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# Full Range Leadership Styles and Government IT Team Performance: The Critical Roles of Follower and Team Competence

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**ABSTRACT**

In this study, we explore how leadership affects team performance from a team and follower competence perspective. We base our study on the Full Range Leadership (FRL) model, which proposes three different leadership styles: passive/avoidant, transactional, and transformational. The FRL has been well-studied outside the public administration environment, but rarely considering the three leadership styles simultaneously, or with team level outcomes. We propose a sequential mediation model in which leadership styles relate to follower competencies, which in turn relate to team competence, and then team performance. Our research design is distinctive in that we study all three FRL styles simultaneously, examine team performance as opposed to individual performance, and utilize data from three levels of a municipal government IT department. We found that transformational leadership was directly and indirectly related to team performance in the expected positive directions. Transactional leadership was mostly ineffective, while passive/avoidant leadership had complicated relationships with team performance that were both positive (direct) and negative (indirect through competence). We conclude that the three FRL styles have varying degrees of effectiveness as direct and indirect predictors of team performance. We discuss the implications of our results for leadership of public administration organizations.

**KEYWORDS**

employee competence; full range leadership; public sector leadership; team competence; team performance

Leadership plays a central role in public administration (Chapman et al., 2016; Getha-Taylor, Holmes, Jacobson, Morse, & Sowa, 2011). Leaders in the public sector have the special responsibility to exercise power on behalf of the general public, and those leaders have the potential to either create or destroy public value (Crosby & Bryson, 2018). Academia can play a significant role in fostering more of the former and less of the latter, by identifying the leadership styles that are most effective in the public administration (PA) context. Although some researchers have argued that

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leaders in public sector organizations have less impact on organizational outcomes than do their private sector counterparts (Rainey, 2009), the accumulating empirical evidence suggests that this is not true (e.g., Fernandez, Cho, & Perry, 2010; Sun & Henderson, 2017). Public sector leaders can play an active and essential role in enhancing public agency success (Jensen et al., 2019). Although there is ample research on leadership in the private sector, more research on leadership theories that consider the unique challenges of public management is needed (Crosby & Bryson, 2018).

Although public leadership research has grown substantially in the last decade, a review of the PA research literature reveals that there are still several unresolved controversies and gaps (Chapman et al., 2016). First, most PA leadership research has focused only on individual level outcomes such as employee performance (Caillier, 2014), motivation (Caillier, 2014, 2015; Wright, Moynihan, & Pandey, 2012), and turnover intentions and job satisfaction (Caillier, 2016). Although understanding individual level outcomes is important, organizations are increasingly reliant on teams to effectively operate (Shuffler, Burke, Kramer, & Salas, 2012). The phenomenal increase in the complexity of products and services, as well as the organization's responsibility for producing them, has led to growing dependence on teamwork in governmental organizations (Shuffler et al., 2012).

However, team performance is not simply the aggregation of individual member performances. In reality, many teams suffer from poor group processes (e.g., failure to collaborate), resulting in team performance that is inferior to that of the aggregation of individual members (Hill, 1982). Leadership is an important force that shapes team processes (Zhu & Chen, 2016), and consequently team performance. Despite the general shift to team-based operations, a scarcity of research remains on leading teams in the public sector. Only 11% of leadership research published in top-tier journals focused on team-level outcomes (Hiller, DeChurch, Murase, & Doty, 2011), with PA being no exception (Chapman et al., 2016; Chin, 2015). Given the importance of teams to organizational effectiveness (Richter, Dawson, & West, 2011), developing theories and frameworks to understand the novelty and complexity of leadership within a team context is critical (Chin, 2015; Shuffler et al., 2012). Our research responds to this call by examining how leadership contributes to team performance in PA, utilizing a competence-centric theoretical approach to the research question.

Second, PA leadership research has largely focused on one leadership style: Transformational (e.g., Campbell, 2017; Pasha, Poister, Wright, & Thomas, 2017), including its charismatic component (e.g., Luu, Rowley, Dinh, Qian, & Le, 2019). Transformational leadership does have high

relevance to the public sector, because transformational leaders shift followers' attention from their own self-interests to the collective benefit of larger stakeholder groups, like public agencies and the taxpayers that support them. It meshes well with the high levels of public service motivation of public agency employees (Jensen & Bro, 2018; Wright et al., 2012). Transformational leaders help followers satisfy their needs related to public service by providing attractive goals and coaching followers to achieve those goals.

However, transformational is only one of the three leadership styles that Bass (1997) included in his comprehensive model of leadership, the Full Range Leadership (FRL) theory. Transactional leadership provides clarity to followers' work roles, which can enhance their performance (Hassan, 2013). Transactional leadership has been a focus of some research in PA, but more is needed to understand better how and why it might be effective in PA (cf. An, Meier, Bøllingtoft, & Andersen, 2019). Likewise, passive/avoidance leadership is usually associated with negative outcomes, but can be a reflection of empowering leadership and produce positive results (Yang, 2015). Importantly, because of the overlap in variances of measures of the three FRL styles, it is only possible to assess their unique relationships with outcomes when all three styles are simultaneously measured; that is, one must partial out the shared variance each of the FRL styles has with the other two styles to isolate its unique relationships with outcome variables. Thus, Bass (1997) argued that the effects of transformational leadership should be assessed concurrently with the other two leadership styles, and further proposed that transformational leadership enhances the positive outcomes from transactional leadership (the augmentation effect). Laissez-faire leadership in particular warrants much more research in order to increase awareness of how and why this leadership style may develop (Curtis, 2018) and its associated consequences.

Despite these recommendations, only a handful of studies (e.g., An et al., 2019; Jensen et al., 2019; Oberfield, 2014; Trottier, Van Wart, & Wang, 2008) have investigated transactional leadership concurrently with transformational leadership, with passive/avoidance leadership receiving almost no research attention in the PA field. In acknowledging the importance of both transformational and transactional leadership, Jensen et al. (2019) proposed a revised conceptualization and operationalization of transformational and transactional leadership to be used in both public and private sectors. Trottier et al. (2008) suggested that in the U.S. federal government, transactional leadership is an important and effective leadership style, and is just slightly less important than transformational leadership. Oberfield (2014) reported that transformational leadership is a stronger predictor of improvement in outcomes than transactional

leadership. Notwithstanding these efforts, the paucity of research on the entire FRL model limits our understanding about the effectiveness of transformational leadership in the presence of transactional and passive/avoidant leadership and the effectiveness of the transactional and passive/avoidant leadership styles in PA.

In this study, we examine how each of the three FRL styles relates to team performance through follower and team competence. There is no single definition of competence, "but they all agree that people who are confident of their competence in a specific field are more likely to invest effort, to persist, and to succeed than are people with less belief in their competence" (Trautwein, Lüdtke, Roberts, Schnyder, & Niggli, 2009, p. 1116). We propose that the three FRL styles differentially affect a follower's self-perceived competence, and relate to team performance when aggregated across teams. In addition, a team's competence should also relate to team performance, further reinforcing the proposition that when a team, collectively, believes that or, in fact, has the human capital to succeed as a team, it will contribute to resulting team performance level.

Finally, in both general management and PA, most extant research on leadership has been conducted in developed countries and regions such as the United States and the European Union, while few samples are from developing countries (Chapman et al., 2016; Crede, Jong, & Harms, 2019). For developing countries, building effective and competitive governments has been particularly challenging, due to having institutional contexts different from Western countries (Ho & Im, 2015). Therefore, results from research conducted in developed countries may not be readily generalizable to the developing context. Because the majority of the world's nations are categorized as developing countries, and 85% of the world's population resides in developing countries, it is imperative that more research on PA be conducted from the perspective of developing countries. Public administration researchers need to address the gap between the urgent needs for improving government effectiveness and performance in developing countries and the paucity of applicable research. Our research was conducted in Indonesia, a developing country with the world's largest Muslim population and fourth largest population. Indonesia is considered to be representative of developing countries overall, and the Asia-Pacific region in particular (Kurnia, Karnali, & Rahim, 2015).

Our study contributes to the extant PA literature in three ways. First, we provide insights for leaders on how to create and manage effective teams in PA, examining the psychological processes that intervene between leadership and team performance. Second, we facilitate understanding of the effectiveness of transformational leadership in the presence of transactional and passive/avoidant leadership, while also probing the effectiveness of the

transactional and passive/avoidant leadership styles in PA. Finally, we contribute to PA research with a sample from a developing country.

In the sections that follow, we first briefly describe the three FRL leadership styles. We then discuss the consequences of the FRL styles. We explain why, theoretically, the three styles have differential effects on the self-perceived competencies of followers. Then we discuss how leadership styles, follower capabilities, and team competence combine to affect team performance in the public domain. Finally, we describe and discuss the results from an empirical test of our hypothesized relationships.

## The full range model of leadership

The FRL has been thoroughly described and summarized in research on private-sector organizations over the past 25 years (e.g., Judge & Piccolo, 2004; Wang, Oh, Courtright, & Colbert, 2011). The FRL conceptualizes leadership as correlated behaviors that can be empirically grouped into three "styles" (Avolio & Bass, 2004). The least active style is *passive/avoidant,* which includes two sub-dimensions: management-by-exception–passive (MBE-passive) and laissez-faire. An MBE-passive style is characterized by avoiding direct reports, or teams, until a major problem has manifested itself. Laissez-faire ("hands off") nonleadership is the avoidance of leader behaviors (e.g., clarifying expectations), even when it is required to avert or resolve major problems in the work group. There are relatively few studies in the private or public sectors that have explicitly studied passive/avoidant leadership (compared to the other FRL styles), but the existing evidence suggests that passive/avoidant leadership has moderately strong, negative relationships with microlevel indicators of success (Judge & Piccolo, 2004; Sivasubramaniam, Murry, Avolio, & Jung, 2002). However, there has been much less research on passive/avoidance leadership at the team level, which is problematic in a couple of ways. First, the theory-based, team-level consequences of passive/avoidant leadership have been largely unaddressed. Second, the research that does exist demonstrates that passive/avoidant leadership should be studied in conjunction with the other two leadership styles.

The second leadership style of the FRL is *transactional.* It includes two subdimensions: management-by-exception–active (MBE-active) and contingent rewards. Managers who use the MBE-active style specify standards for performance, may punish employees for failing to achieve those standards, and monitor the work environment for any deviances or mistakes, taking corrective action when they occur. Leaders who use a contingent reward style make clear the goals and objectives for group members, assist or coach members when necessary, and recognize members when goals are

achieved. A transactional leadership style should result in individuals and groups achieving expected levels of performance (Avolio & Bass, 2004; Wang et al., 2011), partly because contingent reward leadership clarifies what and how job duties are to be performed and rewards followers for successfully doing so. Prior research reviews (Judge & Piccolo, 2004) and meta-analyses (Wang et al., 2011) support this proposition, with contingent reward leadership being significantly more effective than MBE-active. Rewarding members for good performance is generally more effective than punishing members for incorrect work behaviors. This would be especially true in the typical PA environment, in which employees are expected to adhere to an abundance of policies, rules, and regulations.

*Transformational* is the third FRL style, and is believed to be most effective in terms of individual and team performance, in both private (Judge & Piccolo, 2004) and public sector (Moynihan, Pandey, & Wright, 2012; Moynihan, Wright, & Pandey, 2012) organizations. There is substantial empirical evidence that transformational leadership has positive relationships with team-level performance measures (Hannah, Avolio, Luthans, & Harms, 2008). Transformational leaders are proactive and attempt to optimize followers' performance, and do not seek the unexceptional "met expectations" of transactional leaders. Transformational leadership includes four subdimensions. First, idealized influence includes behaviors that followers identify with and seek to emulate; it is conceptually related to and synonymous with charismatic leadership (Judge & Piccolo, 2004). Second, inspirational motivation includes behaviors that motivate followers to exert high levels of effort to achieve a compelling and challenging vision (i.e., a future state; Avolio & Bass, 2004). Third, intellectual stimulation includes behaviors that inspire followers to be innovative and creative, by questioning customary working assumptions and old ways of accomplishing their work. Fourth, individualized consideration includes behaviors that are mentoring and coaching in nature. Transformational leadership has strong relationships with affective measures of success (e.g., follower satisfaction with leader), and moderately strong relationships with performance indicators, including group or organization performance (Judge & Piccolo, 2004; Wang et al., 2011).

It should be noted that the FRL model has been the target of criticism, with most of it directed at the transformational leadership style. Yukl (1999) pointed out that the transformational leadership definition lacks clarity, that the items in its most common operationalization (the MLQ) define the construct in terms of its effects on followers (e.g., *being* inspired versus leader behaviors that *cause* inspiration), lacks consideration of relationships besides leader-follower dyads, and an overall failure to specify the psychological processes that intervene between the transformational

leadership behaviors and the various outcomes to which it relates (e.g., leader satisfaction, follower performance, etc.). Jensen et al. (2019) and Van Knippenberg and Sitkin (2013) echoed and augmented many of Yukl's comments, and adduced further inadequacies, such as the FRL's failure to consider boundary conditions for relationships, the failure of researchers to develop theory for FRL subdimensions, and confirmatory factor analyses that don't support the MLQ structure. Partly in response to these concerns, researchers have developed new theories of leadership and leadership styles that are more limited in their conceptual domain (e.g., authentic, servant, ethical), but, nonetheless, have received many of the same criticisms (e.g., Alvesson & Einola, 2019; Banks, Gooty, Ross, Williams, & Harrington, 2018; Crawford & Kelder, 2019), are not empirically distinct from the FRL styles (Shaffer, DeGeest, & Li, 2016), and add little to no predictive validity of outcomes over that predicted by the FRL styles (Hoch, Bommer, Dulebohn, & Wu, 2018). Thus, in the absence of compelling alternative leadership theories, we chose to focus on the FRL.

To summarize what is known (or unknown) about the FRL styles and team performance (the major outcome in this study), prior research has: (1) not determined with certainty what the unique relationship is between the passive/avoidant style and team performance, but it is believed to be negative; (2) established that transactional leadership has a modest relationship with team performance; and (3) shown that transformational leadership has moderately strong relationships with team performance. However, these relationships have not been thoroughly studied, especially in studies in which all three FRL styles are measured and related to team performance. Our first three hypotheses reflect the accumulated knowledge about the relationships between FRL styles and team performance:

H1: Transformational leadership is positively related to team performance, after controlling for variance associated with transactional and passive/avoidant leadership.

H2: Transactional leadership is positively related to team performance, after controlling for variance associated with transformational and passive/avoidant leadership.

H3: Passive/avoidant leadership is negatively related to team performance, after controlling for variance associated with transformational and transactional leadership.

## Leadership and competence

A key construct in our study is competence. At the individual level, self-perceived competence is defined as "an individual's belief in his or her capability to perform job-related activities with skill" (Spreitzer, 1995, p. 1443): it is a self-belief that one has the knowledge, skills, and abilities to be able

to successfully perform one's job. We propose that each of the FRL styles is related to the development of followers' self-perceived competencies through leaders' verbal and nonverbal communications. With that foundation, we hypothesize that each of the three styles of the FRL model will be differentially related to followers' self-perceived competence, because they communicate different messages to followers.

First, we propose that the passive/avoidant leadership style will have a negative relationship with followers' self-perceived competence. Because of the absence of direction, feedback, and coaching, it is unlikely that followers will develop a strong sense of competence to perform their jobs. Second, we expect a positive relationship between transactional leadership and follower self-perceived competence. In particular, contingent-reward leaders make clear for followers what is expected of them on their jobs, providing goal clarity. They also coach followers until they reach a specified level of performance. Management-by-exception-active behaviors let followers know when their actions require adjustments to be effective. Finally, transactional leaders reward followers for goal achievement, thereby signaling competence through goal attainment, and reinforcing use of skills for successful job performance (Avolio & Bass, 2004). Jacobsen and Andersen (2017) found empirical support for the latter relationship, by using an outcome measure that combined teachers' ratings of self-competence ("I usually know how to get through to students") and self-efficacy ("I am successful with the students in my class"). This measure was also related to team-level performance. Transactional leadership should lead to a strong sense of competence on the part of followers. Third, we propose that transformational leadership will have a substantial positive relationship with followers' self-perceived competence. Transformational leaders stimulate followers' motivation to persist at their jobs until excellence is achieved (inspirational motivation). They encourage followers to try different strategies until they discover the best ways in which to excel at their jobs (intellectual stimulation). Idealized influence leaders provide a role model and an understanding of the reasons that followers should excel at their jobs. Finally, transformational leaders coach and mentor followers to reach their full potential (individualized consideration; Avolio & Bass, 2004). Through the experiences of success, observing transformational leaders, and personalized coaching and mentoring, followers of transformational leaders should develop a very strong self-perception of competence on their jobs. Thus, transformational leaders may pass on competence (skills) directly, or by inspiring employees to develop their own potential (Sim & Lee, 2018).

Unlike transactional and passive/avoidant leadership styles, there is empirical evidence that transformational leadership has positive effects on

followers' self-perceived competence (Sim & Lee, 2018). Jensen and Bro (2018) studied public and private school systems in Denmark and found that principals' self-ratings of transformational leadership were related to teachers' ratings of satisfaction of their basic needs for competence. Self-perceived competence is conceptually related to and is the foundation for self-efficacy, the confidence that one can attain specified levels of performance on designated tasks (Bandura, 1997). Transformational leadership has relationships with follower's self-efficacy for their jobs in both public agencies (e.g., Caillier, 2016) and private-sector organizations (e.g., Schaubroeck, Lam, & Cha, 2007), suggesting that self-perceived competence is bolstered as well. We propose that when these individual perceptions are aggregated, it would reflect the average level of competence across team members. Teams with higher levels of aggregated members' competence will have more competent members, on average, than teams with lower aggregated levels of competence. Based on these rationales we hypothesize:

H4: Passive/avoidant leadership has a negative relationship with followers' aggregated self-perceived competence.

H5: Transactional leadership has a positive relationship with followers' aggregated self-perceived competence.

H6: Transformational leadership has a positive relationship with followers' aggregated self-perceived competence.

Building on the discussion above, we propose that the aggregated competencies of followers, determined in part by leadership styles, will affect team competence, and subsequently team performance (Hannah et al., 2008). Preserving Spreitzer's (1995) definition of competence, team competence is the belief that a team has the capability to effectively perform team-related responsibilities with its collective knowledge and skills. Team competence has reliable relationships with team performance (e.g., Schaubroeck et al., 2007). In this study, we focus on one of the foundations for team competence, the aggregated competence of each of the team's members (which no doubt overlaps somewhat given roles and tasks that members have in common). As the competence of each team member increases, it adds to the total competence of the group, which should then enhance team competence (Schaubroeck et al., 2007).

In sum, we are proposing that as the aggregated self-perceived competencies of individual team members increase, so should perceptions of overall team competence. Team competence, in turn and in addition to aggregated individual competence, positively relates to team performance. Research (summarized in Hannah et al., 2008) shows how leader behaviors might

affect team performance through the mediating variable of followers' competencies. Yaakobi and Weisberg (2018) provide indirect support for the unique relationships between individual and group competence, and team performance, when they found that both individual and group efficacies ("the employees in this group can solve any problem they will face") are significant predictors of individual performance. Based on existing research, and current theorizing, we hypothesize:

H7: The aggregated competencies of followers (team members) are positively related to team performance.

H8: The aggregated competencies of followers (team members) are positively related to team competence.

H9: Team competence is positively related to team performance.

As discussed above we expect that each of the FRL styles has significant relationships with followers' self-perceived competence. Combined with H4, H5, and H6 we have the framework for sequential (or serial) mediated relationships (Hayes, 2018). The FRL styles affect followers' self-perception of their competencies, which when aggregated, relate to team competence. Team competence in turn has a positive relationship with team performance. We hypothesize and examine the sequential mediation effects for employee competence and team competence relationships for the three FRL styles. This leads us to our final hypotheses:

H10: Followers' aggregated self-perceived competencies, and team competence, sequentially mediate the positive relationship between transformational leadership and team performance.

H11: Followers' aggregated self-perceived competencies, and team competence, sequentially mediate the positive relationship between transactional leadership and team performance.

H12: Followers' aggregated self-perceived competencies, and team competence, sequentially mediate the negative relationship between passive/avoidant leadership and team performance.

There are a number of advantages to specifying and testing sequential mediation models over simple mediation models (Hayes, 2018), including: (1) it allows for proposing and empirically testing multiple mechanism explanations for complex psychological processes; and (2) it enhances confidence in results, because it allows for explicit elimination of at least some alternative explanations for simple mediation results (e.g., employee competence effects are due to team competence, or vice versa).

## Method

### *Sample and procedures*

Participants were employees of the IT department of a large city in Indonesia. The department had a total of 1016 employees, including 640 IT team members, 216 IT project leaders, and 160 higher-level, functional managers to whom the project leaders reported, thus including staff from three levels of the organization. Questionnaires were distributed to 980 IT personnel, and 956 returned the questionnaire (response rate of 89%). The 956 respondents who returned the questionnaire consisted of 636 IT staff, 212 project leaders, and 140 functional managers. Respondents worked on projects including website and software development, e-kiosk, e-procurement, and networking. Besides the project leader, all of the project teams consisted of three government IT staff, each with a clearly defined role: one responsible for finance, another for IT operations, and the third responsible for IT development.

The IT employees completed measures of their self-perceived competence and the passive/avoidance behaviors of their project leaders. The project leaders rated their team's competence, as well as their own transformational and transactional leader behaviors. The higher-level functional managers, to whom the project leaders reported, rated the performance of each of the project teams. The IT employees and project leaders rated their own IT experience as well as several other demographic variables (see below).

The survey was administered by one senior IT employee who personally visited each IT team and collected anonymous paper-based responses from both team members and project leaders over a period of three months. The respondents were guaranteed anonymity and confidential usage of the data. Team member data were matched with project leader data, based on the location of data collection. Then, team performance was evaluated by the functional managers and matched with teams based on the location of data collection as well.

The IT employees were 62.1% male; average age was approximately 35 years; average of 9.36 years of organizational tenure and 4.50 years of IT experience; 2% had a vocational or high school education, 35.5% had a diploma, 61.9% had a bachelor's degree, and 0.5% had a master's degree. The IT project leaders were 80.2% male; average age was approximately 44 years; they averaged 17.96 years of organizational tenure, and 5.25 years in IT; 2.8% had a vocational or high school education, 14.6% had a diploma, 77.8% had a bachelor's degree, and 4.7% had a master's degree; of those, 87.3% had non-IT-related degrees, and 12.7% IT-related degrees. For functional managers who rated team performance, 93% were male, and their mean age was 51.4 years. All had at least a bachelor's degree (77.2%),

with the rest holding master's or higher level degrees. Their areas of study, however, were mostly in non-IT related fields (92.1%).

### Measures

All measures in the questionnaire were presented in the Indonesian language, and followed translation-back translation procedures to ensure the accuracy of the translation (Brislin, 1970). Unless otherwise specified, 5-point Likert-type scales (disagree–agree) were used for all measures. Sample reliability estimates were calculated using Cronbach's equation for coefficient alpha (Nunnally, 1978), and are reported in Table 2.

*Transformational, transactional, and passive/avoidant leadership styles* were measured with the Multifactor Leadership Questionnaire (MLQ 5X; Avolio & Bass, 2004). Because some research indicates that self-ratings of leader behaviors relate more strongly to outcome variables than do other-ratings (Ceri-Booms, Curşeu, & Oerlemans, 2017), project leaders assessed their transactional leadership and transformational leadership behaviors. However, to minimize methods variance and social desirability bias for negative leader behaviors, the IT employees completed the MBE-passive and laissez-faire scales. One item from the transformational leadership scale was deleted due to its very low factor loading.

*Employee competence* was measured with the self-rated competence scale developed by Spreitzer (1995). For each team, each member's competence score was added to the other two and averaged to represent the aggregated follower competence index. *Team competence* employed the same items, and were rated by project leaders. Items for these scales are reported in the Appendix.

*Team performance* was indexed with nine items developed by Henderson and Soonchul (1992), which reflects efficiency, effectiveness, and timeliness aspects of team success. The wording of some items was adapted to fit an IT work context. The third-level functional managers, to whom the second-level project leaders reported, assessed team performance for their corresponding teams. The 212 teams were rated on a scale that ranged from 1, "Very Low," to 5, "Very High." Scale items are reported in the Appendix.

Some research suggests that employee characteristics can have significant effects on their ratings of leadership styles (Wang, Van Iddekinge, Zhang, & Bishoff, 2019), as well as leaders' own characteristics (Zaccaro, Green, Dubrow, & Kolze, 2018), and are potential confounds when examining leadership style relationships with other variables. In our analyses we controlled for the leader's IT work experience and the team member's average IT work experience, with the FRL styles as well as with employee competence. Both of these demographic variables might contribute to aggregated

employee competence, through direct job experience, or from leader coaching (cf. Easton & Rosenzweig, 2015). This enables us to examine relationships of the FRL styles with employee competence after controlling for these potential confounds.

### Confirmatory factor analyses

Scale dimensionality was evaluated using confirmatory factor analyses (CFA). For the FRL model, each of the subdimensions for each style (discussed above) was used as latent variable indicators (Avolio & Bass, 2004). The three competence items were used as indicators for the follower and team competence latent variables. Items from the team performance scale were combined into three subscales: efficiency, effectiveness, and timeliness. These subscales were used as manifest indicators for the team performance latent variable.

As shown in Table 1, the fit indices indicated that the hypothesized eight-factor measurement model was a better fit than several alternative models, indicating support for the dimensionality of the construct measures in the study. All parcels had significant loadings on their latent factors ($p < 0.01$), which ranged from 0.78 to 0.98. To justify the aggregation of individual follower evaluations to represent the passive/avoidant style of their leader, we calculated two intraclass correlations: ICC(1) and ICC(2). ICC(1) is an index that reflects the degree to which group membership affects employee ratings. For our sample, the ICC(1) for passive/avoidant leadership was 0.49. ICC(2) provides an estimate of group mean reliability. In our study, ICC(2) for passive/avoidant leadership was 0.74. Similarly, for aggregated follower competence, ICC(1) was 0.75 and ICC(2) was 0.86. Although no absolute standard values for aggregation based on ICC have been firmly established, ICC(1) values exceeding 0.21 and ICC(2) values

**Table 1.** Results from Confirmatory Factor Analyses of Measures of Study Constructs.

| Model | $\chi^2$ | *df* | $\chi^2/df$ | $\Delta\chi^2$ | TLI | CFI | RMSEA |
|---|---|---|---|---|---|---|---|
| Base model, eight-factors: Three FRL styles, employee and team competence, team performance, and IT experience of leader and employee | 274.65 | 125 | 2.20 | Baseline | 0.95 | 0.96 | 0.075 |
| Alternative model 1, seven-factors: Three FRL styles, team competence and employee competence combined, team performance, IT experience of leader and employee | 443.90 | 132 | 3.36 | 169.25 | 0.90 | 0.93 | 0.106 |
| Alternative model 2, six-factors: Three FRL styles combined, team and employee competence, team performance | 1050.40 | 139 | 7.57 | 775.75 | 0.73 | 0.78 | 0.176 |
| Alternative model 3, five-factors: Three FRL styles combined, employee and team competence, team performance, IT experience of leader and employee combined | 1056.44 | 142 | 7.44 | 781.79 | 0.73 | 0.78 | 0.175 |

exceeding 0.66 are considered sufficient to warrant aggregation (Woehr, Loignon, Schmidt, Loughry, & Ohland, 2015). We calculated rWG interrater agreement in addition to the ICC estimates. Average interrater agreement, rWG, measures the amount of agreement among a single group of judges, such as team members. The mean and minimum of rWG were 0.88 and 0.74 for passive/avoidant leadership, satisfying the suggested minimum value of 0.70 for aggregation (Bliese, 2000). Similarly, for follower competence, the values of rWG ranged from 0.96 to 0.83. Based on these results, we concluded that it was statistically acceptable to aggregate follower competence ratings and passive/avoidant leadership to the group level of analysis.

## Results

Table 2 reports the descriptive statistics and intercorrelations of the seven study measures. Inspection of the correlations reveals initial support ($p \leq 0.05$) for most of the study hypotheses: (a) transformational, transactional, and passive/avoidant leadership styles correlated with aggregated follower competence in the expected directions; and (b) aggregated follower competence correlated with team competence and team performance.

All study hypotheses were tested with structural equation modeling (SEM). This allows testing hypotheses after controlling for error variances (disturbances), and the shared variances between correlated latent factors. One factor loading for the indicator measures for each latent variable was fixed at 1.00 to set the scales for the latent variables. No modification indices were used, and no errors or disturbances were allowed to covary with other errors or disturbances (cf. Avolio, Wernsing, & Gardner, 2018). The three FRL styles were allowed to covary to control for their common variance. Importantly, because teams are nested within both leaders and functional managers, cluster-robust standard errors for evaluating paths to and from team competence and team performance were used (Cameron & Miller, 2011).

Results for the hypothesized relationships between latent factors are presented in Figure 1, which includes the correlational (curved double-headed arrows) and structural path estimates (straight single-headed arrows). Standardized path estimates are reported in Figure 1 to facilitate interpretation. The model as a whole demonstrated a reasonably good fit with the covariances of the raw data: $\chi^2 = 293.21$ (132 *df*, $p < 0.05$), $\chi^2/df$ ratio = 2.22, CFI = 0.96, TLI = 0.95, RMSEA = 0.076, SRMR = 0.055. As expected, the correlation between the transformational and passive/avoidant leadership styles was negative (−0.61) and statistically significant.

**Table 2.** Descriptive Statistics and Intercorrelations of Study Variables.

| | *M* | *SD* | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Transformational leadership | 3.45 | 0.64 | (0.94)[a] | | | | | | | | |
| 2. Transactional leadership | 3.36 | 0.45 | 0.55** | (0.89) | | | | | | | |
| 3. Passive – avoidance leadership | 3.02 | 1.19 | −0.55** | −0.36** | (0.98) | | | | | | |
| 4. Aggregated employee competence | 3.72 | 0.54 | 0.47** | 0.24** | −0.51** | (0.84)[b] | | | | | |
| 5. Team competence | 3.89 | 0.89 | 0.45** | 0.29** | −0.71** | 0.58** | (0.91) | | | | |
| 6. Team performance | 3.95 | 0.48 | 0.27** | −0.01 | −0.03 | 0.20** | −0.05 | (0.74) | | | |
| 7. Tenure (leader) | 17.90 | 6.53 | 0.01 | −0.03 | 0.04 | 0.10 | 0.06 | 0.19** | — | | |
| 8. IT experience (leader) | 5.25 | 2.97 | 0.46** | 0.13 | −0.59** | 0.37** | 0.32** | −0.00 | 0.17* | — | |
| 9. Tenure (employee) | 9.36 | 3.09 | 0.17* | −0.01 | −0.21** | 0.31** | 0.25** | 0.20** | 0.22** | 0.21** | — |
| 10. IT experience (employee) | 4.50 | 1.64 | 0.45** | −0.15* | 0.45** | 0.59** | 0.49** | 0.26** | 0.01 | 0.43** | 0.52** |

*Notes:* $^{*}p < 0.05$; $^{**}p < 0.01$ (two-tailed). [a]Sample coefficient alpha estimates appear on diagonal. [b]Coefficient alpha is for individual follower competence; see text for aggregated reliability.

The correlations between the other styles were in the expected directions, but were not statistically significant.

Hypothesis H1 was supported, as transformational leadership had a positive relationship with team performance ($\beta = 0.23$, $p < 0.05$). H2 was not supported, as transactional leadership was not significantly related to team performance. H3 was not supported, as passive/avoidance leadership had a significant but positive relationship with team performance ($\beta = 0.41$, $p < 0.01$). H4 was supported, as passive/avoidance leadership had a significant negative relationship with aggregated follower competence ($\beta = -0.33$, $p < 0.01$). H5 was not supported, as transactional leadership had a significant negative relationship with aggregated follower competence ($\beta = -0.30$, $p < 0.01$). H6 was supported, as transformational leadership had a significant positive relationship with aggregated follower competence ($\beta = 0.33$, $p < 0.01$). H7 and H8 were supported, as aggregated follower competences were significantly related to both team performance (0.27) and team competence (0.85). H9 was supported by a significant relationship between team competence and team performance (0.27).

The path estimates in Figure 1 form the basis for our sequential mediation hypotheses (H10–H12), which are the key hypotheses with respect to theory advancement. These hypotheses were tested by estimating the indirect effects from the raw parameter estimates (not shown in Figure 1) for the pathways leading from the predictor variable (each of the FRL leadership styles), through the two mediators in sequence (employee competence and team competence), to the outcome variable (team performance), as recommended by Hayes (2018). The 95% bias-corrected bootstrapped confidence interval for each indirect effect was also estimated. Indirect effects with confidence intervals that exclude zero are considered statistically significant (Hayes, 2018). Results for these analyses are reported in Table 3.

Hypothesis H10 was supported. The indirect pathway from transformational leadership to team performance sequentially through follower and team competence was positive and statistically significant ($B = 0.055$, $p < 0.05$). H11 was not supported. The indirect pathway from transactional leadership to team performance through follower competence and team competence was significant, but the sign was negative ($B = -0.059$, $p < 0.05$). H12 was supported. The indirect pathway from passive-avoidance leadership to team performance through follower competence and team competence was negative and statistically significant ($B = -0.035$, $p < 0.05$).

Finally, the employee information technology experience control variable was significantly related to employee competence ($B = 0.20$, $p < 0.05$). Relationships between the FRL styles and employee competence controlled for employees' IT experience. The information technology experience of leaders was not significantly related to employee competence ($B = -0.03$,

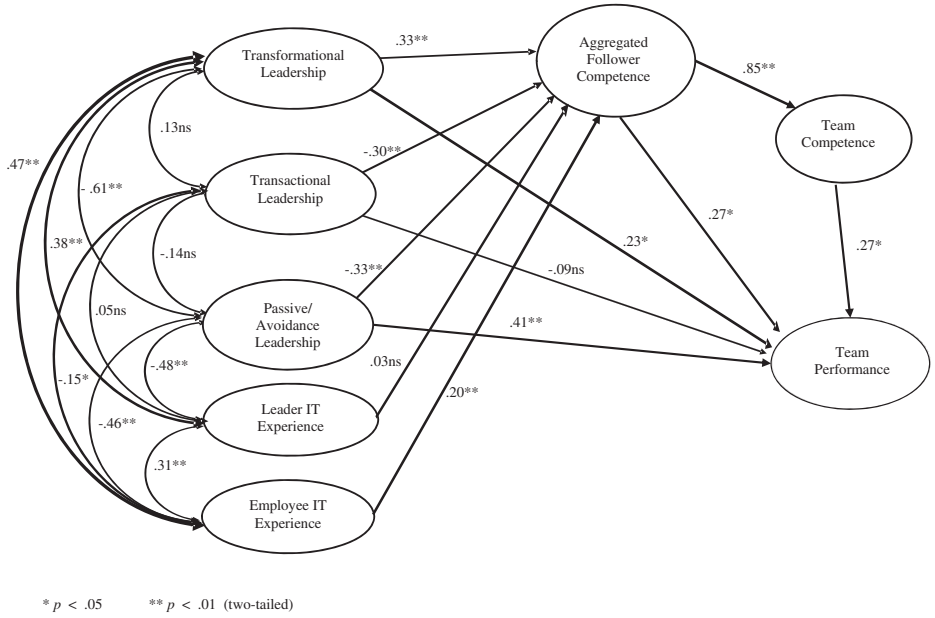


**Figure 1.** Results from SEM tests of research model.

**Table 3.** Results from Tests of Sequential Mediation Hypotheses.

| Sequential mediation pathway | Indirect effect | SE of indirect effect | Lower limit CI | Upper limit CI |
|---|---|---|---|---|
| H10: Transfl→Empl Comp→Team Competence→Team Performance | 0.055* | 0.034 | 0.009 | 0.122 |
| H11: Transact→Empl Comp→Team Competence→Team Performance | −0.059* | 0.036 | −0.138 | −0.014 |
| H12: PassAvd→Empl Comp→Team Competence→Team Performance | −0.035* | 0.021 | −0.082 | −0.009 |

*Notes:* $^{*}p < 0.05$ (one-tailed). Transfl: transformational leadership; Empl Comp: employee competence (aggregated); Transact: transactional leadership; PassAvd: passive-avoidance leadership; CI: 95% confidence interval.

$p > 0.05$), suggesting that average employee competence was not a function of leaders providing employees with coaching based upon the leaders' own technical knowledge.

## Discussion

Multiple meta-analyses have confirmed the importance of leadership to followers' performance, at both the individual and the group level (Gottfredson & Aguinis, 2017). However, the challenge to understand systematically when, where, and how leadership affects performance remains (Knies, Jacobsen, & Tummers, 2017). This research explores two factors that might mediate effects of leadership styles on team performance, and

therefore addresses the question of how leadership affects team performance. First, responding to calls for comprehensive examinations of the FRL (Crede et al., 2019; Judge & Piccolo, 2004), we examined the three leadership styles simultaneously in one model (controlling for the covariances among them). We found that *transformational and passive/avoidant leadership each directly and uniquely predicts team performance, but transactional leadership does not*. This is good news for those individuals that manage public agencies, because (especially) transformational leadership behaviors can be taught (An et al., 2019; Berman & West, 2003), the training requires relatively few resources, and results in leaders who "steer instead of row" when managing their employees (Behn, 2002). Developing transformational leaders may achieve the same results as performance management, without the challenges associated with the latter, or it can facilitate the successful implementation of performance management programs (Aristigueta & Zarook, 2011; Pasha et al., 2017). Second, we advance theory about the psychological mechanisms and theories in the leadership styles to team performance relationships by examining followers' perceived competence and team competence as mediators. We found that *followers and team competence mediate relationships between all three FRL styles and team performance*. This, too, is good news, because there are other ways to increase competence (e.g., skills training) that augments or substitutes for leadership, ultimately enhancing performance.

As expected, transformational leadership is positively related to followers' perceived competence, while passive/avoidant leadership has a negative relationship. What is unexpected is that *transactional leadership has a significant negative relationship with follower competence*. Reflecting on these results in conjunction with our research context of information technology teams, we speculate that effects of task characteristics were more important than public-sector organizational characteristics (Oc, 2018). In a knowledge-intensive work environment like information system development, transactional leadership may work against follower competence development. Transactional leadership (especially the contingent reward facet) emphasizes compliance through both rewards and punishments. One study (Gabris & Giles, 1983) found that such incentives can have adverse effects on employees in public sector organizations. Project leaders in our study controlled their direct reports primarily with verbal rewards (e.g., praise) and punishments (e.g., abuse), as well as through their work assignments. This may have decreased intrinsic (autonomous) motivation and increased extrinsic (controlled) motivation (Deci & Ryan, 1985). Followers may have been motivated to meet only the leader's expectations, narrowly limiting their scope and effort to what is required, resulting in reduced personal development (Barbuto, 2005). Research by Jensen and colleagues

(e.g., Jensen et al., 2019) highlights the possibility that there are motivational consequences from using contingent rewards, especially in the PA environment, where pecuniary rewards may have particularly strong negative effects on other intrinsic motivations (like public service motivation). The use of rewards and punishments may have interfered with followers' intrinsic motivation and subsequent competence development (cf. Li, Tan, & Teo, 2012).

In addition, transactional leaders seek to maintain the status quo by proactively fixing deviations and mistakes (MBE-active), rather than focusing on positive changes. This may work in a relatively stable work environment, where the knowledge and skills required remain largely unchanged over time. However, in a knowledge-intensive work environment, where change is constant and new skills and technologies are emerging daily, transactional leadership may constrain followers in their attempt to learn new things, try a different approach, and develop their competencies.

On the other hand, relatively little is known about leadership processes in developing countries (Crede et al., 2019). This might be especially true in Indonesia, because its high power distance and collectivism culture may not be conducive to the use of individual-focused contingent rewards. It may simply be that the transactional style leaders perceived themselves as using was perceived as an abuse of power by their followers (Oktaviani, Rooney, McKenna, & Zacher, 2016) or as overly authoritarian (Selvarajah, Meyer, Roostika, & Sukunesan, 2017). In addition, transactional leadership is primarily conceptualized at the individual level. To the extent that transactional leaders call attention to individual team members, it might violate norms that reflect the Indonesian value of *rukun* or living in harmony (Subandi, 2015). Lastly, project leaders in Indonesia are often appointed based upon their personal relationships with city managers or mayors, as opposed to their technical qualifications. The behaviors being rewarded or punished may not have been based on the quality of follower performance.

Aggregated follower competence positively relates to team competence and team performance. Follower competence also mediates the relationships between transformational, transactional, and passive/avoidant leadership, and team performance by virtue of its relationships with team competence. This appears to validate the vital role that follower competencies play as a mediator in leadership behavior to team performance relationships. The effects of FRL styles on team performance may be attributed in part to their enhancement or depletion of follower competencies. Further, aggregated follower competence is positively related to team competence. Team competence, in turn, positively relates to team performance. These results partially support the "motivational mechanism" proposed by Ng (2017), in which transformational leadership affects follower self-

efficacy (a consequence of self-perceived competence), which in turn affects follower performance. In our case, we examined analogous relationships at the team level, and found that transformational leadership predicts the aggregated self-perceived competence of followers, which, in turn, mediated positive relationships with team performance.

What is interesting in our results is that beyond the indirect effects through follower competence, two of the FRL styles also exhibit direct relationships with team performance. In particular and as expected, transformational leadership is positively related to team performance, replicating the meta-analytic results of Wang et al. (2011). *Transactional leadership is not significantly related to team performance,* contradicting the results of Wang et al. (2011) for the contingent reward, but not the management-by-exception-active leadership styles. *Passive/avoidant leadership is positively related to team performance,* after controlling for its negative relationships with team performance through follower and team competence. This is inconsistent with the finding of Wang et al. (2011) of no relationship between management-by-exception-passive and team performance.

However, this positive relationship between passive/avoidant leadership and team performance has been found on occasion in prior research. For example, Howell and Avolio (1993) studied bank managers and reported a statistically significant positive correlation between MBE-passive and branch performance (partially replicated in Pakistan by Zareen, Razzaq, & Mujtaba, 2015). Wong and Giessner (2018) offered the novel proposition that what some researchers call laissez-faire leadership might, in some situations, actually be perceived as *empowering* by the followers who experience it (cf. Yang, 2015). When leaders are expected to exercise their authority without direct intervention (passive), they are rated significantly more effective. This is especially true if the passive leadership includes the omission (nonuse) of punishments for poor follower performance (Hinkin & Schriesheim, 2008), which might also explain the negative relationship between transactional leadership (use of such punishments) and follower competence. Thus, it may be that in our context, the knowledge-intensive work environment where subordinates have relatively higher training and qualifications (i.e., competencies), there is a positive relationship between passive/avoidant leadership and team performance.

However, another interpretation might reverse the causal arrow: *High-performing teams were not actively managed by their leaders.* When teams are performing at high levels, managers might strategically avoid interfering with the productive team operations and social dynamics. Judge and Piccolo (2004) estimate of the relationship between laissez-faire leadership and leader performance (+0.22), after controlling for the other two FRL

styles, implicitly supports the idea that passive/avoidant leadership can be an effective way to manage work teams.

### Future research

Should our findings be replicated in future research on PA, especially with stronger research designs (see below), it creates opportunities to elaborate or adjust our model. Research on the FRL model should continue to simultaneously examine the three styles to assess their unique contributions to important outcomes. Equally important is to look at moderators, to further fine tune leadership theory, and to explore inconsistent results in leadership research (Crede et al., 2019). This is especially true for passive/avoidant leadership, which has been described as destructive (Skogstad, Einarsen, Torsheim, Aasland, & Hetland, 2007) as well as positive (Yang, 2015).

Future research might also examine relationships between other conceptualizations of leadership and team performance, instead of or in addition to the FRL styles. Banks et al. (2018) examined construct redundancy of leadership styles, and tentatively concluded that moral leadership was the most important correlate of unit (team) performance. It would be interesting to see if moral leadership provides incremental validity in predicting employee and team competencies and team performance over the three traditional FRL styles.

### Limitations

Several limitations of this research should be noted. The first and most important limitation is that we used a cross-sectional research design. Although we utilized three different sources of ratings, which diminishes the effects of common methods variance, the cross-sectional nature of the study does not allow inferences about causal relationships. It could be that knowledge of the third level managers' evaluation of a team's performance affected self- and other-ratings by both the project leaders of those teams as well as their followers (Day, 2014). Nor does this design test for the generalizability of the relationships over long time periods (Day, 2014). Future research could advance our knowledge about the FRL model by utilizing longitudinal and/or experimental research designs.

Second, as mentioned above, it is important to consider contextual variables that might moderate the types of relationships examined in this study (Crede et al., 2019). We conducted this study on project teams in the IT department of an Indonesian city government. The meta-analysis of Ceri-Booms et al. (2017) found that project teams produced the lowest magnitude leader–outcome relationships, suggesting a lower limit for

such relationships. Still, our results may not be generalizable to operation-oriented work environments like administration and customer service, where order and compliance are of vital importance. Finally, there may be differences between private- and public-sector organizations worthy of scientific inquiry. For example, An et al. (2019) conducted a field experiment comparing and contrasting different types of FRL training. They found that transformational leadership training, by itself, was more effective in public sector organizations than private sector ones.

Third, we used self-ratings of transformational and transactional leadership styles (and follower ratings of passive/avoidance). Self-ratings of leadership have been criticized because they are prone to social desirability and self-enhancement biases (e.g., Jacobsen & Andersen, 2015), especially for relationship-oriented styles like transformational leadership (Lee & Carpenter, 2018). This positive bias distorts assessments and can artificially inflate relationships with other self-rated outcomes like team performance. This bias notwithstanding, self-ratings of leadership in our study were related primarily to other-ratings of competence and team performance, eliminating much of the threat of common methods variance. Moreover, it is worth noting that follower ratings of leadership are not without their psychometric problems as well (e.g., Graen, Rowold, & Borgmann, 2010; Moors, 2012), although aggregating follower ratings enhances their accuracy (Graen, Rowold, & Heinitz 2010). Neither source of leadership ratings is always better than the other, because the leader is privy to all of his/her leadership behaviors, while followers experience only a subset of those behaviors, and their own characteristics and expectations bias what they do experience (Jacobsen & Andersen, 2015). Future research on leadership and competence should endeavor to measure leadership styles by utilizing both sources of ratings, perhaps examining their level of agreement as a predictor of team competence and performance ratings (cf. Vogel & Kroll, 2019).

Fourth, we measured the three FRL styles with the widely used MLQ. As discussed above, this measure has been criticized for both substantive and psychometric reasons (cf. Jensen et al., 2019). Future research on the FRL styles might consider measures that are intended to improve the MLQ (such as the one developed by Jensen et al., 2019), or alternatively, researchers might consider using leadership style measures that are tailored to the PA environment (e.g., Tummers & Knies, 2016).

Fifth, we utilized a global measure of self-perceived competence. As a part of attempts to fine-tune the model, researchers might use self-competence measures that are specifically designed for followers' jobs or for their leadership roles (cf. Seibert, Sargent, Kraimer, & Kiazad, 2017). Finally, we did not explicitly consider the potential effects of culture in our

research. Employees in individualistic and collectivistic cultures exhibit different levels of performance in response to transformational and transactional leadership styles (Schaubroeck et al., 2007). Future research could further explore the role of individualism/collectivism, uncertainty avoidance, power distance, and the like on leadership style and team performance relationships.

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## Appendix

Leader and Employee Competence (Spreitzer, 1995)

1. I am confident about my ability to do my job.
2. I am self-assured about my capabilities to perform my work activities.
3. I have mastered the skills necessary for my job.

Team Performance (Henderson & Soonchul, 1992)

1. The efficiency of team operations is satisfactory.
2. The amount of work the team produces is satisfactory.
3. The team's adherence to schedules is satisfactory.
4. The team's adherence to budgets is satisfactory.
5. The quality of work the team produces is satisfactory.
6. Effectiveness of the team's interactions with people outside of the team is satisfactory.
7. The team's ability to meet the goals of the project is satisfactory.
8. The team could have done its work faster with the same level of quality (Reverse-coded).
9. The team is able to meet the goals as quickly as possible.

Team Competence (adapted from Spreitzer, 1995)

1. I am confident about my team's ability to perform their jobs.
2. I am self-assured about my team's capabilities to perform required activities.
3. My team has mastered the skills necessary for their jobs.