., 1998; Milliken et al., 2003; Qin et al., 2014; Withey & Cooper, 1989). Due to the interpersonal risks inherent in enacting voice, psychological safety has been described as a key affect-laden cognition that determines voice behavior (Ashford et al., 1998; Detert & Burris, 2007; Edmondson, 1999; Edmondson & Lei, 2014). When subordinates feel safe, they perceive less potential costs to speaking up and are more likely to volunteer comments or suggestions to spark organizational improvement or prevent long-term problems (Edmondson, 1999). Prior research supports the positive relationship between psychological safety and voice behaviors (Ashford et al., 1998; Detert & Burris, 2007; Edmondson, 2003; Miceli & Near, 1992), and we hypothesize the same.

Hypothesis 3. Perceived psychological safety is positively related to subordinate voice behavior.

When considered jointly, Hypotheses 1 and 2 in conjunction with Hypothesis 3 indicate that supervisor-subordinate proactive personality congruence has an indirect effect on voice via perceived psychological safety, and this indirect effect will be addressed in the analyses. Additionally, while our hypotheses do not address the possibility of a direct effect of congruence on voice, for the sake of completeness, we analyze this effect in our supplementary analyses.

Methods

Participants and procedures

To test our hypotheses, we administered questionnaires in a large construction firm in Southern China. The sample subordinates primarily worked on the construction of buildings and roads as carpenters, bricklayers, welders, and the like. Subordinates had frequent interactions with their supervisors, who were in charge of assigning tasks and monitoring and evaluating subordinate performance. For several reasons, this is an ideal setting for investigating voice. In construction settings supervisors act as project managers; coordinating and prioritizing tasks based upon information presented by front-line subordinates (Walker, 2015). As front-line construction workers encounter unexpected problems and concerns it is critical that they relay this information to their supervisors. Additionally, subordinates are expected to point out potential safety issues and time delays (Choudhry & Fang, 2008) as well as opportunities (i.e., new methods or procedures) to save money or reduce waste (Poon, Yu, & Jaillon, 2004). Thus, given the nature of construction work, the assessment of employee voice is of particular interest.

To encourage our contacts at the organization to participate in and support the data collection, we provided several presentations about the purpose of our research and its potential implications to the human resource managers, and offered a company-level report of the data collection findings. To encourage employee participation, all participants were given small gifts (e.g., toothpaste, towels, and soap) as compensation for their time. It was explained that responses were anonymous and confidential and that discussions with other respondents were not allowed. Furthermore, it was explained that there were no right or wrong answers in the survey and that it was critical to provide truthful answers to ensure valid results.

We distributed 500 subordinate questionnaires and 85 supervisor questionnaires. We obtained 289 usable on-site surveys with matched supervisor ratings (58% response rate among subordinates; 87% response rate among supervisors). On average, four subordinate responses were obtained for each supervisor. Among the subordinates, approximately 93% were male, and the average age was 35.7 years. Subordinates averaged 9.4 years of education and 1.4 years of tenure at their current construction site. Among the supervisors, 97% were male. The average supervisor age and education was 38.8 years and 9.9 years, respectively. Supervisors averaged 1.4 years of tenure at their current construction site. In order to assess potential sample selection bias, we compared the demographics (e.g., gender, age, education) of respondents and non-respondents among supervisors and employees, and no significant differences were found.

Measures

The measurement scales were originally written in English. We therefore translated them into Chinese using Brislin's (1980) "back translation" procedures, which is in line with previous studies (e.g., Qin, Huang, Johnson, Hu, & Ju, 2018). All scales were measured using a five-point Likert format (1 = *strongly disagree*; 5 = *strongly agree*).

Proactive personality

Supervisors and subordinates assessed their own proactive personality using Seibert et al.'s (1999) ten-item Proactive Personality Scale (PPS). An example item is "I am always looking for better ways to do things" (supervisors: $\alpha = 0.73$; subordinates: $\alpha = 0.74$).

Perceived psychological safety

Subordinates' rated their perceived psychological safety using the seven-item scale developed by Edmondson (1999). We adapted the original scale by making the referent the supervisor. An example item is "It is difficult to ask my supervisor for help (reversely-coded)" ($\alpha = 0.70$).

Subordinate voice behavior

Supervisors rated their subordinates' voice behavior using the ten-item voice scale developed by Liang et al. (2012). Two example items are "Proactively reports coordination problems in the workplace to management" and "Proactively suggests new projects that are beneficial to the work unit" ($\alpha = 0.85$).

Control variables

We controlled for (in)congruence of supervisor and subordinate demographic characteristics (i.e., gender, age, and education), as the (in)congruence of these variables may correlate with subordinates' perceived psychological safety (Edmondson & Lei, 2014; May et al., 2004). Controlling for these variables can better demonstrate the incremental predictive validity of the (in)congruence of supervisor-subordinate proactive personality (Bernerth & Aguinis, 2015). As suggested by an anonymous reviewer, for gender (in)congruence, we employed two dummy variables to capture the gender of each supervisor and subordinate (0 = female; 1 = male). For age and education (in)congruence, we used the five quadratic terms of subordinate and supervisor age (in years), and the five quadratic terms of subordinate and supervisor education (in years), respectively. Additionally, in order to prevent potential familiarity effects, we controlled for the dyadic tenure of each supervisor and subordinate in years (Green, Anderson, & Shivers, 1996).

Analysis strategy

To test the hypotheses, we used cross-level polynomial regressions (Jansen & Kristof-Brown, 2005) and three-dimensional response surface analyses (Edwards & Parry, 1993). Because subordinates were nested within supervisors, we conducted a multilevel analysis in which supervisor's proactive personality was a level 2 variable and subordinate's proactive personality, perceived psychological safety, voice, and controls were level 1 variables. To control for the covariance between subjects within groups, we followed Jansen and Kristof-Brown's (2005) cross-level polynomial regression method using hierarchical linear modeling (HLM), specifically, using STATA's random-effects modeling.

We regressed perceived psychological safety and voice on the control variables and the five polynomial terms: subordinate's proactive personality (SUB), supervisor's proactive personality (SUP), subordinate's proactive personality squared (SUB^2), supervisor's proactive personality squared (SUP^2), and subordinate's proactive personality times supervisor's proactive personality (SUB × SUP). The final equation is listed below (control variables are omitted):

$$M_{ij} = b_0 + b_1 SUB_{ij} + b_2 SUP_{ij} + b_{11} SUB_{ij}^2 + b_{12} SUB_{ij} \times SUP_{ij} + b_{22} SUP_{ij}^2 + \Sigma d_k Control_{k\_ij} + e_{ij} + u_j$$

where i = subordinate and j = supervisor. We also include in the regression equation the two error terms: e_{ij}, the idiosyncratic error term and u_j, the within panel error term. M_{ij} represents perceived psychological safety or voice. As suggested by Edwards and Parry (1993), we centered SUB and SUP at the midpoint of the scales (i.e., 3) before calculating the second-order terms to facilitate interpretation of the results. All control variables were grand-mean centered. Following Edwards and Parry's (1993) suggestions, after cross-level polynomial regressions were conducted, we used three-dimensional response surface graphs with the regression coefficients to visually present the polynomial regression results (see also Cole, Carter, & Zhang, 2013; Matta et al., 2015; Qin, Huang, Hu, et al., 2018; Zhang et al., 2012).

As suggested by Edwards and Cable (2009), we chose two key features of the plotted response surface to test Hypothesis 1 (i.e., congruence effect of subordinate and supervisor proactive personality). First, there is evidence of a congruence effect when curvature along the incongruence line is negative (i.e., an inverted U-shape; Cole et al., 2013; Edwards & Cable, 2009) such that perceived psychological safety decreases when subordinate and supervisor proactive personality differ from each other in either direction. Using procedures recommended by Edwards and Parry (1993), the curvature along the incongruence line was calculated and tested as $b_{11} - b_{12} + b_{22}$. Second, in order to provide additional evidence to support a congruence effect (i.e., Hypothesis 1), the first principal axis of the response surface should have a slope $p_{11} = 1.0$ and an intercept $p_{10} = 0$ (Edwards, 2002; Edwards & Parry, 1993), as it confirms that the dependent variable is maximized when values are congruent (Edwards & Cable, 2009). That is, the response surface ridge runs along the congruence line (i.e., representing the peak of the response surface; Edwards & Parry, 1993). Since p_{11} and p_{10} rarely meet the normal distributional assumption in multilevel settings we tested their significance by estimating confidence intervals using Monte Carlo simulations (Preacher & Selig, 2012). Specifically, we generated 10,000 Monte Carlo samples to estimate 95% confidence intervals (CIs) for p_{11} and p_{10} (Edwards, 2002; Edwards & Parry, 1993). The analyses on these two key features of the response surface determine whether Hypothesis 1 is supported.

To examine Hypothesis 2, we tested whether the slope along the congruence line (SUB = SUP) was significantly positive. This represents that perceived psychological safety increases when moving from supervisor-subordinate congruene at low levels towards congruence at high levels. We examined the significance of the congruence line (SUB = SUP) slope ($b_1 + b_2$) using procedures for testing linear combinations of regression coefficients (Cohen & Cohen, 1983; Edwards & Parry, 1993). Additionally, we evaluated curvature along the line of incongruence ($b_{11} + b_{12} + b_{22}$) to ensure the effect was linear opposed to nonlinear. To test Hypothesis 3, we analyzed whether the coefficient of psychological safety in predicting voice was significant and positive after including the five polynomial terms of subordinates' and supervisor's proactive personality, and the control variables.

Results

Table 1 presents the means, standard deviations, and correlations of all study variables. We conducted confirmatory factor analyses (CFAs) with maximum likelihood robust (MLR) estimation to test the discriminant validity of subordinate proactive personality, perceived psychological safety, and voice at the subordinate level. The results revealed that the three-factor model ($\chi^2 = 595.11$, $df = 321$, $p < .001$; SRMR = 0.07, RMSEA = 0.05, CFI = 0.80) was superior to all plausible alternative models (detailed results are available from the authors upon request).

Hypotheses testing

In Hypothesis 1, we propose that the more subordinate and supervisor levels of proactive personality align (i.e., higher congruence), the higher the subordinate perceived psychological safety. As shown in Model 2 of Table 2, the three second-order polynomial terms were jointly significant ($F = 26.53$, $p < .001$), indicating that proactive congruence had a non-linear relationship with subordinate psychological safety (Edwards, 2002). The results in Model 2 of Table 2 also illustrate that the surface along the incongruence line was significantly curved downward (curvature = −1.21, $p < .001$). Furthermore, the results of Monte Carlo analyses revealed that the first principal axis had a slope (p_{11}) that was not significantly different from 1.0 (0.96, 95% CI [0.51, 1.72]) and an intercept (p_{10}) that was not significantly different from 0 (0.08, 95% CI [−0.43, 0.51]). In order to interpret these results holistically, we plotted the overall response surface using the coefficient estimates in Fig. 1. The concave curvature along the SUB = -SUP line illustrates that subordinate's perceived psychological safety increases as subordinate and supervisor proactive personality converge compared to dyads where proactive personality become more discrepant (Edwards & Cable, 2009). Thus, Hypothesis 1 was supported.

Hypothesis 2 predicts that perceived psychological safety is higher when subordinates align with their supervisors at a high level of proactive personality than when subordinates are aligned with their supervisors at a low level of proactive personality. The results in the Model 2 of Table 2 indicated that the slope along the congruence line was significantly positive (slope = 0.64, $p < .05$). Thus, subordinates in the high-high congruence condition perceived higher psychological safety than those in the low-low condition. The results also revealed that the curvature of the surface along the SUB = SUP line was not significantly different from 0 ($\gamma = -0.11$, *ns*), indicating that the relationship was linear. This effect is also illustrated in Fig. 1, as the front corner (low-low congruence) is lower than the back corner (high-high congruence). Thus, Hypothesis 2 was supported.

In Hypothesis 3, we suggest that subordinate perceived psychological safety is positively related to subordinate voice behavior. The results of Model 5 in Table 2 indicated that, after controlling for the polynomial terms, the coefficient of psychological safety in predicting voice was significant ($\gamma = 0.12$, $p < .05$). Thus, Hypothesis 3 was supported.[2]

Supplementary analyses: the effects of supervisor-subordinate proactive personality congruence on voice[3]

Similar to existing trait congruence studies using polynomial regression (e.g., Cole et al., 2013; Matta et al., 2015; Zhang et al., 2012), we hypothesize that trait-based (i.e., proactivity) supervisor-subordinate (in)congruence has a non-linear relationship with a psychological mechanism (i.e., subordinate perceived psychological safety), and this psychological mechanism has a linear relationship with a

[2] We conducted Hausman tests (Hausman, 1978) to evaluate the reliability of the estimates. The Hausman test *p*-values from for Models 1–5 in Table 3 were 0.83, 0.81, 0.66, 0.91 and 0.68 respectively, which indicated that the estimates from the consistent (fixed-effects) estimator did not differ significantly from the random-effects estimator (Antonakis, Bendahan, Jacquart, & Lalive, 2010).

[3] We would like to thank an anonymous reviewer for their detailed recommendations contained within the supplementary analyses.

Table 1
Means, standard deviations, and correlations for the variables.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Subordinate gender	0.93	0.25^{+}													
2. Supervisor gender	0.97	0.17	−0.05												
3. Subordinate age	35.67	10.75	0.00	0.12*											
4. Supervisor age	37.88	10.01	−0.07	0.14*	0.19***										
5. Subordinate education	9.40	3.00	−0.14*	−0.16**	−0.27***	−0.09									
6. Supervisor education	10.38	3.08	−0.17*	−0.11	−0.11	−0.32***	0.33***								
7. Dyadic tenure	0.76	0.71	0.08	0.02	0.19**	0.19**	−0.08	−0.16**							
8. Subordinate proactive personality	3.51	0.44	0.12*	0.07	0.09	0.01	−0.06	−0.17*	0.13*						
9. Supervisor proactive personality	3.64	0.39	0.03	−0.09	−0.16**	−0.28***	−0.06	0.03	−0.14*	0.09					
10. SUB^2	0.45	0.60	0.07	0.04	0.11	0.03	−0.04	−0.117*	0.10	0.90***	0.04				
11. SUB × SUP	0.34	0.38	0.09	0.03	0.00	−0.05	−0.07	−0.08	0.05	0.76***	0.60***	0.67***			
12. SUP^2	0.57	0.69	0.04	−0.05	−0.19**	−0.21***	−0.08	0.02	−0.14*	0.07	0.92***	0.01	0.58***		
13. Perceived psychological safety	3.21	0.43	−0.11	0.05	0.08	0.08	−0.06	−0.08	0.06	0.23***	0.10	0.13*	0.27***	0.05	
14. Voice	3.70	0.49	0.05	0.01	0.01	0.14*	0.00	−0.23***	0.07	0.18**	0.20***	0.11	0.30***	0.21***	0.26***

Note. $N = 289$. Gender: 0 = female; 1 = male. Age, education, and dyadic tenure in years. SUB = subordinate proactive personality. SUP = supervisor proactive personality. The variables SUB and SUP were centered at the midpoint of the scales (i.e., 3) before computing all correlations involving the polynomial term variables SUB^2, SUB × SUP and SUP^2.

$^{+}$ $p < .10$.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

behavioral outcome (i.e., subordinate voice behavior). However, we can also evaluate the functional form of the indirect effect of proactive personality congruence on voice via psychological safety, the direct effect of proactive personality congruence on voice, and the combination of these effects (i.e., the total effect). Comparing similarities and differences among these varying paths may add nuance to our understanding of the proposed model.

To test the indirect effect of proactive personality congruence on voice via psychological safety, we employed a multilevel path analysis to examine the indirect effects of each of the slopes and curvatures of the surface along the lines of congruence and incongruence (Edwards, 2002). The indirect effects are calculated by multiplying the slopes and curvatures in the first path with the coefficient of psychological safety on voice when proactive personality congruence is also included in the second path. Using the mediated polynomial regression approach,[4] we computed the indirect effects of the slope and curvature of the surface along the lines of congruence and incongruence. As shown in Table 3, the curvature of the surface along the line of incongruence (−0.24, 95% CI = [−0.09, −0.42]) and the slope of the surface along the line of congruence (0.12, 95% CI = [0.02, 0.26]) were significantly different than 0. Additionally, to reduce concerns regarding endogeneity, we conducted a Two-Stage least squares (2SLS) regression (see Table 4 in the Appendix) (Antonakis et al., 2010). An overidentification test (Sargan-Hansen statistic = 1.39, *ns*) indicated that our proposed mediation model was tenable. In support of our causal, indirect effect model, the results revealed that the coefficient of psychological safety in predicting voice was positively significant ($\gamma = 0.72$, $p < .001$). These findings suggest that perceived psychological safety acts as a linking mechanism between proactive personality congruence and subordinate voice behavior.

Next, we evaluated the direct effect of proactive personality congruence on voice (see Model 5 in Table 2). The three second-order polynomial terms were jointly significant ($F = 8.71$, $p < .05$), signaling a non-linear effect. After controlling for psychological safety, the surface along the incongruence line was curved downward, but was only significant when applying 90% confidence intervals (curvature = −0.57, $p < .10$). The results of Monte Carlo analyses revealed that the first principal axis had a slope ($p_{11} = 1.52$) that was not significantly different from 1.0 (95% CI [0.59, 5.32]) and an intercept ($p_{10} = -0.19$) that was not significantly different from 0 (95% CI [−2.94, 1.64]). Thus, similar to psychological safety, voice increased as supervisor and subordinate proactivity converged, but this effect did not reach appropriate significance thresholds. Furthermore, unlike psychological safety, the slope along the line of congruence (slope = 0.06, *ns*) was no longer significant; thus, voice was not higher at high-high congruence conditions compared to low-low congruence conditions.

We calculated the total effects by adding the direct and indirect effects. The results showed that the surface along the incongruence line was significantly curved downward (curvature = −0.71) with 95% Monte Carlo confidence intervals [−1.26, −0.18]. Furthermore, the results of the Monte Carlo analyses revealed that the first principal axis had a slope ($p_{11} = 1.44$) that was not significantly different from 1.0 (95% CI [0.65, 4.27]) and an intercept ($p_{10} = -0.14$) that was not significantly different from 0 (95% CI [−2.01, 1.19]). Thus, similar to the hypothesized model, voice increased as proactive congruence increased. However, neither the slope (slope = 0.13, 95% CI [−0.50, 0.76]) nor the curvature (curvature = 0.30, 95% CI [−0.21, 0.83]) of the congruence line were significant, indicating that the high-high congruence condition was not significantly higher than the low-low congruence condition.

The indirect and total effect findings align with Hypothesis 1 (i.e., proactive personality congruence increases voice). The direct effect findings, although in the same direction as the remaining analyses, show relatively weak support. The indirect effect analysis replicates Hypothesis 2, such that voice is higher when congruence occurs at high compared to low levels of congruence. This finding was not present for the direct effect and total effect analyses. These differences highlight the need to explore alternative mechanisms that can explain the relationship between proactive personality congruence and voice (Zhao, Lynch, & Chen, 2010). For example, subordinates are likely to perceive stronger connections with their supervisors when they are similar in personality (Byrne, 1971). Such a connection could cause subordinates to feel obligated to speak up (Blau, 1964), regardless of whether

[4] Details for mediated polynomial regression analysis are available on Jeffrey R. Edwards' website: http://public.kenan-flagler.unc.edu/faculty/edwardsj/MediatedPolynomialRegression.htm

Table 2
Cross-level polynomial regression results: the effects of supervisor' and subordinates' proactive personality congruence on perceived psychological safety and voice.

Variables	Perceived psychological safety		Voice		
	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	3.24***	3.01***	3.75***	3.57***	3.60***
	(0.05)	(0.10)	(0.07)	(0.13)	(0.13)
Subordinate gender	−0.23*	−0.28**	0.01	−0.01	0.03
	(0.10)	(0.10)	(0.10)	(0.09)	(0.10)
Supervisor gender	0.01	−0.01	−0.05	−0.06	−0.06
	(0.16)	(0.15)	(0.24)	(0.23)	(0.22)
Subordinate age	0.00	0.00	0.004+	0.004+	0.004+
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Supervisor age	0.00	0.01	0.01	0.01	0.01
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Subordinate age^2	0.0004+	0.0005*	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Subordinate age × Supervisor age	−0.00	−0.00	−0.0004+	−0.00	−0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Supervisor age^2	−0.0005*	−0.00	−0.00	−0.00	−0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Subordinate education	0.00	0.00	0.03**	0.03***	0.03**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Supervisor education	−0.01	−0.00	−0.03*	−0.03*	−0.03*
	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)
Subordinate education^2	−0.00	−0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Subordinate education × Supervisor education	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Supervisor education^2	−0.00	−0.004+	−0.00	−0.00	−0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Dyadic tenure	0.06	0.03	0.03	0.01	0.00
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
b1 Subordinate proactive personality		0.28+		0.11	0.07
		(0.16)		(0.17)	(0.17)
b2 Supervisor proactive personality		0.36+		0.04	−0.01
		(0.19)		(0.27)	(0.27)
b11 SUB^2		−0.32***		−0.20*	−0.16+
		(0.09)		(0.09)	(0.09)
b12 SUB × SUP		0.55**		0.50*	0.44*
		(0.18)		(0.19)	(0.19)
b22 SUP^2		−0.34***		−0.01	0.03
		(0.10)		(0.16)	(0.15)
c Perceived psychological safety					0.12*
					(0.06)
R^2	0.07	0.21	0.08	0.19	0.21
ΔR^2		0.14		0.11	0.02
Congruence (SUB = SUP) line					
Slope (b1 + b2)		0.64*		0.15	0.06
Curvature (b11 + b12 + b22)		−0.11		0.29	0.31
Incongruence (SUB = −SUP) line					
Slope (b1 − b2)		−0.08		0.07	0.08
Curvature (b11 − b12 + b22)		−1.21***		−0.71*	−0.57+
F for the 3 quadratic terms		26.53***		11.90**	8.71*

Note. $N = 289$. Gender: 0 = female; 1 = male. Age, education, and dyadic tenure in years. SUB = subordinate proactive personality. SUP = supervisor proactive personality. Perceived psychological safety corresponds to Models 1 and 2, while voice corresponds to Models 3, 4, and 5. The standard errors in the estimations are reported in parentheses. R^2 was calculated following Snijders and Bosker's (1999, p. 102) procedures. ΔR^2 of Models 2 and 4 refers to the change in explained variance attributable to the inclusion of subordinate proactive personality, supervisor proactive personality and three second-order polynomial terms. ΔR^2 of Model 5 refers to the change in explained variance attributable to the inclusion of perceived psychological safety.

+ $p < .10$.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

congruence occurs at high or low levels of proactivity.

Discussion

This study illustrates that employee perceptions of psychological safety depends upon the supervisor-subordinate alignment of personality-driven, habitual approaches to business (i.e., proactivity), which in turn dictates whether employees engage in voice behaviors. We found that supervisor-subordinate congruence in proactive personality led to higher levels of subordinate perceived psychological safety. Additionally, subordinates in congruent dyads at high levels of proactive personality perceived higher levels of psychological safety than those in congruent dyads at low levels. Finally, supplemental analyses revealed that supervisor-subordinate congruence in proactive personality had an indirect effect on subordinate voice behavior via psychological safety. Our results suggest benefits associated with supervisor-subordinate proactive personality congruence and provide insight into why personality alignment leads to voice behavior.

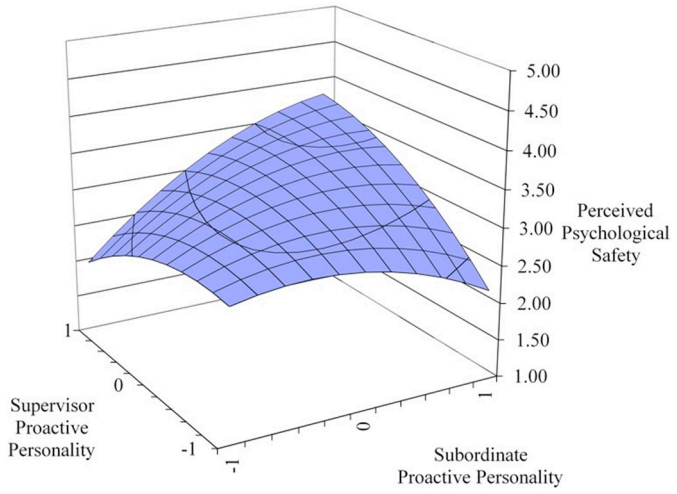

Fig. 1. The effect of supervisor-subordinate proactive personality congruence on perceived psychological safety.

Theoretical implications

Our findings provide several important theoretical contributions to the existing proactivity, P-S fit, and voice literatures. Our study extends proactive personality literature by illustrating the importance of the joint effects of subordinate and supervisor proactivity when evaluating behavioral outcomes of proactive employees. Fuller et al. (2012) argued that employees will only engage in proactive work behaviors when that type of behavior is valued; otherwise, employees will feel inhibited from such behaviors. Our study aligns with this perspective, illustrating that supervisor-subordinate proactive congruence is more informative than employee proactive personality alone. High-proactive employees paired with low-proactive supervisors will feel less psychological safety and therefore be deterred from engaging in voice behaviors. Additionally, when employees with low proactive personality are paired with similar supervisors, they feel safe and comfortable taking a more reactive approach to business, which then translates into voice behaviors.

The present research also contributes to voice literature by taking a more nuanced approach to understanding the antecedents of voice behavior in the workplace. Prior work suggests that leadership characteristics (i.e., Ashford et al., 1998; Detert & Burris, 2007; Saunders et al., 1992) or employee characteristics (i.e., Janssen, De Vries, & Cozijnsen, 1998; LePine & Van Dyne, 2001) influence employee voice; however, little attention has been given to the simultaneous effects of subordinate and supervisor characteristics. Further, voice literature acknowledges that subordinates are likely to consider the reactions of their supervisors before engaging in voice (Detert & Burris, 2007; Milliken et al., 2003; Pinder & Harlos, 2001). However, mechanisms representing this psychological evaluation process have not been evaluated. We build on this prior work by considering the joint effects of supervisor and subordinate proactive personality, and how these joint effects influence employee voice behavior through the interpretation and processing of supervisor cues. More specifically, we draw on signaling theory to suggest that the habitual, personality-driven behaviors of supervisors send signals to their subordinates regarding appropriate approaches to business. In turn, subordinates process these signals through their own personality-driven cognitive frameworks. Our findings illustrate that subordinates feel more comfortable engaging in voice when supervisor signals align with subordinate preferences and less comfortable when they misalign. Thus, this research illustrates that the likelihood of employee voice depends upon a joint, interactive process in which subordinates interpret and process the signals of their supervisors.

The present research also extends P-S fit literature by demonstrating that psychological safety links the effects of supervisor-subordinate proactivity personality congruence on voice behavior. Most of the P-S fit literature focuses on the main effect of congruence on work attitudes and outcomes (e.g., Shin et al., 2017; Tsui & O'Reilly, 1989) while ignoring the underlying explanatory mechanisms. Further, the few studies that have investigated mediating processes typically draw from similarity-attraction theory (Byrne, 1971) and focus on relationship-centered variables (e.g., leader-member exchange quality; Zhang et al., 2012). The present study identifies the prominent role of employee-perceived psychological safety in the congruence-voice relationship. This integration of psychological safety and P-S fit offers additional insights as to why supplementary fit (or lack of fit) with respect to a dyad's proactive personality may impact feelings of psychological safety, which in turn impacts work-related outcomes.

Managerial implications

Organizations typically encourage employee voice given its potential to help trigger innovative ideas and expose more workplace issues (Bashshur & Oc, 2015). Our findings highlight new avenues for organizations hoping to encourage employee voice behaviors. First, recognition that employees high in trait-based proactivity do not necessarily engage in voice behaviors is critical. Our findings infer how vital it is to consider how closely supervisors match their subordinates' proactive personality orientations. Given workplace status and power structures, subordinates pay close attention to the actions, behaviors, and preferences of their supervisors (Bandura, 1986; Emerson, 1962). Organizations that seek to increase employee voice behavior should implement mechanisms to ensure that employees feel safe speaking up, regardless of their supervisors' characteristics. This could include purposeful matching of supervisors and subordinates as well as structuring opportunities for supervisors and subordinates to precisely articulate their workplace preferences.

Second, it is important to recognize that employees low in proactive personality are not destined to be quiet, non-contributors. Low-proactive personalities prefer a maintenance-oriented approach to work (Crant, 2000; Seibert et al., 1999). When low-proactive subordinates are paired with low-proactive supervisors, subordinates feel more comfortable through enhanced psychological safety. Thus, organizations seeking to encourage employee voice, particularly from low-proactive employees, should create environments in which employees feel comfortable being their authentic selves. In total, organizations should be more concerned with creating conditions, perhaps through

Table 3
Indirect effects of slopes and curvatures.

Dependent variable	Line of interest	Slope of surface		Curvature of surface	
		Indirect effect	95% CI	Indirect effect	95% CI
Voice	Congruence (SUB = SUP) line	0.12	[0.02, 0.26]	−0.02	[−0.12, 0.07]
	Incongruence (SUB = -SUP) line	−0.02	[−0.12, 0.08]	−0.24	[−0.42, −0.09]

Note. $N = 289$. Confidence interval (CI) was based on Monte Carlo simulations (number of replications = 10,000). SUB = subordinate proactive personality. SUP = supervisor proactive personality.

supervisor-focused changes, that engender psychological safety rather than solely focusing attention on high-proactive employees.

Strengths, limitations, and future directions

While there are a number of strengths to the research design (i.e., multi-level and multi-source), there are limitations that should be addressed through future research. First, our research design was cross-sectional, limiting causal inference. To further verify our findings regarding the congruence effects of proactive personality, future research could adopt a longitudinal and/or field experiment approach. Additionally, the estimated effects for Models 1–5 may be attenuated given potential measurement error for the scales (Antonakis et al., 2010). To address this concern, future research could employ errors-in-variables regression or structural equation modeling (SEM) while using a larger sample.

Second, we also bring attention to our CFAs. Following Hu and Bentler's (1999) recommendation, we present several fit indices that rely on different assumptions. For our three-factor model the SRMR and RMSEA values were below 0.08 (0.07 and 0.05, respectively), indicating "good" fit. However, the CFI value was slightly low at 0.80. According to Lai and Green's (2016) simulations, such a discrepancy—such as between RMSEA and CFI—is not all that unusual, and it does not necessarily indicate that "the model is misspecified" (p. 226) or that "the data have flaws" (p. 227). Interestingly, Hu and Bentler's (1999) simulation study recommended using a combination of indices; the two-index combinational rules of SRMR ≤ 0.09 and RMSEA ≤ 0.06 in particular, because it "resulted in the least sum of Type I and Type II error rates" (p. 27). Our three-factor model indices (i.e., SRMR = 0.07 and RMSEA = 0.05) satisfy this requirement, supporting model fit. That is, our three-factor model sufficiently explains covariances among the items. Nonetheless, we encourage future researchers evaluating proactive personality, psychological safety, and voice to continue to test and report several fit indices in order to evaluate the relationships among the study variables, and in turn, replicate our findings.

Third, the findings of our supplementary analyses indicated that supervisor-subordinate proactive personality congruence had an indirect effect on voice via perceived psychological safety. However, the direct effect and total effect findings were relatively weaker. These findings imply that other potential mediators exist. Prior work draws on similarity-attraction theory (Byrne, 1971) to suggest that supervisor-subordinate personality congruence initiates attraction and likability, such that subordinates more strongly identify with their supervisors because of their behavioral similarities (Schaubroeck & Lam, 2002; Shin et al., 2017; Zhang et al., 2012). Future research should investigate how these relationship-focused variables influence the signaling and interpretation process of supervisor-subordinate proactive congruence, psychological safety, and employee voice.

Fourth, there are circumstances that may disrupt the proposed signaling processes. By definition, personality traits are enduring and consistent personal characteristics that surface across situations and contexts (Costa & McCrae, 2008). However, there is no guarantee that proactive traits will manifest in all workplace behaviors. Supervisors could also report reactive (proactive) preferences, but purposefully attempt to act proactively (reactively) in order to achieve certain objectives. Similarly, supervisors could offer mixed signals by explicitly encouraging subordinates to engage in one behavior, but through role modeling implicitly reinforce the opposite. This example highlights that subordinates might psychologically aggregate the mixed signals or gravitate toward signals that are perceived as more informative. Future research should collect additional data regarding the circumstances surrounding supervisors' enactment of proactive and reactive tendencies. Future research should also dissect which supervisor signals are more readily internalized by subordinates. Doing so would facilitate a more nuanced understanding of how signaling processes influence psychological safety. It is also possible that supervisors purposefully employ subordinates with complementary (i.e., opposite) proactive tendencies. While prior work suggests that seeking complementarity is typically associated with knowledge, skills, and abilities as opposed to personality traits (Kristof-Brown & Guay, 2011), supervisors could take such an action in order to facilitate perspective taking and constructive conflict (Zhou, Hirst, & Shipton, 2012). Thus, future research should also consider evaluating supervisors' preferences for or acceptance of incongruent personalities. Doing so may uncover alternative mechanisms that positively influence subordinate psychological safety. The environment in which the supervisor and subordinate operate could also affect signal strength. For example, physically separated or hierarchically detached subordinates may have limited opportunities for interaction which could influence the accuracy of signal interpretation (Avolio, Kahai, & Dodge, 2001). Thus, future research should incorporate social-structural factors in order to understand the boundary conditions of the proposed model.

Fifth, understanding how supervisor-subordinate proactive congruence affects behavioral outcomes that are similar yet distinct from voice behaviors would further illuminate the proposed processes. For example, future research that replicates our model with variations of voice, such as issue selling (Ashford et al., 1998) or whistle blowing (Miceli & Near, 1992) will further reveal what forms of voice are possibly inhibited due to personality incongruence and lack of psychological safety (Morrison, 2011).

Sixth, future research should investigate alternative supervisor and subordinate characteristics in order to evaluate how active-oriented behaviors are affected by signaling and interpretation processes. For example, employees who engage in voice may be attempting to stand out among their peers and signal their desires for additional responsibility (Seibert et al., 2001). Thus, future research could investigate supervisor-subordinate congruence of career-related (e.g., protean career orientations, that is self-directed career management focusing on psychological success; Hall, 1976) and morality-related characteristics (moral identity; Zheng, Qin, Liu, & Liao, in press). Additionally, individual characteristics may enhance or constrain subordinates' abilities to interpret supervisors' signals. For example, employees high in self-monitoring may be more attentive to supervisory signals (Premeaux & Bedeian, 2003) and employees high in mindfulness may be more likely to self-regulate when supervisory signals misalign with personality preferences (Glomb, Duffy, Bono, & Yang, 2011).

Finally, future research should consider replicating this study using a variety of samples. Our survey was conducted in China, and cultural values may impact the results. For example, Chinese employees typically are high on power distance and conformity (Hofstede & Hofstede, 2001), which may accentuate relationships between personality congruence and psychological safety or between psychological safety and voice.

Conclusion

This study illustrates the importance of considering the joint effects of subordinate and supervisor when considering proactive behaviors. Although subordinates have their own personality-driven tendencies toward active-oriented behaviors such as voice, they are also attentive to supervisory personality-driven signals on the importance of such behavior. Drawing on P-S fit and signaling theory literature, we illustrate that subordinates are likely to engage in voice when they feel psychologically safe, which derives from alignment with supervisors in their workplace approach (i.e., proactivity). This study highlights the need for future scholars to consider how proactive behavior depends upon the subordinate, the supervisor, and the environment created by their personality alignment.

Appendix A. Two-Stage least squares

One concern in testing the indirect effect of proactive personality congruence on voice via psychological safety is the threat of endogeneity, which occurs when an explanatory variable is correlated with the error term in the model. In other words, the mediator (i.e., psychological safety) may be endogenous. Two-Stage least squares (2SLS) regression is recommended for such situations (Antonakis et al., 2010). To conduct 2SLS we ran regressions in two stages:

Stage 1: $\text{Psychological safety}_{ij} = b_{01} + b_1\text{SUB}_{ij} + b_2\text{SUP}_{ij} + b_{11}\text{SUB}_{ij}^2 + b_{12}\text{SUB}_{ij} \times \text{SUP}_{ij} + b_{22}\text{SUP}_{ij}^2 + \Sigma d_{k1}\text{Control}_{k\_ij} + e_{ij1}$,

Stage 2: $\text{Voice}_{ij} = b_{02} + b_{12}\ \text{Psychological safety (hat)}_{ij} + \Sigma d_{k2}\text{Control}_{k\_ij} + e_{ij2}$,

where e_{ij1} and e_{ij2} are the error terms with respect to the two equations. Psychological safety (hat) in Stage 2 is the predicted value of psychological safety generated by the regression results in Stage 1. This predicted value will not correlate with the disturbance of the Stage 2 equation, which is the characteristic of the 2SLS estimator and allows us to purge the effect of psychological safety on voice from measurement error, idiosyncratic error, and common-method bias (Antonakis et al., 2010). We used STATA (using the command ivregress 2sls or xtivreg2) with cluster-robust standard errors to perform these analyses. The detailed first and second stage estimates of 2SLS are shown in below in Table 4.

Table 4
Results of Two-Stage least square regression.

Perceived psychological safety as the dependent variable	First-Stage result
Constant	−0.18^{+}
	(0.07)
Subordinate gender	−0.28**
	(0.10)
Supervisor gender	−0.01
	(0.08)
Subordinate age	0.00
	(0.00)
Supervisor age	0.00
	(0.00)
Subordinate age^2	0.0004*
	(0.00)
Subordinate age × Supervisor age	−0.00
	(0.00)
Supervisor age^2	−0.00
	(0.00)
Subordinate education	0.00
	(0.01)
Supervisor education	0.00
	(0.01)
Subordinate education^2	−0.00
	(0.00)
Subordinate education × Supervisor education	0.00
	(0.00)
Supervisor education^2	−0.004^{+}
	(0.00)
Dyadic tenure	0.02
	(0.03)
b1 Subordinate proactive personality	0.26
	(0.18)
b2 Supervisor proactive personality	0.35
	(0.22)
b11 SUB^2	−0.31**
	(0.11)
b12 SUB × SUP	0.56*
	(0.23)
b22 SUP^2	−0.34**
	(0.14)
F	3.91***
R^2	0.21

Voice as the dependent variable	Second-Stage result
Constant	3.76***
	(0.07)
Subordinate gender	0.23^{+}
	(0.13)
Supervisor gender	−0.08
	(0.23)
Subordinate age	−0.00
	(0.00)
Supervisor age	0.00
	(0.01)
Subordinate age^2	

Table 4 (*continued*)

Voice as the dependent variable	Second-Stage result
	−0.00
	(0.00)
Subordinate age × Supervisor age	−0.00
	(0.00)
Supervisor age^2	0.00
	(0.00)
Subordinate education	0.02
	(0.01)
Supervisor education	−0.03^{+}
	(0.01)
Subordinate education^2	0.00
	(0.00)
Subordinate education × Supervisor education	−0.00
	(0.00)
Supervisor education^2	−0.00
	(0.00)
Dyadic tenure	0.02
	(0.04)
Perceived psychological safety	0.72***
	(0.19)
F	1.76*
R^2	0.01
Overidentification test	1.39

Note. $N = 289$. Gender: 0 = female; 1 = male. Age, education, and dyadic tenure in years. SUB = subordinate proactive personality. SUP = supervisor proactive personality. The standard errors in the estimations are reported in parentheses.

$^{+}$ $p < .10$.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

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